

BIOLASE, INC
Form S-1
September 29, 2017
Table of Contents

As filed with the Securities and Exchange Commission on September 29, 2017

Registration No. 333-

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

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

BIOLASE, INC.

(Exact name of registrant as specified in its charter)

Delaware
(State or other jurisdiction of
incorporation or organization)

3843
(Primary Standard Industrial
Classification Code Number)
4 Cromwell, Irvine, California 92618

87-0442441
(I.R.S. Employer
Identification Number)

(949) 361-1200

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

Harold C. Flynn, Jr.

President and Chief Executive Officer

BIOLASE, Inc.

4 Cromwell

Irvine, California 92618

(949) 361-1200

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

Copy to:

Michael A. Gordon

Beth E. Peev

Sidley Austin LLP

One South Dearborn

Chicago, Illinois 60603

(312) 853-7000

Approximate date of commencement of proposed sale to the public: As soon as practicable after the effective date of this Registration Statement.

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, 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, a 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	(Do not check if a smaller reporting company)	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 to Section 7(a)(2)(B) of the Securities Act.

CALCULATION OF REGISTRATION FEE

Title Of Each Class Of Securities To Be Registered(1)	Amount to be Registered	Proposed Maximum Offering Price Per Share	Proposed Maximum Aggregate Offering Price	Amount of Registration Fee
Rights to purchase Common Stock				
Common Stock, \$0.001 par value per share	[]	\$[]	\$12,000,000(2)	\$1,390.80(3)

(1) This registration statement relates to shares of our common stock issuable upon the exercise of subscription rights. Each share of common stock includes [] stock purchase right. No separate consideration is payable for the stock purchase rights.

(2) Represents the aggregate gross proceeds from the issuance of the maximum number of shares of common stock that may be issued pursuant to the exercise of rights.

(3) Calculated pursuant to Rule 457(o) of the rules and regulations under the Securities Act of 1933, as amended, based on an estimate of the proposed maximum aggregate offering price.

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 or until the Registration Statement shall become effective on such date as the Commission, acting pursuant to said Section 8(a), may determine.

Table of Contents

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

SUBJECT TO COMPLETION, DATED SEPTEMBER 29, 2017

PRELIMINARY PROSPECTUS

BIOLASE, INC.

Up to [] Shares of Common Stock

Issuable Upon the Exercise of Rights to Subscribe for such Shares at \$[] per Share

We are distributing, at no charge to our stockholders, non-transferable subscription rights to purchase up to an aggregate of [] shares of our common stock, \$0.001 par value per share. In the rights offering, you will receive [] subscription right for each share of common stock you hold as of 5:00 p.m. Eastern Time, on [], 2017, the record date of the rights offering.

Each subscription right will entitle you to purchase [] shares of our common stock at a subscription price of \$[] per share, which we refer to as the basic subscription right, subject to certain limitations, and we will also provide an over-subscription privilege. If you fully exercise your basic subscription right and other stockholders do not fully exercise such stockholder's basic subscription rights, you will be entitled to exercise an over-subscription privilege, subject to certain limitations and subject to allotment, to purchase a portion of the unsubscribed shares of our common stock at the same subscription price of \$[] per share. To the extent you properly exercise your over-subscription privilege for an amount of shares that exceeds the number of the unsubscribed shares available to you, any excess subscription payments received by the subscription agent will be returned to you promptly, without interest, following the expiration of the rights offering.

Affiliates of Larry Feinberg, which own an aggregate of 18,320,650 shares of our common stock, or approximately 24.1% of the shares outstanding, and affiliates of Jack Schuler, which own an aggregate of 19,920,821 shares of our common stock, or approximately 26.2% of the shares outstanding, have each agreed with us to exercise their respective basic subscription rights as well as exercise their over-subscription privilege pursuant to the rights offering in an amount not less than \$3,000,000 and \$3,000,000, respectively. Any shares of common stock purchased in connection with the transactions described in this paragraph will be purchased directly from us on a private basis and are not being registered pursuant to the registration statement of which this prospectus is a part.

We will not issue fractional shares. If the number of subscription rights you receive would otherwise permit you to purchase a fraction of a share, the number of shares that you may purchase will be rounded down to the nearest whole share.

The subscription rights will expire if they are not exercised before 5:00 p.m., Eastern Time, on [], 2017. We reserve the right to extend the expiration date one or more times, but in no event will we extend the rights offering beyond [], 2017. Our Board may in its sole discretion cancel the rights offering at any time and for any reason. Our Board is not making any recommendation regarding your exercise of the subscription rights. You should carefully consider whether to exercise your subscription rights before the expiration of the rights offering.

All exercises of subscription rights are irrevocable. If our Board cancels this offering, the subscription agent will return all subscription payments it has received for the cancelled rights offering without interest or penalty. The subscription agent will hold the funds we receive from subscribers until completion or cancellation of the rights offering. The subscription rights may not be sold, transferred or assigned. There is no minimum subscription amount required for consummation of the rights offering.

Our common stock trades on the NASDAQ Capital Market under the symbol BIOL. The shares of common stock issued in the rights offering will also be listed on the NASDAQ Capital Market under the same symbol. The subscription rights will not be listed for trading on the NASDAQ Capital Market or any other stock exchange or market. On September 28, 2017, the closing price for our common stock, as reported on the NASDAQ Capital Market, was \$0.62 per share. As of the close of business on September 22, 2017, there were 76,019,373 shares of common stock issued and outstanding.

Investing in our common stock involves certain risks. See Risk Factors beginning on page 7 to read about factors you should consider before exercising your subscription rights.

This is not an underwritten offering. The subscription rights are being offered directly by us without the services of an underwriter or selling agent.

Upon completion of the rights offering, stockholders who do not fully exercise their subscription rights will own a smaller proportional interest in the Company than if they had timely and fully exercised their subscription rights.

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.

The date of this prospectus is , 2017.

Table of Contents

TABLE OF CONTENTS

	Page
<u>ABOUT THIS PROSPECTUS</u>	i
<u>CAUTIONARY NOTE REGARDING FORWARD-LOOKING STATEMENTS</u>	i
<u>QUESTIONS AND ANSWERS RELATING TO THE RIGHTS OFFERING</u>	ii
<u>SUMMARY</u>	1
<u>OFFERING SUMMARY</u>	3
<u>RISK FACTORS</u>	7
<u>USE OF PROCEEDS</u>	30
<u>CAPITALIZATION</u>	30
<u>PRICE RANGE OF COMMON STOCK AND DIVIDEND POLICY</u>	31
<u>THE RIGHTS OFFERING</u>	32
<u>SECURITY OWNERSHIP OF CERTAIN BENEFICIAL OWNERS AND MANAGEMENT</u>	41
<u>DESCRIPTION OF CAPITAL STOCK</u>	43
<u>PLAN OF DISTRIBUTION</u>	46
<u>MATERIAL U.S. FEDERAL INCOME TAX CONSEQUENCES</u>	47
<u>LEGAL MATTERS</u>	51
<u>EXPERTS</u>	51
<u>WHERE YOU CAN FIND MORE INFORMATION</u>	51
<u>INFORMATION INCORPORATED BY REFERENCE</u>	52

Table of Contents

ABOUT THIS PROSPECTUS

This prospectus is part of a registration statement that we have filed with the Securities and Exchange Commission (the SEC). The exhibits to the registration statement contain the full text of certain contracts and other important documents we have summarized in this prospectus. Since these summaries may not contain all the information that you may find important in deciding whether to purchase our common stock, you should review the full text of these documents. The registration statement and the exhibits can be obtained from the SEC as indicated under the sections entitled Information Incorporated by Reference and Where You Can Find More Information.

You should rely only on the information contained in this prospectus. We have not authorized anyone to provide you with additional or different information from that contained in this prospectus. The information contained in this prospectus is accurate only as of the date on the front cover of this prospectus regardless of the time of delivery of this prospectus or any exercise of the rights. Our business, financial condition, results of operations and prospects may have changed since those dates. You should read carefully the entirety of this prospectus and any applicable prospectus supplement, as well as the documents incorporated by reference in this prospectus and any applicable prospectus supplement, before making an investment decision.

The distribution of this prospectus and the rights offering and the sale of shares of our common stock in certain jurisdictions may be restricted by law. This prospectus does not constitute an offer of, or a solicitation of an offer to buy any shares of common stock in any jurisdiction in which such offer or solicitation is not permitted. No action is being taken in any jurisdiction outside the United States to permit an offering of the common stock or possession or distribution of this prospectus in that jurisdiction. Persons who come into possession of this prospectus in jurisdictions outside the United States are required to inform themselves about and to observe any restrictions as to this offering and the distribution of this prospectus applicable to those jurisdictions.

References in this prospectus to BIOL, the Company, we, us, or our, unless the context otherwise requires, refer to BIOLASE, Inc., a Delaware corporation, together with its consolidated subsidiaries.

CAUTIONARY NOTE REGARDING FORWARD-LOOKING STATEMENTS

This prospectus includes forward-looking statements, as such term is used within the meaning of the Private Securities Litigation Reform Act of 1995. These forward-looking statements are not based on historical fact and involve assessments of certain risks, developments, and uncertainties in our business looking to the future. Such forward-looking statements can be identified by the use of terminology such as may, will, should, expect, anticipate, estimate, intend, continue, or believe, or the negatives or other variations of these terms or comparable terminology. Forward-looking statements may include projections, forecasts, or estimates of future performance and developments. Forward-looking statements contained in this prospectus are based upon assumptions and assessments that we believe to be reasonable as of the date of this prospectus. Whether those assumptions and assessments will be realized will be determined by future factors, developments, and events, which are difficult to predict and may be beyond our control. Actual results, factors, developments, and events may differ materially from those we assumed and assessed. Risks, uncertainties, contingencies, and developments, including those identified in the Risk Factors section of this prospectus and in our most recent annual report on Form 10-K, subsequent quarterly reports on Form 10-Q and other filings we make with the SEC pursuant to Section 13(a), 13(c), 14 or 15(d) of the Securities Exchange Act of 1934, as amended (the Exchange Act), incorporated by reference herein, could cause our future operating results to differ materially from those set forth in any forward-looking statement. There can be no assurance that any such forward-looking statement, projection, forecast or estimate contained can be realized or that actual returns, results, or business prospects will not differ materially from those set forth in any forward-looking statement. Given these uncertainties, readers are cautioned not to place undue reliance on such forward-looking statements. We disclaim any

obligation to update any such factors or to publicly announce the results of any revisions to any of the forward-looking statements contained herein to reflect future results, events or developments.

Table of Contents

QUESTIONS AND ANSWERS RELATING TO THE RIGHTS OFFERING

The following are examples of what we anticipate will be common questions about the rights offering. The answers are based on selected information included elsewhere in this prospectus. The following questions and answers do not contain all of the information that may be important to you and may not address all of the questions that you may have about the rights offering. This prospectus and the documents incorporated by reference contain more detailed descriptions of the terms and conditions of the rights offering and provide additional information about us and about our business, including potential risks related to the rights offering, our common stock, and our business.

*Exercising the subscription rights and investing in our securities involve a high degree of risk. We urge you to carefully read the section entitled *Risk Factors* beginning on page 7 of this prospectus and all other information included in, or incorporated by reference into, this prospectus in its entirety before you decide whether to exercise your subscription rights.*

What is the rights offering?

We are distributing to holders of shares of our common stock as of 5:00 p.m., Eastern Time, on [], 2017, which is the record date for the rights offering, at no charge, non-transferable subscription rights to purchase shares of our common stock. You will receive [] subscription right for each share of common stock you owned as of 5:00 p.m., Eastern Time, on the record date. Each subscription right entitles the holder to a basic subscription right and an over-subscription privilege, which are described below. The common stock to be issued in the rights offering, like our existing shares of common stock, will be traded on the NASDAQ Capital Market under the symbol BIOL.

Why are we conducting the rights offering?

We are conducting the rights offering to provide for our general working capital needs. For a detailed discussion, see *Use of Proceeds*.

Based on the information and analyses regarding the rights offering prepared by management, and the recommendation of management that the rights offering is in the best interests of the Company in light of the information available to management, and the additional information and documentation reviewed by our Board of Directors (our Board), our Board approved the rights offering and determined that the rights offering is in the best interests of the Company and its stockholders. However, our Board is not making any recommendation regarding your exercise of the subscription rights.

How was the subscription price determined?

The Board will determine the subscription price, after reasonable consultation with the stockholders that have agreed to exercise their rights as described below, based on a variety of factors, including historical and current trading prices for our common stock, general business conditions, our need for capital, alternatives available to us for raising capital, potential market conditions, and our desire to provide an opportunity to our stockholders to participate in the rights offering on a pro rata basis. In conjunction with its review of these factors, the Board also reviewed our history and prospects, including our past and present earnings, our prospects for future earnings, and the outlook for our industry, and our current financial condition.

The subscription price is not necessarily related to our book value, tangible book value, multiple of earnings or any other established criteria of value and may or may not be considered the fair value of our common stock to be offered in the rights offering. You should not consider the subscription price as an indication of value of the Company or our

common stock. You should not assume or expect that, after the rights offering, our shares of common stock will trade at or above the subscription price in any given time period. The market price of our common stock may decline during or after the rights offering and you may not be able to sell the shares of our

Table of Contents

common stock purchased during the rights offering at a price equal to or greater than the subscription price. You should obtain a current quote for our common stock before exercising your subscription rights and make your own assessment of our business and financial condition, our prospects for the future, and the terms of the rights offering.

What is the basic subscription right?

Each basic subscription right gives our stockholders the opportunity to purchase [] shares of our common stock at a subscription price of \$[] per share, subject to the limits described below. We have granted to you, as a stockholder of record as of 5:00 p.m., Eastern Time, on the record date, [] subscription right for each share of our common stock you owned at that time. For example, if you owned 100 shares of our common stock as of 5:00 p.m., Eastern Time, on the record date, you would have received [] subscription right and would have the right to purchase [] shares of common stock for \$[] per share subject to certain limitations. You may exercise all or a portion of your basic subscription rights or you may choose not to exercise any subscription rights at all. However, if you exercise fewer than all of your basic subscription rights, you will not be entitled to purchase any additional shares pursuant to the over-subscription privilege.

If you hold a BIOL stock certificate, the number of basic subscription rights you may exercise is indicated on the enclosed rights certificate. If you hold your shares in the name of a custodian bank, broker, dealer or other nominee, you will not receive a rights certificate. Instead, the Depository Trust Company (DTC) will issue [] subscription right to the nominee record holder for each share of our common stock that you own at the record date. If you are not contacted by your custodian bank, broker, dealer or other nominee, you should contact your nominee as soon as possible.

What is the over-subscription privilege?

We do not expect all of our stockholders to exercise all of such stockholder's basic subscription rights. The over-subscription privilege provides stockholders that exercise all of such stockholder's basic subscription rights the opportunity to purchase the shares that are not purchased by other stockholders. If you fully exercise your basic subscription right, the over-subscription privilege of each right entitles you to subscribe for additional shares of our common stock unclaimed by other holders of rights in the rights offering at the same subscription price per share. If an insufficient number of shares are available to fully satisfy all over-subscription privilege requests, the available shares will be distributed proportionately among rights holders who exercise their over-subscription privilege based on the number of shares each rights holder subscribed for under the basic subscription right.

In order to properly exercise your over-subscription privilege, you must deliver the subscription payment for exercise of your over-subscription privilege before the expiration of the rights offering. Because we will not know the total number of unsubscribed shares before the expiration of the rights offering, if you wish to maximize the number of shares you purchase pursuant to your over-subscription privilege, you will need to deliver payment in an amount equal to the aggregate subscription price for the maximum number of shares available, assuming that no stockholder other than you has purchased any shares pursuant to such stockholder's basic subscription right and over-subscription privilege. The subscription agent will return any excess payments by mail without interest or deduction promptly after the expiration of the subscription period. See *The Rights Offering* *The Subscription Rights* *Over-Subscription Privilege*.

If I am a holder of stock options, may I participate in the rights offering?

No. Holders of stock options on the record date will not be entitled to participate in the rights offering, except to the extent they hold shares of our common stock on the record date. Following the consummation of the rights offering,

the Company anticipates making an equitable adjustment to unexercised stock options to reflect the issuance of shares in the rights offering.

Table of Contents

Am I required to exercise all of the subscription rights I receive in the rights offering?

No. You may exercise any number of your subscription rights, or you may choose not to exercise any subscription rights. If you do not exercise any subscription rights, the number of shares of our common stock you own will not change; however, you will own a smaller proportional interest in the Company than if you had timely exercised all or a portion of your subscription rights. If you choose not to exercise your subscription rights or you exercise fewer than all of your subscription rights and other stockholders fully exercise their subscription rights or exercise a greater proportion of their subscription rights than you exercise, the percentage of our common stock owned by these other stockholders will increase relative to your ownership percentage, and your voting and other rights in the Company will likewise be diluted. In addition, if you do not exercise your basic subscription right in full, you will not be entitled to participate in the over-subscription privilege.

How soon must I act to exercise my subscription rights?

If you received a rights certificate and elect to exercise any or all of your subscription rights, the subscription agent must receive your completed and signed rights certificate and payment (and your payment must clear) prior to the expiration of the rights offering, which is [], 2017, at 5:00 p.m., Eastern Time, unless you have used the guaranteed delivery procedures described under The Rights Offering Notice of Guaranteed Delivery. If you hold your shares in the name of a custodian bank, broker, dealer or other nominee, your nominee may establish a deadline prior to 5:00 p.m., Eastern Time, on [], 2017 by which you must provide it with your instructions to exercise your subscription rights and payment for your shares. Our Board may, in its discretion, extend the rights offering one or more times, but in no event will the expiration date be later than [], 2017. Our Board may cancel or amend the rights offering at any time before its expiration. In the event that the rights offering is cancelled, all subscription payments received will be returned promptly, without interest or penalty.

Although we will make reasonable attempts to provide this prospectus to holders of subscription rights, the rights offering and all subscription rights will expire at 5:00 p.m., Eastern Time, on [], 2017 (unless extended), whether or not we have been able to locate each person entitled to subscription rights.

May I transfer my subscription rights?

No. You may not sell, transfer or assign your subscription rights to anyone. Subscription rights will not be listed for trading on the NASDAQ Capital Market or any other stock exchange or market. Rights certificates may only be completed by the stockholder who receives them.

Are we requiring a minimum subscription to complete the rights offering?

There is no aggregate minimum we must receive to complete the rights offering.

Has our Board made a recommendation to our stockholders regarding the rights offering?

No. Our Board is not making a recommendation regarding your exercise of the subscription rights. Stockholders who exercise subscription rights risk investment loss on new money invested. We cannot predict the price at which our shares of common stock will trade, and therefore, we cannot assure you that the market price for our common stock will be above the subscription price or that anyone purchasing shares at the subscription price will be able to sell those shares in the future at the same price or a higher price. You are urged to make your decision based on your own assessment of our business and the rights offering. Please see *Risk Factors* in this prospectus and all other information included in, or incorporated by reference into, this prospectus for a discussion of some of the risks involved in

investing in our common stock.

Table of Contents

How do I exercise my subscription rights if I own shares in certificate form?

If you hold a BIOL stock certificate and you wish to participate in the rights offering, you must take the following steps:

deliver a properly completed and signed rights certificate, and related subscription documents, to the subscription agent before 5:00 p.m., Eastern Time, on [], 2017; and

deliver payment to the subscription agent (as described below) before 5:00 p.m., Eastern Time, on [], 2017. In certain cases, you may be required to provide additional documentation or signature guarantees.

Please follow the delivery instructions on the rights certificate. Do not deliver documents to the Company. You are solely responsible for completing delivery to the subscription agent of your subscription documents, rights certificate and payment. We urge you to allow sufficient time for delivery of your subscription materials to the subscription agent so that the subscription agent receives the materials before 5:00 p.m., Eastern Time, on [], 2017.

If you cannot deliver your rights certificate to the subscription agent prior to the expiration of the Rights Offering, you may follow the guaranteed delivery procedures described under *The Rights Offering Notice of Guaranteed Delivery*.

If you send a payment that is insufficient to purchase the number of shares you requested, or if the number of shares you requested is not specified in the forms, the payment received will be applied to exercise your subscription rights to the fullest extent possible based on the amount of the payment received, subject to the availability of shares in the rights offering and the elimination of fractional shares. Any excess subscription payments received by the subscription agent will be returned promptly, without interest, following the expiration of the rights offering.

What form of payment is required to purchase the shares of our common stock?

As described in the instructions accompanying the rights certificate, payments submitted to the subscription agent must be made in full United States currency by personal check payable to Computershare Trust Company, N.A, the subscription agent, drawn upon a United States bank.

Payment will be deemed to have been received by the subscription agent only upon the subscription agent's receipt of a personal check, receipt and clearance of such check.

Please note that funds paid by uncertified personal check may take at least seven business days to clear. Accordingly, if you wish to pay by means of an uncertified personal check, we urge you to make payment sufficiently in advance of the expiration date to ensure that the subscription agent receives cleared funds before that time.

What should I do if I want to participate in the rights offering, but my shares are held in the name of a custodian bank, broker, dealer or other nominee?

If you hold your shares of common stock through a custodian bank, broker, dealer or other nominee, then your nominee is the record holder of the shares you own. If you are not contacted by your nominee, you should contact your nominee as soon as possible. Your nominee must exercise the subscription rights on your behalf for the shares of common stock you wish to purchase. You will not receive a rights certificate. Please follow the instructions of your

nominee. Your nominee may establish a deadline that may be before 5:00 p.m., Eastern Time, on [], 2017, the expiration date for the rights offering.

Table of Contents

When will I receive my new shares?

All shares that you purchase in the rights offering to which you are entitled will be issued in book-entry, or uncertificated, form. When issued, the shares will be registered in the name of the subscription rights holder of record. As soon as practicable after the expiration of the rights offering period, the subscription agent will arrange for the issuance of the shares of common stock purchased in the rights offering. Subject to state securities laws and regulations, we have the discretion to delay distribution of any shares you may have elected to purchase by exercise of your rights in order to comply with state securities laws.

After I send in my payment and rights certificate, may I cancel my exercise of subscription rights?

No. All exercises of subscription rights are irrevocable unless the rights offering is terminated, even if the market price of our common stock falls below the \$[] per share subscription price or you later learn information about us or the rights offering that you consider to be unfavorable to the exercise of your subscription rights. You should not exercise your subscription rights unless you are certain that you wish to purchase shares of our common stock in the rights offering.

Have any stockholders agreed to exercise their rights?

Yes. Affiliates of Larry Feinberg, which own an aggregate of 18,320,650 shares of our common stock, or approximately 24.1% of the shares outstanding, and affiliates of Jack Schuler, which own an aggregate of 19,920,821 shares of our common stock, or approximately 26.2% of the shares outstanding, have each agreed with us to exercise their respective basic subscription rights as well as exercise their over-subscription privilege pursuant to the rights offering in an amount not less than \$3,000,000 and \$3,000,000, respectively. No fees or other consideration will be paid by the Company to Messrs. Feinberg or Schuler or (or any respective affiliates) in exchange for such agreement to purchase common stock in connection with the rights offering. Any shares of common stock purchased in connection with the transactions described in this paragraph will be purchased directly from us on a private basis and are not being registered pursuant to the registration statement of which this prospectus is a part.

Will our directors and officers participate in the rights offering?

All holders of our common stock as of the record date for the rights offering will receive, at no charge, the non-transferable subscription rights to purchase shares of our common stock as described in this prospectus. To the extent that our directors and officers held shares of our common stock (including shares of restricted common stock) as of the record date, they will receive the subscription rights and, while they are under no obligation to do so, will be entitled to participate in the rights offering. Our directors and officers have not indicated to us whether they will purchase shares of our common stock in the offering pursuant to their basic subscription rights.

Will the equity awards of our employees, officers and directors automatically convert into common stock in connection with the rights offering?

Holders of our equity awards to employees, officers and directors, including outstanding stock options and restricted stock units, will not receive rights in the rights offering in connection with such equity awards, but will receive subscription rights in connection with any shares of our common stock held as of the record date.

How will the rights offering affect our outstanding common stock?

As of September 22, 2017, we had 76,019,373 shares of our common stock outstanding. Assuming no additional shares of common stock are issued by the Company prior to consummation of the rights offering and assuming all offered shares are sold in the rights offering, we expect approximately [] shares of our common stock will be outstanding immediately after completion of the rights offering.

Table of Contents

The issuance of shares of our common stock in the rights offering will dilute, and thereby reduce, your proportionate ownership in our shares of common stock, unless you fully exercise your basic subscription rights. In addition, the issuance of shares of our common stock at a subscription price that is less than the market price as of the record date for the rights offering will likely reduce the price per share of our common stock held by you prior to the rights offering.

How much will we receive in net proceeds from the rights offering?

We expect the aggregate proceeds, net of expenses, from the rights offering will be approximately \$[] million, assuming all rights are exercised. We intend to use the net proceeds to provide for our general working capital needs. Please see *Use of Proceeds*.

Are there risks in exercising my subscription rights?

Yes. The exercise of your subscription rights involves risks. Exercising your subscription rights involves the purchase of additional shares of our common stock and should be considered as carefully as you would consider any other equity investment. Among other things, you should carefully consider the risks described under the heading *Risk Factors* in this prospectus and all other information included in, or incorporated by reference into, this prospectus.

If the rights offering is not completed, will my subscription payment be refunded to me?

Yes. The subscription agent will hold all funds it receives in a segregated bank account until the rights offering is completed. If the rights offering is not completed, all subscription payments received by the subscription agent will be returned promptly, without interest or penalty. If your shares are held in the name of a custodian bank, broker, dealer or other nominee, it may take longer for you to receive the refund of your subscription payment than if you were a record holder of your shares because the subscription agent will return payments through the record holder of your shares.

Will I receive interest on any funds I deposit with the subscription agent?

No. You will not be entitled to any interest on any funds that are deposited with the subscription agent pending completion or cancellation of the rights offering. If the rights offering is cancelled for any reason, the subscription agent will return this money to subscribers, without interest or penalty, as soon as practicable.

When can I sell the shares of common stock I receive upon exercise of the subscription rights?

If you exercise your subscription rights, you will be able to resell the shares of common stock purchased by exercising your subscription rights once your account has been credited with those shares, provided you are not otherwise restricted from selling the shares (for example, because you are an insider or affiliate of the Company or because you possess material nonpublic information about the Company). Although we will endeavor to issue the shares as soon as practicable after completion of the rights offering, there may be a delay between the expiration date of the rights offering and the time that the shares are issued due to factors such as the guaranteed delivery period and the time required to complete all necessary calculations. In addition, we cannot assure you that, following the exercise of your subscription rights, you will be able to sell the shares purchased in the rights offering at a price equal to or greater than the subscription price.

What are the U.S. federal income tax consequences of exercising my subscription rights?

The receipt and exercise of subscription rights by holders of shares of our common stock should generally not be taxable for U.S. federal income tax purposes. You should seek specific tax advice from your tax advisor in light of your particular circumstances and as to the applicability and effect of any other tax laws. See *Material U.S. Federal Income Tax Consequences*.

Table of Contents

What fees or charges apply if I purchase shares of common stock in the rights offering?

We are not charging any fee or sales commission to issue subscription rights to you or to issue shares to you if you exercise your subscription rights (other than the subscription price). If you exercise your subscription rights through a custodian bank, broker, dealer or other nominee, you are responsible for paying any fees your nominee may charge you.

Whom should I contact if I have other questions?

If you have other questions regarding the rights offering, please contact the information agent, Georgeson LLC, toll free at (800) 561-3991, or by mail at 1290 Avenue of the Americas, 9th Floor, New York, NY 10104.

To whom should I send my forms and payment?

If your shares are held in the name of a broker, dealer, custodian bank or other nominee, then you should send your subscription documents and subscription payment to that record holder. If you are the record holder, then you should send your subscription documents, rights certificate, subscription payment or, if applicable, notice of guaranteed delivery, to the address provided below. If sent by mail, we recommend that you send documents and payments by registered mail, properly insured, with return receipt requested, and that a sufficient number of days be allowed to ensure delivery to the subscription agent. Do not send or deliver these materials to the Company.

By Registered Certified or Express Mail

Computershare Trust Company, N.A.
c/o Voluntary Corporate Actions
P.O. Box 43011
Providence, RI 02940

By Overnight Courier

Computershare Trust Company, N.A.
c/o Voluntary Corporate Actions
250 Royall Street Suite V
Canton, MA 02021

You, or, if applicable, your nominee, are solely responsible for ensuring the subscription agent receives your subscription documents, rights certificate, notice of guaranteed delivery and subscription payment. You should allow sufficient time for delivery of your subscription materials to the subscription agent and clearance of payment before the expiration of the rights offering period.

Table of Contents

SUMMARY

Our Company

We are a medical device company that develops, manufactures, markets, and sells laser systems in dentistry and medicine and also markets, sells, and distributes dental imaging equipment, including cone beam digital x-rays and three-dimensional CAD/CAM intra-oral scanners. Our products advance the practice of dentistry and medicine for patients and health care professionals. Our proprietary dental laser systems allow dentists, periodontists, endodontists, oral surgeons, and other dental specialists to perform a broad range of minimally invasive dental procedures, including cosmetic, restorative, and complex surgical applications. Our laser systems are designed to provide clinically superior results for many types of dental procedures compared to those achieved with drills, scalpels, and other conventional instruments. We have clearance from the FDA to market and sell our laser systems in the United States and also have the necessary registration to market and sell our laser systems in Canada, the European Union, and many other countries outside the United States. Additionally, our in-licensed imaging equipment and related products improve diagnoses, applications, and procedures in dentistry and medicine.

We offer two categories of laser system products: Waterlase (all-tissue) systems and Diode (soft-tissue) systems. Our flagship brand, the Waterlase, uses a patented combination of water and laser energy to perform most procedures currently performed using drills, scalpels, and other traditional dental instruments for cutting soft and hard tissue. We also offer our Diode laser systems to perform soft tissue, pain therapy, and cosmetic procedures, including teeth whitening. We have approximately 210 issued and 90 pending United States and international patents, the majority of which are related to Waterlase technology. From 1998 through June 30, 2017 we sold approximately 34,900 laser systems in over 90 countries around the world. Contained in this total are approximately 12,100 Waterlase systems, including approximately 7,800 Waterlase MD and iPlus systems.

For additional information about our Company, please refer to other documents we have filed with the SEC and that are incorporated by reference into this prospectus, as listed under the heading Information Incorporated by Reference.

Our principal executive offices are located at 4 Cromwell, Irvine, California 92618. Our telephone number is (949) 361-1200. Additional information can be found on our website, at www.biolase.com, and in our periodic and current reports filed with the SEC. Copies of our current and periodic reports filed with the SEC are available at the SEC Public Reference Room at 100 F Street, N.E., Washington, D.C. 20549, and online at www.sec.gov and our website at www.biolase.com. No portion of our website is incorporated by reference into this prospectus.

Recent Development

Our common stock is currently listed on The NASDAQ Capital Market. To maintain the listing of our common stock on The NASDAQ Capital Market, we are required to meet certain listing requirements, including, among others, a minimum closing bid price of \$1.00 per share, a market value of publicly held shares (excluding shares held by our executive officers, directors and 10% or more stockholders) of at least \$1 million and either (i) stockholders' equity of at least \$2.5 million or (ii) a total market value of listed securities of at least \$35 million. As of September 28, 2017, the closing price for our common stock, as reported on the NASDAQ Capital Market, was \$0.62 per share, the total market value of our publicly held shares of our common stock (excluding shares held by our executive officers, directors and 10% or more stockholders) was approximately \$22.9 million and the total market value of our listed securities was approximately \$47.1 million.

On August 9, 2017, we received a letter from NASDAQ indicating that the closing bid price of our common stock fell below \$1.00 per share for the previous 30 consecutive business days, and that we are therefore not in

Table of Contents

compliance with the minimum bid price requirement for continued inclusion on The NASDAQ Capital Market and our common stock could be subject to delisting from The NASDAQ Capital Market. If our common stock is delisted, trading of the stock will most likely take place on an over-the-counter market established for unlisted securities, such as the Pink Sheets or the OTC Bulletin Board. There is no assurance that we will meet the minimum closing price requirement and other listing requirements. As of June 30, 2017, we had stockholders' equity of approximately \$25.3 million.

Table of Contents

OFFERING SUMMARY

*The following summary describes the principal terms of the rights offering, but is not intended to be complete. See the information under the heading *The Rights Offering* in this prospectus for a more detailed description of the terms and conditions of the rights offering.*

Securities Offered

We are distributing to you, at no charge, [] non-transferable subscription right for each share of our common stock that you owned as of 5:00 p.m., Eastern Time, on [], 2017, either as a holder of record or, in the case of shares held of record by custodian banks, brokers, dealers or other nominees on your behalf, as a beneficial owner of such shares.

Subscription Price

[\$] per share of common stock. To be effective, any payment related to the exercise of a subscription right must clear prior to the expiration of the rights offering period. You may exercise all or a portion of your subscription rights, or you may choose not to exercise any subscription rights at all.

Record Date

5:00 p.m., Eastern Time, on [], 2017.

Expiration of the Rights Offering

5:00 p.m., Eastern Time, on [], 2017. We may extend the rights offering without notice to you until [], 2017.

Use of Proceeds

We expect the aggregate net proceeds from the rights offering will be approximately \$[] million if all subscription rights are exercised. We intend to use the net proceeds to provide for our general working capital needs. The precise amount and timing of the application of such proceeds will depend upon our funding requirements and the availability and cost of other funds. See *Use of Proceeds*.

Basic Subscription Right

Each subscription right entitles you to purchase [] shares of our common stock at a subscription price of \$[] per share. The number of subscription rights you may exercise appears on your rights certificate.

Over-Subscription Privilege

We do not expect all of our stockholders to exercise all of their basic subscription rights. If you fully exercise your basic subscription right, the over subscription privilege of each right entitles you to subscribe for [] additional shares of our common stock unclaimed by other holders of rights in this offering at the same subscription price per share. If an insufficient number of shares are available to fully satisfy all

over-subscription privilege requests, the available shares will be distributed proportionately among rights holders who exercise their over-subscription privilege based on the number of shares each rights holder subscribed for under the basic subscription right.

Non-Transferability of Rights

The subscription rights may not be sold, transferred or assigned and will not be listed for trading on the NASDAQ Capital Market or on any other stock exchange or market.

Table of Contents

No Board Recommendation

Our Board is not making any recommendation regarding the exercise of your subscription rights. You are urged to make your decision based on your own assessment of our business and the rights offering.

Revocation

All exercises of subscription rights are irrevocable, even if the market price of our common stock falls below the subscription price or you later learn of information that you consider to be unfavorable to the exercise of your subscription rights. You should not exercise your subscription rights unless you are certain that you wish to purchase shares of our common stock in the rights offering.

Material U.S. Federal Income Tax Considerations

For U.S. federal income tax purposes, holders of shares of our common stock should not recognize gain or loss upon receipt or exercise of a subscription right. You should consult with your own tax advisor as to the tax consequences to you of the receipt, exercise or lapse of the rights in light of your particular circumstances. Please see *Material U.S. Federal Income Tax Consequences*.

Extension and Cancellation

Although we do not presently intend to do so, we have the option to extend the rights offering expiration date, but in no event will we extend the rights offering beyond [], 2017. Our Board may cancel the rights offering at any time before its expiration for any reason. In the event that the rights offering is cancelled, all subscription payments received by the subscription agent will be returned promptly, without interest or penalty.

Procedures for Exercising Rights

To exercise your subscription rights, you must take the following steps:

If you hold a BIOL stock certificate, you must deliver payment and a properly completed and signed rights certificate to the subscription agent to be received before 5:00 p.m., Eastern Time, on [], 2017. You may deliver the documents and payment by U.S. mail or courier service. If U.S. mail is used for this purpose, we recommend using registered mail, properly insured, with return receipt requested.

If you are a beneficial owner of shares that are registered in the name of a custodian bank, broker, dealer or other nominee, you will not receive a rights certificate. You should instruct your nominee to exercise your subscription rights on your behalf. Please follow the instructions of your nominee, who may require that you meet a deadline earlier than 5:00 p.m., Eastern Time, on [], 2017.

If you cannot deliver rights certificate to the subscription agent on time, you may follow the guaranteed delivery procedures described under The Rights Offering Notice of Guaranteed Delivery.

Subscription Agent

We anticipate retaining Computershare Trust Company, N.A to serve as the subscription agent. The subscription agent will hold funds

Table of Contents

received in payment for shares of our common stock in a segregated account pending completion of the rights offering. The subscription agent will hold this money until the rights offering is completed or is withdrawn and canceled. If the rights offering is canceled for any reason, all subscription payments received by the subscription agent will be returned promptly, without interest or penalty.

Fees and Expenses

We are not charging any fee or sales commission to issue subscription rights to you or to issue shares to you if you exercise your subscription rights (other than the subscription price). If you exercise your subscription rights through a custodian bank, broker, dealer or other nominee, you are responsible for paying any fees your nominee may charge you.

Purchase Commitment

Affiliates of Larry Feinberg, which own an aggregate of 18,320,650 shares of our common stock, or approximately 24.1% of the shares outstanding, and affiliates of Jack Schuler, which own an aggregate of 19,920,821 shares of our common stock, or approximately 26.2% of the shares outstanding, have each agreed with us to exercise their respective basic subscription rights as well as exercise their over-subscription privilege pursuant to the rights offering in an amount not less than \$3,000,000 and \$3,000,000, respectively.

Shares Outstanding Before the Rights Offering

As of September 22, 2017, 76,019,373 shares of our common stock were issued and outstanding and 102,841,390 shares of our common stock were issued and outstanding on a fully diluted basis.

Shares Outstanding After the Rights Offering

Assuming that all of the subscription rights are exercised, we will issue approximately [] shares of common stock in the rights offering and, assuming no additional shares of common stock are issued by the Company prior to consummation of the rights offering, will have approximately [] shares of common stock outstanding after consummation of the rights offering and [] shares of common stock outstanding after consummation of the rights offering on a fully diluted basis.

Trading Symbols

Our common stock is traded on the NASDAQ Capital Market under the trading symbol BIOL. The shares of common stock issued in the rights offering will also be listed on the NASDAQ Capital Market under the same symbol. The subscription rights will not be listed for trading on the NASDAQ Capital Market or any other stock exchange or market.

Risk Factors

Exercising the subscription rights and investing in our securities involve a high degree of risk. We urge you to carefully read the section entitled *Risk Factors* beginning on page 7 of this prospectus and all other information included in, or incorporated by reference into, this prospectus in its entirety before you decide whether to exercise your subscription rights.

Table of Contents

Information Agent

You should direct any questions or requests for assistance concerning the method of subscribing for common shares or for additional copies of this prospectus the information agent, Georgeson LLC, toll free at (800) 561-3991, or by mail at 1290 Avenue of the Americas, 9th Floor, New York, NY 10104.

Table of Contents

RISK FACTORS

Investing in our common stock involves a high degree of risk. You should carefully consider the following risk factors and the risks described under the caption "Risk Factors" and other information contained in our most recent annual report on Form 10-K, subsequent quarterly reports on Form 10-Q and other filings we make with the SEC pursuant to Section 13(a), 13(c), 14 or 15(d) of the Securities Exchange Act of 1934, as amended (the "Exchange Act"), incorporated by reference herein, before making an investment decision. Additional risks and uncertainties that we are unaware of may become important factors that affect us. If any of these risks actually occurs, our business, financial condition or operating results may suffer, the trading price of our common stock could decline, and you may lose all or part of your investment.

RISKS RELATED TO THE RIGHTS OFFERING

The future price of our shares of common stock may be less than the \$[] per share subscription price in the rights offering.

If you exercise your subscription rights to purchase shares of common stock in the rights offering, you may not be able to sell them later at or above the \$[] per share subscription price in the rights offering. The actual market price of our common stock could be subject to wide fluctuations in response to numerous factors, some of which are beyond our control. These factors include, among other things, our operating results and cash flow, business conditions in our industry, the general state of the securities markets, as well as general economic and market conditions, such as downturns in our economy and recessions.

You may be committed to buying common stock at a price above the prevailing market price of our common stock.

Once you exercise your subscription rights, you may not revoke them. If you exercise your subscription rights and, afterwards, the public trading market price of our shares of common stock decreases below the subscription price, you will have committed to buying shares of our common stock at a price above the prevailing market price and could have an immediate unrealized loss. Our common stock trades on the NASDAQ Capital Market under the ticker symbol BIOL, and on September 28, 2017, the closing price for our common stock, as reported on the NASDAQ Capital Market, was \$0.62 per share. We cannot assure you that the market price of our shares of common stock will not decline after you exercise your subscription rights. Moreover, we cannot assure you that following the exercise of your subscription rights you will be able to sell your shares of common stock at a price equal to or greater than the subscription price.

This offering may cause the market price of our common stock to decrease.

The subscription price, together with the number of shares of common stock we propose to issue and ultimately will issue in the rights offering, may result in an immediate decrease in the market price of our common stock. This decrease may continue throughout and after the completion of the rights offering. If that occurs, you may have committed to buy common stock in the rights offering at a price greater than the prevailing market price of our common stock. Further, if a substantial number of subscription rights are exercised and the subscribing holders choose to sell some or all of the shares of common stock received upon exercise of those rights, the resulting sales could depress the market price of our common stock. There is no assurance that following the rights offering you will be able to sell your shares of common stock purchased in the rights offering at a price equal to or greater than the subscription price.

The subscription price determined by our Board is not an indication of the fair value of our common stock and does not represent the price at which a buyer can be found for the shares now or in the future.

The Board will determine the subscription price, after reasonable consultation with the stockholders that have agreed to exercise their rights as described below, based on a variety of factors, including historical and current trading prices for our common stock, general business conditions, our need for capital, alternatives

Table of Contents

available to us for raising capital, potential market conditions, and our desire to provide an opportunity to our stockholders to participate in the rights offering on a pro rata basis. In conjunction with its review of these factors, the Board also reviewed our history and prospects, including our past and present earnings, our prospects for future earnings, and the outlook for our industry, and our current financial condition.

The subscription price is not necessarily related to our book value, net worth or any other established criteria of value and may or may not be considered the fair value of the common stock to be offered in the rights offering, nor is the subscription price necessarily a reflection of the market price at which our common stock currently sells or may sell in the future. You should not assume or expect that, after the rights offering, our common stock will trade at or above the subscription price. We can give no assurance that our common stock will trade at or above the subscription price in any given time period.

Your percentage ownership in the Company may be diluted as a result of the rights offering.

If you do not exercise your subscription rights or you exercise fewer than all of your rights, and other stockholders fully exercise their rights or exercise a greater proportion of their rights than you exercise, you will suffer dilution of your percentage ownership of our common stock relative to such other stockholders. As of September 22, 2017, there were 76,019,373 shares of common stock outstanding. If all of our stockholders exercise their subscription rights in full, we will issue [] shares of common stock in the rights offering, which represents approximately []% of the [] shares of common stock potentially outstanding upon the completion of the rights offering.

You may not revoke your exercise of rights.

Once you exercise your subscription rights, you may not revoke or change the exercise unless we are required by law to permit revocation. Accordingly, if you exercise your subscription rights and the market price of our common stock falls below the \$[] per share subscription price or you later learn information about us or the rights offering that you consider unfavorable to the exercise of your subscription rights, you will be committed to buying shares and may not revoke or change your exercise. The market price of our common stock may decline prior to the expiration of this offering, and a subscribing rights holder may not be able to sell the shares of common stock purchased in the rights offering at a price equal to or greater than the subscription price. Until shares of common stock are delivered upon expiration of the rights offering, you will not be able to sell or transfer the common stock that you purchase in the rights offering.

Our Board may cancel the rights offering at any time and for any reason prior to its expiration.

Our Board may cancel the rights offering at any time and for any reason prior to its expiration. If our Board cancels the rights offering, neither the Company nor the subscription agent will have any obligation to you with respect to the rights except to return any payment received by the subscription agent, without interest or penalty.

The subscription rights are non-transferable, and thus there will be no market for them.

You may not sell, transfer or assign your subscription rights to anyone else. We do not intend to list the subscription rights on any securities exchange or any other trading market. Because the subscription rights are non-transferable, there is no market or other means for you to directly realize any value associated with them.

If you do not act on a timely basis and follow the subscription instructions, your exercise of subscription rights will be rejected.

Stockholders who desire to purchase shares in the rights offering must act on a timely basis to ensure that all required forms and payments are actually received by the subscription agent, and all payments clear, prior to the expiration of the rights offering, subject to the guaranteed delivery procedures described under *The Rights*

Table of Contents

Offering Notice of Guaranteed Delivery. If you are a beneficial owner of shares, you must act promptly to ensure that your broker, dealer, custodian bank or other nominee acts for you and that all required forms and payments are actually received by the subscription agent prior to the expiration of the rights offering. We are not responsible if your broker, dealer, custodian bank or nominee fails to ensure that all required forms and payments are actually received by the subscription agent, and all payments clear, prior to the expiration of the rights offering.

If you fail to complete and sign the required subscription forms, send an incorrect payment amount or otherwise fail to follow the subscription procedures that apply to your exercise in the rights offering or your payment does not clear prior to the expiration of the rights offering period, the subscription agent may, depending on the circumstances, reject your subscription or accept it only to the extent of any payment that was timely received and cleared. Neither we, nor the subscription agent, undertakes to contact you concerning, or attempt to correct, an incomplete or incorrect subscription form or payment, nor are we under any obligation to correct such forms or payments. We have the sole discretion to determine whether the exercise of your subscription rights properly and timely follows the subscription procedures.

By participating in the rights offering and executing a rights certificate, you are making binding and enforceable representations to the Company.

By signing the rights certificate and exercising their rights, each stockholder agrees, solely with respect to such stockholder's exercise of rights in the rights offering, that we have the right to void and cancel (and treat as if never exercised) any exercise of rights, and shares issued pursuant to an exercise of rights, if any of the agreements, representations or warranties of a subscriber in the subscription documents are false.

If you make payment of the subscription price by uncertified check, your check may not clear in sufficient time to enable you to purchase common stock in the rights offering.

Any uncertified check used to pay for common stock to be issued in the rights offering must clear prior to expiration of the rights offering, and the clearing process may require five or more business days. If you choose to exercise your subscription rights, in whole or in part, and to pay the subscription price by uncertified check and your check has not cleared prior to expiration of the rights offering, you will not have satisfied the conditions to exercise your subscription rights and will not receive the common stock you wished to purchase.

You may not receive all of the shares for which you subscribe.

Exercise of the over-subscription privilege will only be honored if and to the extent that the basic subscription rights have not been exercised in full. If sufficient shares of common stock are available, we will seek to honor your over-subscription request in full. If, however, over-subscription requests exceed the number of shares of common stock available to be purchased pursuant to the over-subscription privilege, we will allocate the available shares of common stock proportionately among stockholders who exercised their over-subscription privileges based on the number of shares each stockholder subscribed for under such stockholder's basic subscription rights. As a result, you may not receive any or all of the shares of common stock for which you exercise your over-subscription privilege.

As soon as practicable after the expiration date, the subscription agent will determine the number of shares of common stock that you may purchase pursuant to the over-subscription privilege. If you have properly exercised your over-subscription privilege, you will receive certificates representing these shares as soon as practicable after the expiration date and after all allocations and adjustments have been effected. If you request and pay for more shares than are allocated to you, we will refund the overpayment, without interest or deduction. In connection with the exercise of the over-subscription privilege, banks, brokers and other nominee holders of subscription rights who act on

behalf of beneficial owners will be required to certify to us and to the subscription agent as to the aggregate number of subscription rights exercised, and the number of shares of common stock

Table of Contents

requested through the over-subscription privilege, by each beneficial owner on whose behalf the nominee holder is acting.

You will not be able to sell or transfer the shares of common stock that you purchase pursuant to the exercise of subscription rights immediately upon expiration of the rights offering.

If you exercise your subscription rights, you will not be able to sell or transfer the common stock purchased by exercising your subscription rights until your account has been credited with those shares. Moreover, you will have no rights as a stockholder with respect to the shares purchased in the rights offering until we issue the shares to you. Although we will endeavor to issue the shares as soon as practicable after expiration of the rights offering, including the guaranteed delivery period and after all necessary calculations have been completed, there may be a delay between the expiration date of the rights offering and the time that the shares are issued. Fluctuations in the market price of our common stock may occur between expiration of the rights offering and the time that shares are issued to you.

Because no minimum subscription is required and because we do not have formal commitments from our stockholders for the entire amount we seek to raise pursuant to the rights offering, we cannot assure you of the amount of proceeds that we will receive from the rights offering.

No minimum subscription is required for consummation of the rights offering. Although affiliates of Larry Feinberg, which own an aggregate of 18,320,650 shares of our common stock, or approximately 24.1% of the shares outstanding, and affiliates of Jack Schuler, which own an aggregate of 19,920,821 shares of our common stock, or approximately 26.2% of the shares outstanding, have each agreed with us to exercise their respective basic subscription rights as well as exercise their over-subscription privilege pursuant to the rights offering in an amount not less than \$3,000,000 and \$3,000,000, respectively, we do not have formal commitments from our other stockholders for the remainder of the amount we seek to raise pursuant to the rights offering, and it is possible that no other rights will be exercised in connection with the rights offering. As a result, we cannot assure you of the amount of proceeds that we will receive in the rights offering. Therefore, if you exercise all or any portion of your subscription rights, but other stockholders do not, we may not raise the desired amount of capital in the rights offering, the market price of our common stock could be adversely impacted and we may find it necessary to pursue alternative means of financing, which may be dilutive to your investment.

We have broad discretion in the use of proceeds of the rights offering.

We are undertaking the rights offering in order to provide for our general working capital needs. Our Board and management will have considerable discretion in the application of the net proceeds from the rights offering, and it is possible that we may allocate the proceeds differently than investors in the rights offering may desire or that we may fail to maximize the return on these proceeds. You will be relying on the judgment of our Board and management with regard to the use of proceeds from the rights offering, and you will not have the opportunity, as part of your investment decision, to assess whether the proceeds are being used appropriately. For more information, see *Use of Proceeds*.

RISKS RELATED TO OUR BUSINESS AND OPERATIONS

Although our financial statements have been prepared on a going concern basis, our management and independent auditors in their report accompanying our consolidated financial statements for the year ended December 31, 2016, believe that our recurring losses from operations and other factors have raised substantial doubt about our ability to continue as a going concern as of December 31, 2016.

Our audited financial statements for the fiscal year ended December 31, 2016 were prepared on a going concern basis in accordance with U.S. GAAP. The going concern basis assumes that we will continue in operation for the next 12 months and will be able to realize our assets and discharge our liabilities and

Table of Contents

commitments in the normal course of business, thus our financial statements do not include any adjustments that might be necessary if the Company is unable to continue as a going concern. Our recurring losses, negative cash flow, potential need for additional capital and the uncertainties surrounding our ability to raise such funding, raises substantial doubt about our ability to continue as a going concern. In order for us to continue operations beyond the next 12 months and be able to discharge our liabilities and commitments in the normal course of business, we must sell our products directly to end-users and through distributors, establish profitable operations through increased sales, decrease expenses, generate cash from operation or raise additional funds when needed. We intend to improve our financial condition and ultimately improve our financial results by increasing revenues through expansion of our product offerings, continuing to expand and develop our field sales force and distributor relationships both domestically and internationally, forming strategic arrangements within the dental and medical industries, educating dental and medical patients as to the benefits of our advanced medical technologies, and reducing expenses. If we are unable to increase sales, reduce expenses or raise sufficient additional capital we may be unable to continue to fund our operations, develop our products, realize value from our assets, or discharge our liabilities in the normal course of business. If we become unable to continue as a going concern, we could have to liquidate our assets, and potentially realize significantly less than the values at which they are carried on our financial statements, and stockholders could lose all or part of their investment in our common stock.

We have experienced net losses for each of the past three years, and we could experience additional losses and have difficulty achieving profitability in the future.

We had an accumulated deficit of approximately \$178.3 million and \$186.7 million at December 31, 2016 and June 30, 2017, respectively. We recorded net losses of approximately \$15.4 million, \$20.3 million, and \$18.9 million for the years ended December 31, 2016, 2015, and 2014, respectively, and approximately \$8.4 million for the six month period ended June 30, 2017. In order to achieve profitability, we must control our costs and increase net revenue through new sales. Failure to increase our net revenue and decrease our costs could cause our stock price to decline and could have a material adverse effect on our business, financial condition, and results of operations.

We may be unable to maintain compliance with The NASDAQ Marketplace Rules which could cause our common stock to be delisted from The NASDAQ Capital Market. This could result in the lack of a market for our common stock, cause a decrease in the value of an investment in us, and adversely affect our business, financial condition and results of operations.

Our common stock is currently listed on The NASDAQ Capital Market. To maintain the listing of our common stock on The NASDAQ Capital Market, we are required to meet certain listing requirements, including, among others, either: (i) a minimum closing bid price of \$1.00 per share, a market value of publicly held shares (excluding shares held by our executive officers, directors and 10% or more stockholders) of at least \$1 million and stockholders' equity of at least \$2.5 million; or (ii) a minimum closing bid price of \$1.00 per share, a market value of publicly held shares (excluding shares held by our executive officers, directors and 10% or more stockholders) of at least \$1 million and a total market value of listed securities of at least \$35 million. As of September 28, 2017, the closing price for our common stock, as reported on the NASDAQ Capital Market, was \$0.62 per share, the total market value of our publicly held shares of our common stock (excluding shares held by our executive officers, directors and 10% or more stockholders) was approximately \$22.9 million and the total market value of our listed securities was approximately \$47.1 million.

On August 9, 2017, we received a letter from NASDAQ indicating that the closing bid price of our common stock fell below \$1.00 per share for the previous 30 consecutive business days, and that we are therefore not in compliance with the minimum bid price requirement for continued inclusion on The NASDAQ Capital Market and our common stock could be subject to delisting from The NASDAQ Capital Market. If our common stock is delisted, trading of the stock

will most likely take place on an over-the-counter market established for unlisted

Table of Contents

securities, such as the Pink Sheets or the OTC Bulletin Board. There is no assurance that we will meet the minimum closing price requirement and other listing requirements. As of June 30, 2017, we had stockholders' equity of approximately \$25.3 million.

An investor is likely to find it less convenient to sell, or to obtain accurate quotations in seeking to buy, our common stock on an over-the-counter market, and many investors may not buy or sell our common stock due to difficulty in accessing over-the-counter markets, or due to policies preventing them from trading in securities not listed on a national exchange or other reasons. In addition, as a delisted security, our common stock would be subject to SEC rules regarding penny stock, which impose additional disclosure requirements on broker-dealers. The regulations relating to penny stocks, coupled with the typically higher cost per trade to investors in penny stocks due to factors such as broker commissions generally representing a higher percentage of the price of a penny stock than of a higher priced stock, would further limit the ability and willingness of investors to trade in our common stock. For these reasons and others, delisting would adversely affect the liquidity, trading volume and price of our common stock, causing the value of an investment in us to decrease and having an adverse effect on our business, financial condition and results of operations, including our ability to attract and retain qualified executives and employees and to raise capital.

We are vulnerable to continued global economic uncertainty and volatility in financial markets.

Our business is highly sensitive to changes in general economic conditions as a seller of capital equipment to end users in dental professional practices. Financial markets inside the United States and internationally have experienced extreme disruption in recent times, including, among other things, extreme volatility in security prices, severely diminished liquidity and credit availability, and declining valuations of investments. These disruptions are likely to have an ongoing adverse effect on the world economy. A continuing economic downturn and financial market disruptions could have a material adverse effect on our business, financial condition, and results of operations, including by:

reducing demand for our products and services, increasing order cancellations and resulting in longer sales cycles and slower adoption of new technologies;

increasing the difficulty of collecting accounts receivable and the risk of excess and obsolete inventories;

increasing price competition in our served markets; and

resulting in supply interruptions, which could disrupt our ability to produce our products.

We could need to raise additional capital in the future, and if we are unable to secure adequate funds on terms acceptable to us, we could be unable to execute our business plan.

To remain competitive, we must continue to make significant investments in the development of our products, the expansion of our sales and marketing activities, and the expansion of our operating and management infrastructure as we increase sales domestically and internationally. If cash generated from our operations is insufficient to fund such growth, we could be required to raise additional funds through the issuance of equity or debt securities in the public or private markets, or through a collaborative arrangement or sale of assets. Additional financing opportunities may not

be available to us, or if available, may not be on favorable terms. The availability of financing opportunities will depend, in part, on market conditions, and the outlook for our business. Any future issuance of equity securities or securities convertible into equity securities could result in substantial dilution to our stockholders, and the securities issued in such a financing could have rights, preferences or privileges senior to those of our common stock. In addition, if we raise additional funds through debt financing, we could be subject to debt covenants that place limitations on our operations. We could not be able to raise additional capital on reasonable terms, or at all, or we could use capital more rapidly than anticipated. If we cannot raise the required capital when needed, we may not be able to satisfy the demands of existing and prospective customers, we could lose revenue and market share and we may have to curtail our

Table of Contents

capital expenditures. The following factors, among others, could affect our ability to obtain additional financing on favorable terms, or at all:

our results of operations;

general economic conditions and conditions in the dental or medical device industries;

the perception of our business in the capital markets;

our ratio of debt to equity;

our financial condition;

our business prospects; and

interest rates.

If we are unable to obtain sufficient capital in the future, we could have to curtail our capital expenditures. Any curtailment of our capital expenditures could result in a reduction in net revenue, reduced quality of our products, increased manufacturing costs for our products, harm to our reputation, or reduced manufacturing efficiencies and could have a material adverse effect on our business, financial condition, and results of operations.

Our success depends, in part, on our relationships with, and the efforts of, third-party distributors.

We rely on exclusive and non-exclusive third-party distributors for a portion of our sales in North America and a majority of our sales in countries outside of the U.S. and Canada. For the fiscal years ended December 31, 2016, 2015, and 2014, revenue from distributors accounted for approximately 30%, 34%, and 30% of our total net revenue. Our distributors have significant discretion in determining the efforts and resources they apply to the sale of our products, and we face significant challenges and risks in expanding, training, and managing our third-party distributors, particularly given that their geographically dispersed operations. Our distributors may not commit the necessary resources to market and sell our products to the level of our expectations, and, regardless of the resources they commit, they may not be successful. From time to time, we may face competition or pricing pressure from one or more of our non-exclusive distributors in certain geographic areas where those distributors are selling inventory to the same customer base as us. Additionally, most of our distributor agreements can be terminated with limited notice, and we may not be able to replace any terminating distributor in a timely manner or on terms agreeable to us, if at all. If we are not able to maintain our distribution network, if our distribution network is not successful in marketing and selling our products, or if we experience a significant reduction in, cancellation, or change in the size and timing of orders from our distributors, our revenues could decline significantly and could have a material adverse effect on our business, financial condition, and results of operations.

Dentists and patients have been hesitant in adopting laser technologies and our inability to overcome this hesitation could limit the market acceptance of our products and our market share.

Our dental laser systems represent relatively new technologies in the dental market. Only a small percentage of dentists use lasers to perform dental procedures. Our future success will depend on our ability to increase demand for our products by demonstrating to a broad spectrum of dentists and patients the potential performance advantages of our laser systems over traditional methods of treatment and over competitive laser systems, and our inability to do so could have a material adverse effect on our business, financial condition, and results of operations. Historically, we have experienced long sales cycles because dentists have been, and could continue to be, slow to adopt new technologies on a widespread basis. As a result, we generally are required to invest a significant amount of time and resources to educate dentists about the benefits of our products in comparison to competing products and technologies before completing a sale, if any.

Table of Contents

Factors that could inhibit adoption of laser technologies by dentists include cost and concerns about the safety, efficacy and reliability of lasers. In order to invest in a Waterlase system, a dentist generally needs to invest time to understand the technology, consider how patients may respond to the new technology, assess the financial impact the investment could have on the dentist's practice and become comfortable performing procedures with our products. Absent an immediate competitive motivation, a dentist may not feel compelled to invest the time required to learn about the potential benefits of using a laser system. Dentists may not accept or adopt our products until they see additional clinical evidence supporting the safety and efficiency of our products or recommendations supporting our laser systems by influential dental practitioners. In addition, economic pressure, caused, for example, by an economic slowdown, changes in health care reimbursement or by competitive factors in a specific market, could make dentists reluctant to purchase substantial capital equipment or invest in new technologies. Patient acceptance will depend on the recommendations of dentists and specialists, as well as other factors, including the relative effectiveness, safety, reliability and comfort of our systems as compared to other instruments and methods for performing dental procedures.

Any failure in our efforts to train dental practitioners could result in the misuse of our products, reduce the market acceptance of our products and have a material adverse effect on our business, financial condition, and results of operations.

There is a learning process involved for dental practitioners to become proficient users of our laser systems. It is critical to the success of our sales efforts to adequately train a sufficient number of dental practitioners. Following completion of training, we rely on the trained dental practitioners to advocate the benefits of our products in the broader marketplace. Convincing dental practitioners to dedicate the time and energy necessary for adequate training is challenging, and we cannot provide assurance that we will be successful in these efforts. If dental practitioners are not properly trained, they could misuse or ineffectively use our products, or could be less likely to appreciate our laser systems. This could also result in unsatisfactory patient outcomes, patient injury, negative publicity, FDA regulatory action, or lawsuits against us, any of which could negatively affect our reputation and sales of our laser systems.

If future data proves to be inconsistent with our clinical results or if competitors' products present more favorable results our revenues could decline and our business, financial condition, and results of operations could be materially and adversely affected.

If new studies or comparative studies generate results that are not as favorable as our clinical results, our revenues could decline. Additionally, if future studies indicate that our competitors' products are more effective or safer than ours, our revenues could decline. Furthermore, dental practitioners could choose not to purchase our laser systems until they receive additional published long-term clinical evidence and recommendations from prominent dental practitioners that indicate our laser systems are effective for dental applications.

We face competition from other companies, many of which have substantially greater resources than we do. If we do not successfully develop and commercialize enhanced or new products that remain competitive with products or alternative technologies developed by others, we could lose revenue opportunities and customers and our ability to grow our business would be impaired.

A number of competitors have substantially greater capital resources, larger customer bases, larger technical, sales and marketing forces and stronger reputations with target customers than ours. We compete with a number of domestic and foreign companies that market traditional dental products, such as dental drills, as well as companies that market laser technologies in the dental and medical markets. The marketplace is highly fragmented and very competitive. We expect that the rapid technological changes occurring in the health care industry could lead to the entry of new competitors, particularly if dental and medical lasers gain increasing market acceptance. If we do not compete

successfully, our revenue and market share could decline and our business, financial condition, and results of operations could be adversely affected.

Table of Contents

Our long-term success depends upon our ability to (i) distinguish our products through improving our product performance and pricing, protecting our intellectual property, improving our customer support, accurately timing the introduction of new products, and developing sustainable distribution channels worldwide; and (ii) develop and successfully commercialize new products, new or improved technologies, and additional applications for our laser systems. There is no assurance that we will be able to distinguish our products and commercialize any new products, new or improved technologies, or additional applications for our laser systems.

If our customers cannot obtain third-party reimbursement for their use of our products, they could be less inclined to purchase our products and our business, financial condition, and results of operations could be adversely affected.

Our products are generally purchased by dental or medical professionals who have various billing practices and patient mixes. Such practices range from primarily private pay to those who rely heavily on third-party payers, such as private insurance or government programs. In the United States, third-party payers review and frequently challenge the prices charged for medical products and/or services. In many foreign countries, the prices for dental services are predetermined through government regulation. Payers could deny coverage and reimbursement on various grounds, including if they determine that the procedure was not medically necessary or that the device used in the procedure was investigational. Accordingly, both coverage and reimbursement can vary significantly from payer to payer. For the portion of dentists who rely heavily on third-party reimbursement, the inability to obtain reimbursement for services using our products could deter them from purchasing or using our products. We cannot predict the effect that future health care reforms or changes in financing for health and dental plans could have on our business. Any such changes could have an adverse effect on the ability of a dental or medical professional to generate a profit using our current or future products. In addition, such changes could act as disincentives for capital investments by dental and medical professionals.

Our ability to use net operating loss carryforwards could be limited.

Section 382 of the Internal Revenue Code of 1986 (IRC) generally imposes an annual limitation on the amount of net operating loss carryforwards that may be used to offset taxable income when a corporation has undergone significant changes in its stock ownership. In 2006, we completed an analysis to determine the applicability of the annual limitations imposed by IRC Section 382 caused by previous changes in our stock ownership and determined that such limitations should not be significant. Given our continued generation of losses since the completion of the 2006 study, we have not updated the study. However, we plan to update the study if we expect to utilize net operating loss carryforwards in any future year. If we experience an ownership change as defined in IRC Section 382, utilization of the net operating loss carryforwards, research and development credit carryforwards, and other tax attributes, would be subject to an annual limitation under Section 382 of the Code. Any limitation may result in the expiration of a portion of the net operating loss or research and development credit carryforwards before utilization. If we lose our ability to use net operating loss carryforwards, any income we generate will be subject to tax earlier than it would be if we were able to use net operating loss carryforwards, resulting in lower profits which could have a material adverse effect on our business, financial condition, and results of operations.

We could incur problems in manufacturing our products.

In order to grow our business, we must expand our manufacturing capabilities to produce the systems and accessories necessary to meet any demand we may experience. We could encounter difficulties in increasing the production of our products, including problems involving production capacity and yields, quality control and assurance, component supply, and shortages of qualified personnel. In addition, before we can begin commercial manufacture of our products, we must ensure our manufacturing facilities, processes, and quality systems, and the manufacture of our

laser systems, comply with FDA regulations governing facility compliance, quality control, and documentation policies and procedures. In addition, our manufacturing facilities are subject to periodic inspections by the FDA, as well as various state agencies and foreign regulatory agencies. From time to

Table of Contents

time, we could expend significant resources in obtaining, maintaining, and addressing our compliance with these requirements. Our success will depend in part upon our ability to manufacture our products in compliance with the FDA's QSR and other regulatory requirements. We have experienced quality issues with components of our products supplied by third parties, and we could continue to do so. Our future success depends on our ability to manufacture our products on a timely basis with acceptable manufacturing costs, while at the same time maintaining good quality control and complying with applicable regulatory requirements, and an inability to do so could have a material adverse effect on our business, financial condition, and results of operations

We could be subject to significant warranty obligations if our products are defective, which could have a material adverse effect on our business, financial condition, and results of operations.

In manufacturing our products, we depend upon third parties for the supply of various components. Many of these components require a significant degree of technical expertise to design and produce. If we fail to adequately design, or if our suppliers fail to produce components to specification, or if the suppliers, or we, use defective materials or workmanship in the manufacturing process, the reliability and performance of our products will be compromised. We have experienced such non-compliance with manufacturing specifications in the past and could continue to experience such non-compliance in the future, which could lead to higher costs and reduced margins.

Our products could contain defects that cannot be repaired easily and inexpensively, and we have experienced in the past and could experience in the future some or all of the following:

loss of customer orders and delay in order fulfillment;

damage to our brand reputation;

increased cost of our warranty program due to product repair or replacement;

inability to attract new customers;

diversion of resources from our manufacturing and engineering and development departments into our service department; and

legal action.

Adverse publicity regarding our technology or products could negatively impact us.

Adverse publicity regarding any of our products or similar products marketed or sold by others could negatively affect us. If any studies raise or substantiate concerns regarding the efficacy or safety of our products or other concerns, our reputation could be harmed and demand for our products could diminish, which could have a material adverse effect on our business, financial condition, and results of operations.

Our products are used in minimally invasive surgical procedures, usually, though not always, without anesthesia. All surgical procedures carry some risk. Patients could experience adverse events or outcomes following a surgical procedure due to a multitude of different factors alone or in combination, including deficits in the skill, experience, and preparedness of the surgeon, the existence of underlying conditions or overall poor health of the patient, and defects, age, and misuse of medical products used in the procedure. Should an adverse patient event occur during the use of a BIOLASE product, there could be adverse publicity, increased scrutiny from regulatory agencies, and a loss of good will, even if it is ultimately shown to be caused by factors other than a BIOLASE product.

Product liability claims against us could be costly and could harm our reputation.

The sale of dental and medical devices involves the risk of product liability claims against us. Claims could exceed our product liability insurance coverage limits. Our insurance policies are subject to various standard

Table of Contents

coverage exclusions, including damage to the product itself, losses from recall of our product, and losses covered by other forms of insurance such as workers compensation. We cannot be certain that we will be able to successfully defend any claims against us, nor can we be certain that our insurance will cover all liabilities resulting from such claims. In addition, we cannot provide assurance that we will be able to obtain such insurance in the future on terms acceptable to us, or at all. Regardless of merit or eventual outcome, any product liability claim brought against us could result in harm to our reputation, decreased demand for our products, costs related to litigation, product recalls, loss of revenue, an increase in our product liability insurance rates, or the inability to secure coverage in the future, and could have a material adverse effect on our business, financial condition, and results of operations.

Our suppliers may not supply us with a sufficient amount or adequate quality of materials, which could have a material adverse effect on our business, financial condition, and results of operations.

Our business depends on our ability to obtain timely deliveries of materials, components, and subassemblies of acceptable quality and in acceptable quantities from third-party suppliers. We generally purchase components and subassemblies from a limited group of suppliers through purchase orders, rather than written supply contracts. Consequently, many of our suppliers have no obligation to continue to supply us on a long-term basis. In addition, our suppliers manufacture products for a range of customers, and fluctuations in demand for the products those suppliers manufacture for others could affect their ability to deliver components for us in a timely manner. Moreover, our suppliers could encounter financial hardships, be acquired, or experience other business events unrelated to our demand for components, which could inhibit or prevent their ability to fulfill our orders and satisfy our requirements.

Certain components of our products, particularly specialized components used in our laser systems, are currently available only from a single source or limited sources. For example, the crystal, fiber, and hand pieces used in our Waterlase systems are each supplied by a separate single supplier. Our dependence on single-source suppliers involves several risks, including limited control over pricing, availability, quality, and delivery schedules.

If any of our suppliers ceases to provide us with sufficient quantities of our components in a timely manner or on terms acceptable to us, or ceases to manufacture components of acceptable quality, we could incur manufacturing delays and sales disruptions while we locate and engage alternative qualified suppliers, and we might be unable to engage acceptable alternative suppliers on favorable terms. In addition, we could need to reengineer our components, which could require product redesign and submission to the FDA of a 510(k) application, which could significantly delay production. Any interruption or delay in the supply of components or materials, or our inability to obtain components or materials from alternate sources at acceptable prices in a timely manner, could impair our ability to meet the demand of our customers and cause them to cancel orders or switch to competitive procedures. As of the date of this prospectus, we were in the process of identifying and qualifying alternate source suppliers for our key components. There can be no assurance, however, that we will successfully identify and qualify an alternate source supplier for any of our key components or that we could enter into an agreement with any such alternate source supplier on terms acceptable to us, or at all.

Rapidly changing standards and competing technologies could harm demand for our products, result in significant additional costs, and have a material adverse effect on our business, financial condition, and results of operations.

The markets in which our products compete are subject to rapid technological change, evolving industry standards, changes in the regulatory environment, and frequent introductions of new devices and evolving dental and surgical techniques. Competing products could emerge that render our products uncompetitive or obsolete. The process of developing new medical devices is inherently complex and requires regulatory approvals or clearances that can be expensive, time-consuming, and uncertain. We cannot guarantee that we will successfully identify new product opportunities, identify new and innovative applications of our technology, or be financially

Table of Contents

or otherwise capable of completing the research and development required to bring new products to market in a timely manner. An inability to expand our product offerings or the application of our technology could limit our growth. In addition, we could incur higher manufacturing costs if manufacturing processes or standards change, and we could need to replace, modify, design, or build and install equipment, all of which would require additional capital expenditures.

We could be unable to effectively manage and implement our growth strategies, which could have a material adverse effect on our business, financial condition, and results of operations

Our growth strategy includes expanding our product line and clinical applications by developing enhancements and transformational innovations, including new clinical solutions for dental applications and for other adjacent medical applications. Expansion of our existing product line and entry into new medical applications divert the use of our resources and systems, require additional resources that might not be available (or available on acceptable terms), require additional country-specific regulatory approvals, result in new or increasing competition, could require longer implementation times or greater start-up expenditures than anticipated, and could otherwise fail to achieve the desired results in a timely fashion, if at all. These efforts could also require that we successfully commercialize new technologies in a timely manner, price them competitively and cost-effectively, and manufacture and deliver sufficient volumes of new products of appropriate quality on time. We could be unable to increase our sales and earnings by expanding our product offerings in a cost-effective manner, and we could fail to accurately predict future customer needs and preferences or to produce viable technologies. In addition, we could invest heavily in research and development of products that do not lead to significant revenue. Even if we successfully innovate and develop new products and product enhancements, we could incur substantial costs in doing so. In addition, promising new products could fail to reach the market or realize only limited commercial success because of efficacy or safety concerns, failure to achieve positive clinical outcomes, or uncertainty over third-party reimbursement.

We have significant international sales and are subject to risks associated with operating in international markets.

International sales comprise a significant portion of our net revenue and we intend to continue to pursue and expand our international business activities. For the fiscal years ended December 31, 2016, 2015, and 2014, international sales accounted for approximately 36%, 39%, and 37% of our net revenue, respectively, and for the six month period ended June 30, 2017, international sales accounted for approximately 36% of our net revenue. Political and economic conditions outside the United States could make it difficult for us to increase our international revenue or to operate abroad. International operations are subject to many inherent risks which could have a material adverse effect on our business, financial condition, and results of operations, including among others:

adverse changes in tariffs and trade restrictions;

political, social, and economic instability and increased security concerns;

fluctuations in foreign currency exchange rates;

longer collection periods and difficulties in collecting receivables from foreign entities;

exposure to different legal standards;

transportation delays and difficulties of managing international distribution channels;

reduced protection for our intellectual property in some countries;

difficulties in obtaining domestic and foreign export, import, and other governmental approvals, permits, and licenses, and compliance with foreign laws;

the imposition of governmental controls;

unexpected changes in regulatory or certification requirements;

Table of Contents

difficulties in staffing and managing foreign operations; and

potentially adverse tax consequences and the complexities of foreign value-added tax systems.

We believe that international sales will continue to represent a significant portion of our net revenue, and we intend to expand our international operations further. In international markets where our sales are denominated in U.S. dollars, an increase in the relative value of the dollar against the currency in such markets could indirectly increase the price of our products in those markets and result in a decrease in sales. We do not currently engage in any transactions as a hedge against risks of loss due to foreign currency fluctuations. However, we could do so in the future.

We could be subject to breaches of our information technology systems, which could damage our reputation and customer relationships. Such breaches could subject us to significant reputational, financial, legal, and operational consequences.

We rely on information systems (IS) in our business to obtain, rapidly process, analyze and manage data to, among other things:

facilitate the purchase and distribution of thousands of inventory items through numerous distributors;

receive, process and ship orders on a timely basis;

accurately bill and collect from thousands of customers;

process payments to suppliers; and

provide technical support to our customers.

A cyber-attack that bypasses our IS security, or employee error, malfeasance or other disruptions that cause an IS security breach could lead to a material disruption of our IS and/or the loss of business information. Such an attack could result in, among other things:

the theft, destruction, loss, misappropriation or release of confidential data and intellectual property;

operational or business delays;

liability for a breach of personal financial and health information belonging to our customers and their patients or to our employees; and

damage to our reputation any of which could have a material adverse effect on our business, financial condition, and results of operations. In the event of an attack, we would be exposed to a risk of loss or litigation and possible liability, including under laws that protect the privacy of personal information.

Our revenue and operating results fluctuate due to seasonality and other factors, so you should not rely on quarter-to-quarter comparisons of our operating results as an indication of our future performance.

Our revenue typically fluctuates from quarter to quarter due to a number of factors, many of which are beyond our control. Revenue in the first quarter typically is lower than average, and revenue in the fourth quarter typically is stronger than average due to the buying patterns of dental practitioners. We believe that this trend exists because a significant number of dentists purchase their capital equipment towards the end of the calendar year in order to maximize their practice earnings while seeking to minimize their taxes. They often use certain tax incentives, such as accelerated depreciation methods for purchasing capital equipment, as part of their year-end tax planning. In addition, revenue in the third quarter could be affected by vacation patterns, which can cause revenue to be flat or lower than in the second quarter of the year. Our historical seasonal fluctuations could also be impacted by sales promotions used by large dental distributors that encourage end-of-quarter and end-of-year

Table of Contents

buying in our industry. Other factors that might cause quarterly fluctuations in our revenue and operating results include the following:

variation in demand for our products;

our ability to research, develop, market, and sell new products and product enhancements in a timely manner;

our ability to control costs;

our ability to control quality issues with our products;

regulatory actions that impact our manufacturing processes;

the size, timing, rescheduling, or cancellation of orders from distributors;

the introduction of new products by competitors;

the length of and fluctuations in sales cycles;

the availability and reliability of components used to manufacture our products;

changes in our pricing policies or those of our suppliers and competitors, as well as increased price competition in general;

legal expenses, particularly related to litigation matters;

general economic conditions including the availability of credit for our existing and potential customer base to finance purchases;

the mix of our domestic and international sales and the risks and uncertainties associated with international business;

costs associated with any future acquisitions of technologies and businesses;

limitations on our ability to use net operating loss carryforwards under the provisions of IRC Section 382 and similar state laws;

developments concerning the protection of our intellectual property rights;

catastrophic events such as hurricanes, floods, and earthquakes, which can affect our ability to advertise, sell, and distribute our products, including through national conferences held in regions in which these disasters strike; and

global economic, political, and social events, including international conflicts and acts of terrorism.

The expenses we incur are based, in large part, on our expectations regarding future net revenue. Since many of our costs are fixed in the short term, we could be unable to reduce expenses quickly enough to avoid losses if we experience a decrease in expected net revenue. Accordingly, you should not rely on quarter-to-quarter comparisons of our operating results as an indication of our future performance.

Litigation against us could be costly and time-consuming to defend and could materially and adversely affect our business, financial condition, and results of operations.

We are from time to time involved in various claims, litigation matters and regulatory proceedings incidental to our business, including claims for damages arising out of the use of our products or services and claims relating to intellectual property matters, employment matters, commercial disputes, competition, sales and trading practices, environmental matters, personal injury, and insurance coverage. Some of these lawsuits include claims for punitive as well as compensatory damages. The defense of these lawsuits could divert our management's attention, and we could incur significant expenses in defending these lawsuits. In addition, we could be required to pay damage awards or settlements or become subject to unfavorable equitable remedies. Moreover, any insurance or indemnification rights that we could have may be insufficient or unavailable to protect us against potential loss exposures.

Table of Contents

Our operations are consolidated primarily in one facility. A disruption at this facility could result in a prolonged interruption of our business and have a material adverse effect on our business, financial condition, and results of operations.

Substantially all of our administrative operations and our manufacturing operations are located at our facility in Irvine, California, which is near known earthquake fault zones. Although we have taken precautions to safeguard our facilities including disaster recovery planning and off-site backup of computer data, a natural disaster such as an earthquake, fire, or flood, could seriously harm our facility and significantly disrupt our operations. Additionally, labor disputes, maintenance requirements, power outages, equipment failures, civil unrest, or terrorist attacks affecting our Irvine, California facility could significantly disrupt our operations. Our business interruption insurance coverage may not cover all or any of our losses from natural disasters or other disruptions.

If we lose our key management personnel, or are unable to attract or retain qualified personnel, it could adversely affect our ability to execute our growth strategy.

Our success is dependent, in part, upon our ability to hire and retain management, engineers, marketing and sales personnel, technical, research and other personnel who are in high demand and are often subject to competing employment opportunities. Our success will depend on our ability to retain our current management, engineers, marketing and sales, technical, research and other personnel and to attract and retain qualified like personnel in the future. Competition for senior management, engineers, marketing and sales personnel, and other specialized technicians is intense and we may not be able to retain our personnel. If we lose the services of any executive officers or key employees, our ability to achieve our business objectives could be harmed and our business, financial condition, and results of operations could be materially and adversely affected. In general, our officers could terminate their employment at any time without notice for any reason.

Acquisitions involve risks and uncertainties, including difficulties integrating acquired businesses successfully into our existing operations and risks of discovering previously undisclosed liabilities.

Successful acquisitions depend upon our ability to identify, negotiate, complete, and integrate suitable acquisitions and to obtain any necessary financing. We expect to continue to consider opportunities to acquire or make investments in other technologies, products and businesses that could enhance our capabilities, complement our current products, or expand the breadth of our markets or customer base. We have limited experience in acquiring other businesses and technologies. Even if we complete acquisitions, we could experience:

difficulties in integrating any acquired companies, personnel, products, and other assets into our existing business;

delays in realizing the benefits of the acquired company, product, or other assets;

diversion of our management's time and attention from other business concerns;

limited or no direct prior experience in new markets or countries we could enter;

higher costs of integration than we anticipated; and

difficulties in retaining key employees of the acquired business.

In addition, an acquisition could cause us to incur debt or issue shares, resulting in dilution to existing stockholders. We could also discover deficiencies in internal controls, data adequacy and integrity, product quality, regulatory compliance, and product liabilities that we did not uncover prior to our acquisition of such businesses, which could result in us becoming subject to penalties or other liabilities. Any difficulties in the integration of acquired businesses or unexpected penalties or liabilities in connection with such businesses could have a material adverse effect on our business, financial condition, and results of operations.

Table of Contents

If we fail to comply with the reporting obligations of the Exchange Act and Section 404 of the Sarbanes-Oxley Act, or if we fail to maintain adequate internal control over financial reporting, our business, financial condition, and results of operations, and investors' confidence in us, could be materially and adversely affected.

As a public company, we are required to comply with the periodic reporting obligations of the Exchange Act, including preparing annual reports, quarterly reports, and current reports. Our failure to prepare and disclose this information in a timely manner and meet our reporting obligations in their entirety could subject us to penalties under federal securities laws and regulations of The Nasdaq Stock Market LLC (*NASDAQ*), expose us to lawsuits, and restrict our ability to access financing on favorable terms, or at all.

In addition, pursuant to Section 404 of the Sarbanes-Oxley Act, we are required to evaluate and provide a management report of our systems of internal control over financial reporting. During the course of the evaluation of our internal control over financial reporting, we could identify areas requiring improvement and could be required to design enhanced processes and controls to address issues identified through this review. This could result in significant delays and costs to us and require us to divert substantial resources, including management time, from other activities. In addition, if we fail to maintain the adequacy of our internal control over financial reporting, we may not be able to ensure that we can conclude on an ongoing basis that we have effective internal control over financial reporting in accordance with the Sarbanes-Oxley Act. Moreover, effective internal controls are necessary for us to produce reliable financial reports and are important to help prevent fraud. Any failure to maintain compliance with the requirements of Section 404 on a timely basis could result in the loss of investor confidence in the reliability of our financial statements, which in turn could, negatively impact the trading price of our stock, and adversely affect investors' confidence in the Company and our ability to access capital markets for financing.

Climate change initiatives could materially and adversely affect our business, financial condition, and results of operations.

Our manufacturing processes require that we purchase significant quantities of energy from third parties, which results in the generation of greenhouse gases, either directly on-site or indirectly at electric utilities. Both domestic and international legislation to address climate change by reducing greenhouse gas emissions and establishing a price on carbon could create increases in energy costs and price volatility. Considerable international attention is now focused on development of an international policy framework to address climate change. Proposed and existing legislative efforts to control or limit greenhouse gas emissions could affect our energy source and supply choices as well as increase the cost of energy and raw materials derived from sources that generate greenhouse gas emissions. If our suppliers are unable to obtain energy at a reasonable cost in the future, the cost of our raw materials could be negatively impacted which could result in increased manufacturing costs.

RISKS RELATED TO OUR INTELLECTUAL PROPERTY

If the patents that we own or license, or our other intellectual property rights, do not adequately protect our technologies, we could lose market share to our competitors and be unable to operate our business profitably.

Our future success depends, in part, on our ability to obtain and maintain patent protection for our products and technology, to preserve our trade secrets and to operate without infringing the intellectual property of others. We rely on patents to establish and maintain proprietary rights in our technology and products. We currently possess a number of issued patents and patent applications with respect to our products and technology. However, we cannot ensure that any additional patents will be issued, that the scope of any patent protection will be effective in helping us address our competition, or that any of our patents will be held valid if subsequently challenged. It is also possible that our competitors could independently develop similar or more desirable products, duplicate our products, or design

products that circumvent our patents. The laws of foreign countries may not protect our products or intellectual property rights to the same extent as the laws of the United States. In

Table of Contents

addition, there have been recent changes in the patent laws and rules of the U.S. Patent and Trademark Office (the *USPTO*), and there could be future proposed changes that, if enacted, have a significant impact on our ability to protect our technology and enforce our intellectual property rights. If we fail to protect our intellectual property rights adequately, our competitive position could be adversely affected, and there could be a material adverse effect on our business, financial condition, and results of operations.

If third parties claim that we infringe their intellectual property rights, we could incur liabilities and costs and have to redesign or discontinue selling certain products, which could have a material adverse effect on our business, financial condition, and results of operations.

We face substantial uncertainty regarding the impact that other parties' intellectual property positions will have on dental and other medical laser applications. The medical technology industry has in the past been characterized by a substantial amount of litigation and related administrative proceedings regarding patents and intellectual property rights. From time to time, we have received, and we expect to continue to receive, notices of claims of infringement, misappropriation, or misuse of other parties' proprietary rights. Some of these claims could lead to litigation. We may not prevail in any future intellectual property infringement litigation given the complex technical issues and inherent uncertainties in litigation. Any claims, with or without merit, could be time-consuming and distracting to management, result in costly litigation, or cause product shipment delays. Adverse determinations in litigation could subject us to significant liability and could result in the loss of proprietary rights. A successful lawsuit against us could also force us to cease selling or redesign products that incorporate the infringed intellectual property. Additionally, we could be required to seek a license from the holder of the intellectual property to use the infringed technology, and it is possible that we may not be able to obtain a license on acceptable terms, or at all.

RISKS RELATED TO OUR REGULATORY ENVIRONMENT

Changes in government regulation or the inability to obtain or maintain necessary government approvals could have a material adverse effect on our business, financial condition, and results of operations.

Our products are subject to extensive government regulation, both in the United States and in other countries. To clinically test, manufacture, and market products for human use, we must comply with regulations and safety standards set by the FDA and comparable state and foreign agencies. Regulations adopted by the FDA are wide-ranging and govern, among other things, product design, development, manufacture and control testing, labeling control, storage, advertising, and sales. Generally, products must meet regulatory standards as safe and effective for their intended use before being marketed for human applications. The clearance process is expensive, time-consuming, and uncertain. Failure to comply with applicable regulatory requirements of the FDA can result in an enforcement action which could include a variety of sanctions, including fines, injunctions, civil penalties, recall or seizure of our products, operating restrictions, partial suspension, or total shutdown of production and criminal prosecution. The failure to receive or maintain requisite approvals for the use of our products or processes, or significant delays in obtaining such approvals, could prevent us from developing, manufacturing, and marketing products and services necessary for us to remain competitive.

If we develop new products and applications or make any significant modifications to our existing products or labeling, we will need to obtain additional regulatory clearances or approvals. Any modification that could significantly affect a product's safety or effectiveness, or that would constitute a change in its intended use, will require a new FDA 510(k) clearance, or could require a PMA application. The FDA requires each manufacturer to make this determination initially, but the FDA can review any such decision and can disagree with a manufacturer's determination. If the FDA disagrees with a manufacturer's determination, the FDA can require the manufacturer to cease marketing and/or recall the modified device until 510(k) clearance or PMA is obtained. If 510(k) clearance is

denied and a PMA application is required, we could be required to submit substantially more data and conduct human clinical testing and would very likely be subject to a significantly longer review period.

Table of Contents

Products sold in international markets are also subject to the regulatory requirements of each respective country or region. The regulations of the European Union require that a device have a CE Mark, indicating conformance with European Union laws and regulations before it can be sold in the European Union. The regulatory international review process varies from country to country. We rely on our distributors and sales representatives in the foreign countries in which we market our products to comply with the regulatory laws of such countries. Failure to comply with the laws of such countries could prevent us from continuing to sell products in such countries. In addition, unanticipated changes in existing regulatory requirements or the adoption of new requirements could impose significant costs and burdens on us, which could increase our operating expenses.

Changes in health care regulations in the U.S. and elsewhere could adversely affect the demand for our products as well as the way in which we conduct our business. For example, in 2010, President Obama signed the Affordable Care Act into law, which included various reforms impacting Medicare coverage and reimbursement, including revision to prospective payment systems, any of which could adversely impact any Medicare reimbursements received by our end-user customers. New legislation may be enacted as President Trump and Congress consider further reform. In addition, as a result of the focus on health care reform, there is risk that Congress could implement changes in laws and regulations governing health care service providers, including measures to control costs, and reductions in reimbursement levels. We cannot be sure that government or private third-party payers will cover and reimburse the procedures using our products, in whole or in part, in the future, or that payment rates will be adequate. If providers cannot obtain adequate coverage and reimbursement for our products, or the procedures in which they are used, our business, results of operations, and financial condition could suffer.

We could be subject to or otherwise affected by federal and state health care laws, including fraud and abuse and health information privacy and security laws, and we could face substantial penalties if we are unable to fully comply with such regulations.

We are directly or indirectly, through our customers, subject to extensive regulation by both the federal government and the states and foreign countries in which we conduct our business. The laws that directly or indirectly affect our ability to operate our business include, but are not limited to, the following:

the Federal Food, Drug, and Cosmetic Act, which regulates the design, testing, manufacture, labeling, marketing, distribution, and sale of prescription drugs and medical devices and which includes the RCHSA, under which the FDA has established reporting, recordkeeping, and performance requirements for laser products;

state food and drug laws;

the federal Anti-Kickback Statute, which prohibits persons from knowingly and willfully soliciting, offering, receiving, or providing remuneration, directly or indirectly, to induce the referral for the furnishing of, or the purchase, order, or recommendation of, a good or service, for which payment could be made under FHCPS such as Medicare, Medicaid, and TRICARE;

state law equivalents to the federal Anti-Kickback Statute, which may not be limited to government reimbursed items;

state laws that prohibit fee-splitting arrangements;

the federal Civil False Claims Act, which imposes liability on any person or entity that knowingly presents, or causes to be presented, a false or fraudulent claim for payment to the government, including FHCPs;

state false claims laws that prohibit anyone from presenting, or causing to be presented, claims for payment to third-party payers that are false or fraudulent;

Table of Contents

federal crimes for knowingly and willfully executing a scheme to defraud any health care benefit program or making false statements in connection with the delivery of or payment for items or services under a health care benefit program;

federal law prohibiting offering remuneration to a Medicare or Medicaid beneficiary to influence the beneficiary's selection of a particular provider, practitioner, or supplier;

the federal Stark Law, which, in the absence of a statutory or regulatory exception, prohibits: (i) the referral of Medicare or Medicaid patients by a physician to an entity for the provision of designated health care services, if the physician or a member of the physician's immediate family has a direct or indirect financial relationship, including an ownership interest in, or a compensation arrangement with, the entity and (ii) submitting a bill to Medicare or Medicaid for services rendered pursuant to a prohibited referral;

state law equivalents to the Stark Law, which may not be limited to government reimbursed items;

the Physician Payments Sunshine Act, which requires us to report annually to CMS certain payments and other transfers of value we make to U.S.-licensed physicians, dentists, and teaching hospitals;

the FCPA, which generally prohibits companies and their intermediaries from paying anything of value to foreign officials to influence any decision of the foreign official in his/her official capacity or to secure any other improper advantage to obtain or retain business;

HIPAA and HITECH and their implementing regulations, which govern the use, disclosure, and safeguarding of PHI;

state privacy laws that protect the confidentiality of patient information;

Medicare and Medicaid laws and regulations that prescribe the requirements for coverage and payment, including the amount of such payment; state laws that prohibit the practice of medicine by non-physicians; and

the Federal Trade Commission Act and similar laws regulating advertising and consumer protection.

If our past or present operations are found to be in violation of any of the laws described above or the other governmental laws or regulations to which we or our customers are subject, we could be subject to the applicable penalty associated with the violation, which could include civil and criminal penalties, damages, fines, exclusion from FHCPs, and the curtailment or restructuring of our operations. If we are required to obtain permits or licensure under these laws that we do not already possess, we could become subject to substantial additional regulation or incur significant expense. Any penalties, damages, fines, or curtailment or restructuring of our operations could be significant. The risk of potential non-compliance is increased by the fact that many of these laws have not been fully

interpreted by applicable regulatory authorities or the courts, and their provisions are open to a variety of interpretations and additional legal or regulatory change. Any action against us for violation of these laws, even if we successfully defend against it, could cause us to incur significant legal expenses, divert our management's attention from the operation of our business, damage our reputation, and cause a material adverse effect on our business, financial condition, and results of operations.

We could be exposed to liabilities under the FCPA, and any determination that we violated the FCPA could have a material adverse effect on our business, financial condition, and results of operations.

In light of our operations outside the United States, we are subject to the FCPA, which generally prohibits companies and their intermediaries from offering to pay, promising to pay, or authorizing the payment of money or anything of value to non-U.S. officials for the purpose of influencing any act or decision of the foreign official in his/her capacity or to secure any other improper advantage to obtain or retain business. Violation of the anti-bribery provisions of the FCPA can result in criminal fines of up to \$2 million and civil penalties of up to \$16,000 for each violation. Individuals, including officers, directors, stockholders, and agents of companies, can

Table of Contents

be subject to a criminal fine of up to \$250,000 and imprisonment, in addition to civil penalties of up to \$16,000, per violation. We could be held liable for actions taken by our distributors in violation of the FCPA, even though such partners are foreign companies that may not be subject to the FCPA. Any determination that we violated the FCPA could result in sanctions that could have a material adverse effect on our business, financial condition, and results of operations.

Product sales or introductions could be delayed or canceled as a result of the FDA regulatory requirements applicable to laser products, dental devices, or both, which could cause our sales or profitability to decline and have a material adverse effect on our business, financial condition, and results of operations.

The process of obtaining and maintaining regulatory approvals and clearances to market a medical device from the FDA and similar regulatory authorities abroad can be costly and time-consuming, and we cannot provide assurance that such approvals and clearances will be granted. Pursuant to FDA regulations, unless exempt, the FDA permits commercial distribution of a new medical device only after the device has received 510(k) clearance or is the subject of an approved PMA. The FDA will clear marketing of a medical device through the 510(k) process if it is demonstrated that the new product is substantially equivalent to other 510(k)-cleared products. The pre market approval process is more costly, lengthy and uncertain than the 510(k) process, and must be supported by extensive data, including data from preclinical studies, and human clinical trials. Because we cannot provide assurance that any new products, or any product enhancements, that we develop will be subject to the shorter 510(k) clearance process, significant delays in the introduction of any new products or product enhancement could occur. We cannot provide assurance that the FDA will not require a new product or product enhancement to go through the lengthy and expensive PMA process. Delays in obtaining regulatory clearances and approvals could:

delay or eliminate commercialization of products we develop;

require us to perform costly procedures;

diminish any competitive advantages that we may attain; and

reduce our ability to collect revenues or royalties.

Although we have obtained 510(k) clearance from the FDA to market our dental laser systems, we cannot provide assurance that the clearance of these systems will not be withdrawn or that we will not be required to obtain new clearances or approvals for modifications or improvements to our products.

Our products are subject to recalls and other regulatory actions after receiving FDA clearance or approval.

The FDA and similar governmental bodies in other countries have the authority to require the recall of our products in the event of material deficiencies or defects in design or manufacture. A government mandated or voluntary recall by us could occur as a result of component failures, manufacturing errors, or design defects, including defects in labeling. Any recall would divert management's attention and financial resources and harm our reputation with customers. Any recall involving our laser systems would be particularly harmful to us, because our laser systems comprise such an important part of our portfolio of products. However, any recall could have a material adverse effect on our business, financial condition, and results of operations.

RISKS RELATED TO OUR STOCK

The liquidity and trading volume of our common stock could be low, and our ownership is concentrated.

The liquidity and trading volume of our common stock has at times been low in the past and could again be low in the future. If the liquidity and trading volume of our common stock is low, this could adversely impact the trading price of our shares, our ability to issue stock and our stockholders' ability to obtain liquidity in their shares. The issuance of common stock by us in 2013, 2014, 2016 and 2017 involved a significant issuance of stock to a limited number of investors, significantly increasing the concentration of our share ownership in a few holders.

Table of Contents

Three of our stockholders beneficially own approximately 57.3% of our outstanding common stock, in the aggregate, as of June 30, 2017, as determined based on a review of their reports on Schedule 13D/A and Schedule 13G/A. As a result, these stockholders will be able to affect the outcome of, or exert significant influence over, all matters requiring stockholder approval, including the election and removal of directors and any change in control. In particular, this concentration of ownership of our common stock could have the effect of delaying or preventing a change in control of us or otherwise discouraging or preventing a potential acquirer from attempting to obtain control of us. This, in turn, could have a negative effect on the market price of our common stock. It could also prevent our stockholders from realizing a premium over the market prices for their shares of common stock. Moreover, the interests of this concentration of ownership may not always coincide with our interests or the interests of other stockholders. The concentration of ownership also contributes to the low trading volume and volatility of our common stock.

Our stock price has been, and could continue to be, volatile.

There has been significant volatility in the market price and trading volume of equity securities, which is often unrelated to the financial performance of the companies issuing the securities. These broad market fluctuations could negatively affect the market price of our stock. The market price and volume of our common stock could fluctuate, and in the past has fluctuated, more dramatically than the stock market in general. You may not be able to resell your shares at or above the price you paid for them due to fluctuations in the market price of our stock caused by changes in our operating performance or prospects or other factors. Some factors, in addition to the other risk factors identified above, that could have a significant effect on our stock market price include but are not limited to the following:

actual or anticipated fluctuations in our operating results or future prospects;

our announcements or our competitors' announcements of new products;

the public's reaction to our press releases, our other public announcements, and our filings with the SEC;

strategic actions by us or our competitors, such as acquisitions or restructurings;

new laws or regulations or new interpretations of existing laws or regulations applicable to our business;

changes in accounting standards, policies, guidance, interpretations, or principles;

changes in our growth rates or our competitors' growth rates;

developments regarding our patents or proprietary rights or those of our competitors;

our inability to raise additional capital as needed;

concerns or allegations as to the safety or efficacy of our products;

changes in financial markets or general economic conditions;

sales of stock by us or members of our management team, our Board, our significant stockholders, or certain institutional stockholders; and

changes in stock market analyst recommendations or earnings estimates regarding our stock, other comparable companies or our industry generally.

You could experience substantial dilution of your investment as a result of subsequent exercises of our outstanding warrants and options, vesting of restricted stock units, future sales of our equity, or the future grant of equity by us.

You could experience substantial dilution of your investment as a result of subsequent exercises of outstanding warrants and outstanding options issued as compensation for services performed by employees, directors, consultants, and others, future sales of our equity, or the grant of future equity-based awards. As of

Table of Contents

June 30, 2017, an aggregate of 15,550,000 shares of common stock were authorized for issuance under our equity incentive plan, approximately 7,440,000 of which were subject to options outstanding as of that date at a weighted-average exercise price of \$1.95 per share. In addition, as of June 30, 2017, 15,332,131 shares of our common stock were subject to outstanding warrants at a weighted-average exercise price of \$3.17 per share and 11,271,260 shares of our common stock were subject to exercisable warrants at a weighted-average exercise price of \$3.64 per share. Of the approximately 7,440,000 stock options outstanding at June 30, 2017, approximately 3,759,000 stock options were vested and exercisable. In addition, as of June 30, 2017, 1,995,176 shares of our common stock were unvested restricted stock units. To the extent that outstanding warrants or options are exercised and/or our restricted stock units vest, our existing stockholders could experience dilution. We rely heavily on equity awards to motivate current employees and to attract new employees. The grant of future equity awards by us to our employees and other service providers could further dilute our stockholders' interests in the Company. During 2016, we sold approximately 0.9 million shares of common stock in private placements with gross proceeds totaling approximately \$10.0 million. During the first six months of 2017, we sold 80,644 shares of preferred stock and warrants to purchase up to an aggregate of 3,925,871 unregistered shares of our common stock in a private placement with gross proceeds totaling approximately \$10.5 million. We did not complete any private placements during 2015. During 2014, we sold approximately 22.4 million shares of common stock in private placements with gross proceeds totaling approximately \$52.0 million. During 2013, we sold approximately 2.7 million shares of common stock in a private placement with gross proceeds totaling approximately \$5.0 million, and sold 340,000 shares of common stock through for gross proceeds totaling approximately \$612,000. Our Board declared a 0.5% stock dividend in the first quarter of 2014, which resulted in the issuance of 193,032 shares.

Anti-takeover provisions in our charter, bylaws, other agreements, and under Delaware law could discourage, delay, or prevent a change in control of the Company.

Provisions in our restated certificate of incorporation and amended and restated bylaws could discourage, delay, or prevent a merger or acquisition involving us that our stockholders may consider favorable. These provisions include but are not limited to the right of our Board to issue preferred stock without stockholder approval, no stockholder ability to fill director vacancies, elimination of the rights of our stockholders to act by written consent and call special stockholder meetings, super-majority vote requirements for certain amendments to our certificate of incorporation and stockholder proposals for amendments to our bylaws, prohibition against stockholders from removing directors other than for cause and rules regarding how stockholders may present proposals or nominate directors for election at stockholder meetings.

We are also subject to the anti-takeover provisions of the Delaware General Corporation Law. Under these provisions, if anyone becomes an interested stockholder, we may not enter into a business combination with that person for three years without special approval, which could discourage a third-party from making a takeover offer and could delay or prevent a change in control of us. An interested stockholder generally means (subject to certain exceptions as described in the Delaware General Corporation Law) someone owning 15% or more of our outstanding voting stock or an affiliate of ours that owned 15% or more of our outstanding voting stock during the past three years.

On November 10, 2015, we entered into Standstill Agreements with certain stockholders, and on August 1, 2016, we amended the Standstill Agreements. As amended, the Standstill Agreements restrict certain stockholders from (i) purchasing or acquiring any shares of BIOLASE common stock if such a purchase would result in aggregate beneficial ownership in excess of 30% of the issued and outstanding shares of BIOLASE common stock and (ii) selling, transferring or otherwise conveying shares of BIOLASE common stock (or warrants or other rights to acquire shares of BIOLASE common stock) to anyone who would immediately thereafter beneficially own shares in excess of 20% of the issued and outstanding shares of BIOLASE common stock, as a result of such transfer and other transfers from third parties. These Standstill Agreements may discourage, delay, or prevent a change in control of the

Company.

Table of Contents

Because we do not intend to pay dividends, our stockholders will benefit from an investment in our common stock only if it appreciates in value.

We intend to retain our future earnings, if any, to finance the expansion of our business and do not expect to pay any cash dividends in the foreseeable future. As a result, the success of an investment in our common stock will depend entirely upon any future appreciation. There is no guarantee that our common stock will appreciate in value or even maintain the price at which our stockholders purchased their shares.

Table of Contents**USE OF PROCEEDS**

Although we cannot determine what the actual net proceeds from the sale of the shares of common stock in the rights offering will be until the rights offering is completed, assuming all subscription rights are exercised, we estimate that the aggregate net proceeds from the rights offering, after deducting estimated offering expenses, will be approximately \$[] million. We intend to use the net proceeds we receive from the rights offering to provide for our general working capital needs.

The precise amount and timing of the application of such proceeds will depend upon our funding requirements and the availability and cost of other funds. Our Board and management will have considerable discretion in the application of the net proceeds from the rights offering, and it is possible that we may allocate the proceeds differently than investors in the rights offering may desire or that we may fail to maximize the return on these proceeds. You will be relying on the judgment of our management with regard to the use of proceeds from the rights offering, and you will not have the opportunity, as part of your investment decision, to assess whether the proceeds are being used appropriately.

CAPITALIZATION

The following table sets forth our capitalization at June 30, 2017 and as adjusted to reflect the sale of [] shares of our common stock, assuming all subscription rights are exercised, at the subscription price of \$[] per share and the receipt of the net proceeds from the rights offering after deducting estimated offering expenses in the amount of \$[]. The table does not reflect the use of proceeds from the rights offering. The information presented in the table below should be read in conjunction with our unaudited consolidated financial statements and notes thereto incorporated by reference into this prospectus.

	Actual as of June 30, 2017 (unaudited)	As Adjusted for Rights Offering
	\$(in thousands, except per share data)	
STOCKHOLDERS EQUITY:		
Common stock, \$0.001 par value, 200,000,000 shares authorized; 75,976,779 shares issued and outstanding, actual, and approximately [] shares outstanding, as adjusted	76	[]
Additional paid-in capital	212,640	[]
Accumulated other comprehensive loss	(689)	[]
Accumulated deficit	(186,723)	[]
Total stockholders' equity	25,304	[]
Total liabilities and stockholders' equity	\$ 42,283	[]

Table of Contents**PRICE RANGE OF COMMON STOCK AND DIVIDEND POLICY**

Our common stock is listed and traded on the NASDAQ Capital Market under the symbol BIOL. On March 6, 2017, the most recent practicable date before the date of this prospectus, we had 67,570,951 shares of common stock outstanding and approximately 180 holders of record of the common stock, and the closing price of our common stock as reported on the NASDAQ Capital Market was \$1.36 per share.

The following table summarizes the high and low closing sale prices per share of our common stock for the periods indicated, as reported on the NASDAQ Capital Market. These prices do not include adjustments for retail mark-ups, markdowns or commissions.

	Price Range	
	Low	High
Year ending December 31, 2017		
First Quarter	\$ 1.15	\$ 1.70
Second Quarter	\$ 0.94	\$ 1.40
Third Quarter (through September 28, 2017)	\$ 0.49	\$ 0.98
Year ended December 31, 2016		
First Quarter	\$ 0.75	\$ 1.60
Second Quarter	\$ 1.00	\$ 1.44
Third Quarter	\$ 0.93	\$ 1.93
Fourth Quarter	\$ 1.28	\$ 1.84
Year ended December 31, 2015		
First Quarter	\$ 1.90	\$ 2.73
Second Quarter	\$ 1.39	\$ 2.61
Third Quarter	\$ 0.89	\$ 1.76
Fourth Quarter	\$ 0.62	\$ 1.08

The foregoing table shows only historical comparisons. These comparisons may not provide meaningful information to you in determining whether to purchase shares of common stock in the rights offering. You are urged to obtain current market quotations for our common stock and to review carefully the other information included in, or incorporated by referenced into, this prospectus.

We intend to retain our available funds from earnings and other sources for future growth and, therefore, do not anticipate paying any cash dividends in the foreseeable future. Additionally, we do not anticipate paying any stock dividends in the foreseeable future. Our dividend policy may be changed at any time, and from time to time, by our Board. We did not pay or declare any dividends in 2015 or 2016.

In August 2016, we completed a private placement with several institutional and individual investors, and certain of our directors and officers. Gross proceeds from the sale were \$10.0 million. In accordance with applicable accounting standards, this transaction resulted in a discount from allocation of proceeds to separable instruments of \$1.1 million and a beneficial conversion to common stock with a value of \$1.1 million, both of which have been reflected as a deemed distribution to preferred stockholders in the year ended December 31, 2016. Further discussion of this transaction is discussed in the notes to the financial statements included in our most recent annual report on Form 10-K, which is incorporated by reference herein.

In April 2017, we completed a private placement with several institutional and individual investors, and certain of our directors and officers. Gross proceeds from the sale were approximately \$10.5 million. In accordance with applicable accounting standards, this transaction resulted in a discount from allocation of proceeds to separable instruments of \$2.0 million and a beneficial conversion to common stock with a value of \$2.0 million, both of which have been reflected as a deemed distribution to preferred shareholders for the three and six months ended June 30, 2017. Further discussion of this transaction is discussed in the notes to the financial statements included in our most recent quarterly report on Form 10-Q, which is incorporated by reference herein.

Table of Contents**THE RIGHTS OFFERING**

The following describes the rights offering in general and assumes, unless specifically provided otherwise, that you are a record holder of our common stock on the record date. If you hold your shares in a brokerage account or through a broker, dealer, custodian bank or other nominee, please also refer to *Method of Exercising Subscription Rights Subscription by Beneficial Owners*.

The Subscription Rights

We are distributing to holders of shares of our common stock as of 5:00 p.m., Eastern Time, on [], 2017, which is the record date for the rights offering, at no charge, non-transferable subscription rights to purchase shares of our common stock at \$[] per share. Each holder of record of our common stock will receive [] subscription right for each share of our common stock owned by such holder as of 5:00 p.m., Eastern Time, on the record date. Each subscription right entitles the holder to a basic subscription right and an over-subscription privilege (each, as described below). The subscription rights entitle the holders of our common stock to purchase an aggregate of [] shares of our common stock for an aggregate subscription price of approximately \$[] million. The shares to be issued in the rights offering, like our existing shares of common stock, will be traded on the NASDAQ Capital Market under the symbol BIOL.

Basic Subscription Right. The basic subscription right provides the holder of the subscription right the opportunity to purchase [] shares of our common stock at subscription price of \$[] per share, subject to delivery of the required documents and payment of the subscription price prior to the expiration of the rights offering. You may exercise all or a portion of your basic subscription rights or you may choose not to exercise any subscription rights at all. However, if you exercise less than all of your basic subscription rights, you will not be entitled to purchase shares under the over-subscription privilege.

Over-Subscription Privilege. Subject to the allocation described below, each basic subscription right also grants the holder an over-subscription privilege to purchase [] additional shares of our common stock that are not purchased by other rights holders pursuant to such stockholder's basic subscription rights. You are entitled to exercise your over-subscription privilege only if you exercise your basic subscription right in full.

If you wish to exercise your over-subscription privilege, you should indicate the number of additional shares, which in no event shall be greater than [] additional shares per share of common stock you currently own, that you would like to purchase in the space provided on your rights certificate, as well as the number of shares that you beneficially own without giving effect to any shares to be purchased in this offering. When you send in your rights certificate, you must also send the full subscription price in cash for the number of additional shares that you have requested to purchase (in addition to the payment in cash due for shares purchased through your basic subscription right). If an insufficient number of shares is available to fully satisfy all over-subscription requests, the available shares will be distributed proportionately among stockholders who exercised their over-subscription privileges based on the number of shares each stockholder subscribed for under such stockholder's basic subscription rights.

The subscription agent will return any excess payments by mail without interest or deduction promptly after the expiration of the subscription period.

As soon as practicable after the expiration date, the subscription agent will determine the number of shares of common stock that you may purchase pursuant to the over-subscription privilege. You will receive certificates representing these shares as soon as practicable after the expiration date and after all allocations and adjustments have been effected. If you request and pay for more shares than are allocated to you, we will refund the overpayment, without interest or deduction. In connection with the exercise of the over-subscription privilege, banks, brokers and other

nominee holders of subscription rights who act on behalf of beneficial owners will be required to certify to us and to the subscription agent as to the aggregate number of subscription rights exercised,

Table of Contents

and the number of shares of common stock requested through the over-subscription privilege, by each beneficial owner on whose behalf the nominee holder is acting.

Reasons for the Rights Offering

We are engaging in the rights offering to provide for our general working capital needs. Our Board has chosen, as recommended by management, to raise capital through a rights offering to give all our stockholders the opportunity to limit ownership dilution by buying additional shares of common stock. Our Board also considered several alternative capital raising methods prior to concluding that the rights offering was the appropriate option under the current circumstances. Our Board believes that the rights offering will strengthen the Company's financial condition by generating additional cash and increasing its capital position.

Based on its consideration of these factors, the information and analyses regarding the rights offering prepared by management and the recommendation of management that the rights offering is in the best interests of the Company in light of the information available to management, and the additional information and documentation reviewed by our Board, our Board approved the rights offering and determined that the rights offering is in the best interests of the Company and its stockholders. However, our Board is not making any recommendation regarding your exercise of the subscription rights. We cannot assure you that we will not need to seek additional financing or engage in additional capital offerings in the future or that the rights offering will raise sufficient capital to provide for our general working capital needs.

Determination of Subscription Price

The Board will determine the subscription price, after reasonable consultation with the stockholders that have agreed to exercise their rights as described below, based on a variety of factors, including historical and current trading prices for our common stock, general business conditions, our need for capital, alternatives available to us for raising capital, potential market conditions, and our desire to provide an opportunity to our stockholders to participate in the rights offering on a pro rata basis. In conjunction with its review of these factors, the Board also reviewed our history and prospects, including our past and present earnings, our prospects for future earnings, and the outlook for our industry, and our current financial condition.

We cannot assure you that the market price of our shares of common stock will not decline during or after the rights offering. We also cannot assure you that you will be able to sell shares of our common stock purchased during the rights offering at a price equal to or greater than the subscription price. We urge you to obtain a current quote for our common stock before exercising your subscription rights.

Purchase Commitment

On September 26, 2017, we entered into an agreement with affiliates of Larry Feinberg, which own an aggregate of 18,320,650 shares of our common stock, or approximately 24.1% of the shares outstanding, and affiliates of Jack Schuler, which own an aggregate of 19,920,821 shares of our common stock, or approximately 26.2% of the shares outstanding, for such affiliates to exercise their respective basic subscription rights as well as exercise their over-subscription privilege pursuant to the rights offering in an amount not less than \$3,000,000 and \$3,000,000, respectively. No fees or other consideration will be paid by the Company to the Messrs. Feinberg or Schuler (or any of his respective affiliates) in exchange for such agreement to purchase common stock in connection with the rights offering. Any shares of common stock purchased in connection with the transactions described in this paragraph will be purchased directly from us on a private basis and are not being registered pursuant to the registration statement of which this prospectus is a part.

Table of Contents

Method of Exercising Subscription Rights

[] non-transferable subscription right is being distributed for each share of our common stock that you owned as of 5:00 p.m., Eastern Time, on [], 2017, the record date for the rights offering. The exercise of subscription rights is irrevocable and may not be cancelled or modified. You may exercise your subscription rights as follows:

Subscription by Registered Holders. If you are a registered holder of shares of our common stock, the number of subscription rights you may exercise is indicated on the enclosed rights certificate. You may exercise your subscription rights by properly completing and executing the rights certificate and forwarding it, together with your full payment, to the subscription agent at the address set forth below under *Subscription Agent*, to be received prior to 5:00 p.m., Eastern Time, on [], 2017, the expiration date for the rights offering.

Subscription by Beneficial Owners. If you are a beneficial owner of shares of our common stock that are registered in the name of a custodian bank, broker, dealer or other nominee, you will not receive a rights certificate. Instead, [] subscription right will be issued to the nominee record holder for each share of our common stock that you own at the record date. If you are not contacted by your nominee, you should promptly contact your nominee in order to subscribe for shares of our common stock in the rights offering.

If you hold your shares of common stock in the name of a custodian bank, broker, dealer or other nominee, your nominee will exercise the subscription rights on your behalf in accordance with your instructions. Your nominee may establish a deadline that may be before 5:00 p.m., Eastern Time, on [], 2017, the expiration date for the rights offering.

Payment Method

As described in the instructions accompanying the rights certificate, payments submitted to the subscription agent must be made in full United States currency by personal check payable to Computershare Trust Company, N.A, the subscription agent, drawn upon a United States bank.

Payment will be deemed to have been received by the subscription agent only upon the subscription agent's receipt of a personal check, receipt and clearance of such check.

Please note that funds paid by uncertified personal check may take at least seven business days to clear. Accordingly, if you wish to pay by means of an uncertified personal check, we urge you to make payment sufficiently in advance of the expiration date to ensure that the subscription agent receives cleared funds before that time.

Your subscription rights will not be successfully exercised unless the subscription agent actually receives from you, your custodian bank, broker, dealer or other nominee, as the case may be, all of the required documents and your full subscription price payment (and your payment has cleared) prior to 5:00 p.m., Eastern Time, on [], 2017, the scheduled expiration date of the rights offering, unless you have used the guaranteed delivery procedures described under *Notice of Guaranteed Delivery*.

You should read and follow the instructions accompanying the rights certificate carefully. As described in the instructions accompanying the rights certificate, in certain cases additional documentation or signature guarantees may be required.

The method of delivery of payments of the subscription amount to the subscription agent will be at the risk of the holders of subscription rights. If sent by mail, we recommend that you send those documents and payments by registered mail, properly insured, with return receipt requested, and that a sufficient number of days be allowed to

ensure timely delivery to the subscription agent. Do not send or deliver these materials to us.

Table of Contents

There is no sales fee or commission payable by you in connection with the issuance of subscription rights or the issuance of shares of common stock if you exercise your subscription rights (other than the subscription price). We will pay all fees charged by the subscription agent. However, if you exercise your subscription rights through a custodian bank, broker, dealer or other nominee, you are responsible for paying any other commissions, fees, taxes or other expenses your nominee may charge you in connection with the exercise of the subscription rights.

Medallion Guarantee May Be Required

Your signature on your rights certificate must be guaranteed by an eligible institution, such as a member firm of a registered national securities exchange or a member of the Financial Industry Regulatory Authority, or a commercial bank or trust company having an office or correspondent in the United States, subject to standards and procedures adopted by the subscription agent, unless:

you provide on the rights certificate that shares are to be delivered in your name and to your address of record, as imprinted on the face of the rights certificate; or

you are an eligible institution.

Delivery to any address or by a method other than those set forth above does not constitute valid delivery.

Missing or Incomplete Subscription Information

If you send a payment that is insufficient to purchase the number of shares you requested, or if the number of shares you requested is not specified in the forms you submit, the payment received will first be applied, to the fullest extent possible based on the amount of the payment received, to exercise your basic subscription rights and will thereafter be applied, to the fullest extent possible based on the amount of excess payment received, to exercise your over-subscription privilege, if applicable, subject to the availability of over-subscription shares.

Any excess subscription payments received by the subscription agent will be returned promptly, without interest or penalty, following the expiration of the rights offering.

If you deliver your rights certificate and other documents or payment in a manner different from that described in this prospectus, we may not honor the exercise of your subscription rights.

Expiration Date

The period during which you may exercise your subscription rights expires at 5:00 p.m., Eastern Time, on [], 2017. If you do not exercise your subscription rights prior to that time, your subscription rights will expire and will no longer be exercisable. We will not be required to issue shares of our common stock to you if the subscription agent receives your rights certificate or your subscription payment after that time, unless you have used the guaranteed delivery procedures described under *Notice of Guaranteed Delivery*. We have the option to extend the rights offering without notice to you. In no event will the expiration date be later than [], 2017. If we elect to extend the expiration of the rights offering, we will issue a press release announcing such extension no later than the next business day after our Board extends the rights offering.

If you hold your shares of common stock in the name of a custodian bank, broker, dealer or other nominee, your nominee will exercise the subscription rights on your behalf in accordance with your instructions. Your nominee may establish a deadline that may be before 5:00 p.m., Eastern Time, on [], 2017, the expiration date for the rights offering.

Table of Contents

Conditions, Withdrawal and Termination

We reserve the right to withdraw the rights offering at any time for any reason. In addition, we may terminate the rights offering if at any time before completion of the rights offering there is any judgment, order, decree, injunction, statute, law or regulation entered, enacted, amended or held to be applicable to the rights offering that in the sole judgment of our Board would or might make the rights offering or its completion, whether in whole or in part, illegal or otherwise restrict or prohibit completion of the rights offering. If our Board cancels the rights offering, all affected subscription rights will expire without value, and all subscription payments received by the subscription agent will be returned promptly, without interest or penalty.

Subscription Agent

We anticipate retaining Computershare Trust Company, N.A to serve as the subscription agent for the rights offering. The subscription agent will maintain the list of subscriptions and calculate any necessary allocations of over-subscription privileges. We will pay all fees and expenses of the subscription agent related to the rights offering and have also agreed to indemnify the subscription agent from certain liabilities that it may incur in connection with the rights offering. If your shares are held in the name of a broker, dealer, custodian bank or other nominee, then you should send your subscription documents and subscription payment to that record holder. If you are the record holder, then you should send your subscription documents, rights certificate, subscription payment or, if applicable, notice of guaranteed delivery, to the address provided below. If sent by mail, we recommend that you send documents and payments by registered mail, properly insured, with return receipt requested, and that a sufficient number of days be allowed to ensure delivery to the subscription agent. Do not send or deliver these materials to the Company.

By Registered Certified or Express Mail
Computershare Trust Company, N.A.
c/o Voluntary Corporate Actions
P.O. Box 43011
Providence, RI 02940

Overnight Courier
Computershare Trust Company, N.A.
c/o Voluntary Corporate Actions
250 Royall Street Suite V
Canton, MA 02021

Information Agent

The information agent for the rights offering is Georgeson LLC. We will pay all fees and expenses of the information agent related to the rights offering and have also agreed to indemnify the information agent from certain liabilities that it may incur in connection with the rights offering. The information agent can be contacted at the following address and telephone number:

Georgeson LLC

1290 Avenue of the Americas, 9th Floor,

New York, NY 10104

Toll Free: (800) 561-3991

No Fractional Shares

We will not issue fractional shares in connection with the rights offering. Fractional shares of our common stock resulting from the exercise of the basic subscription rights or over-subscription privileges will be eliminated by rounding down to the nearest whole share. Any excess subscription payments received by the subscription agent will be returned promptly, without interest, following expiration of the rights offering.

Notice to Nominees

If you are a custodian bank, broker, dealer or other nominee who holds shares of our common stock for the account of others on the record date, you should notify the beneficial owners of the shares for whom you are the

Table of Contents

nominee of the rights offering as soon as possible to learn their intentions with respect to exercising their subscription rights. You should obtain instructions from the beneficial owners with respect to their subscription rights, as set forth in the instructions we have provided to you for your distribution to beneficial owners. If the beneficial holder so instructs, you should complete the rights certificate and submit it to the subscription agent together with the form entitled *Nominee Holder Election Form* and with the proper payment. We will provide the *Nominee Holder Election Form* to you with your rights offering materials. If you did not receive this form, you should contact the information agent to request a copy. If you hold shares of our common stock for the account(s) of more than one beneficial owner, you may exercise the number of subscription rights to which all such beneficial owners in the aggregate otherwise would have been entitled had they been direct record holders of our common stock on the record date, provided that you, as a nominee record holder, make a proper showing to the subscription agent by submitting the *Nominee Holder Election Form*.

In the case of subscription rights that you hold of record on behalf of others through DTC, those subscription rights may be exercised by instructing DTC to transfer the subscription rights from your DTC account to the subscription agent's DTC account, and by delivering to the subscription agent the required certification as to the number of shares subscribed for pursuant to the exercise of the subscription rights of the beneficial owners on whose behalf you are acting, together with payment of the full subscription price.

Notice of Guaranteed Delivery

If you wish to exercise your subscription rights, but you do not have sufficient time to deliver the rights certificate evidencing your subscription rights to the subscription agent, on or before the time the rights offering expires, you may exercise your subscription rights by the following guaranteed delivery procedures:

deliver to the subscription agent on or prior to the rights offering expiration date your subscription price payment in full for each share you subscribed for under your basic subscription right and over-subscription privilege in the manner set forth above under *Payment Method* ;

deliver to the subscription agent on or prior to the expiration date the form entitled *Notice of Guaranteed Delivery*, substantially in the form provided with the *Instructions For Use of BIOLASE, Inc. Rights Certificates* distributed with your rights certificates; and

deliver the properly completed rights certificate evidencing your subscription rights being exercised and the related nominee holder certification, if applicable, with any required signature guarantee, to the subscription agent no later than two business days after the expiration date of the rights offering. For purposes of these notice of guaranteed delivery procedures, *business day* means any day on which trading is conducted on the NASDAQ Capital Market.

Your notice of guaranteed delivery must be delivered in substantially the same form provided with the *Instructions For Use of BIOLASE, Inc. Rights Certificates*, which will be distributed to you with your rights certificate. Your notice of guaranteed delivery must include a signature guarantee from a member firm of a registered national securities exchange or a member of the Financial Industry Regulatory Authority, Inc., or a commercial bank or trust company having an office or correspondent in the United States, or a bank, stockbroker, savings and loan association or credit union with membership in an approved signature guarantee medallion program, pursuant to Rule 17Ad-15 of the Exchange Act (each, an *Eligible Institution*). A form of that guarantee is included with the notice of guaranteed

delivery.

In your notice of guaranteed delivery, you must state:

your name;

the number of subscription rights represented by your rights certificates, the number of shares of our common stock for which you are subscribing under your basic subscription right and the number of

Table of Contents

shares of our common stock for which you are subscribing under your over-subscription privilege, if any; and

your guarantee that you will deliver to the subscription agent the rights certificate evidencing the subscription rights you are exercising within two business days following the expiration of the rights offering.

You may deliver your notice of guaranteed delivery to the subscription agent in the same manner as your rights certificate at the address set forth above under *Subscription Agent* or may be transmitted, if transmitted by an Eligible Institution, to the subscription agent by email to CANOTICEOFGUARANTEE@computershare.com.

The information agent will send you additional copies of the form of notice of guaranteed delivery if you request them by calling (800) 561-3991.

Beneficial Owners

If you are a beneficial owner of shares of our common stock and will receive your subscription rights through a custodian bank, broker, dealer or other nominee, we will ask your nominee to notify you of the rights offering. If you wish to exercise your subscription rights, you will need to have your custodian bank, broker, dealer or other nominee act for you, as described above. To indicate your decision with respect to your subscription rights, you should follow the instructions of your nominee. If you wish instead to obtain a separate rights certificate, you should contact your nominee as soon as possible and request that a rights certificate be issued to you. You should contact your nominee if you do not receive notice of the rights offering, but you believe you are entitled to participate in the rights offering. We are not responsible if you do not receive the notice by mail or otherwise from your nominee or if you receive notice without sufficient time to respond to your nominee by the deadline established by your nominee, which may be before 5:00 p.m., Eastern Time, on [], 2017, the expiration date.

Non-Transferability of Subscription Rights

The subscription rights granted to you are non-transferable and, therefore, you may not sell, transfer or assign your subscription rights to anyone. The subscription rights will not be listed for trading on the NASDAQ Capital Market or any other stock exchange or market. The shares of our common stock issuable upon exercise of the subscription rights will be listed on the NASDAQ Capital Market under the ticker symbol BIOL.

Validity of Subscriptions

We will resolve, in our sole discretion, all questions regarding the validity and form of the exercise of your subscription rights, including time of receipt and eligibility to participate in the rights offering. Our determination will be final and binding. Once made, subscriptions and directions are irrevocable, and we will not accept any alternative, conditional or contingent subscriptions or directions. We reserve the absolute right to reject any subscriptions or directions not properly submitted or the acceptance of which would be unlawful. You must resolve any irregularities in connection with your subscriptions before the subscription period expires, unless waived by us in our sole discretion. Neither the Company nor the subscription agent shall be under any duty to notify you or your representative of defects in your subscriptions. A subscription will be considered accepted, subject to our right to withdraw or terminate the rights offering, only when a properly completed and duly executed rights certificate and any other required documents and the full subscription payment have been received by the subscription agent. Our interpretations of the terms and conditions of the rights offering will be final and binding.

Funding Arrangements; Return of Funds

Computershare Trust Company, N.A, the subscription agent, will hold funds received in payment for shares of our common stock in a segregated account pending completion of the rights offering. The subscription agent

Table of Contents

will hold this money until the rights offering is completed or is withdrawn or terminated. If the rights offering is canceled for any reason, all subscription payments received by the subscription agent will be returned to subscribers, without interest or penalty, as soon as practicable.

Uncertificated Shares of Common Stock

All shares of our common stock that you purchase in the rights offering will be issued in book-entry, or uncertificated, form. When issued, the shares will be registered in the name of the subscription rights holder of record. As soon as practicable after the expiration of the rights offering, the subscription agent will arrange for issuance to each subscription rights holder of record that has validly exercised its subscription rights the shares of common stock purchased in the rights offering. Subject to state securities laws and regulations, we have the discretion to delay distribution of any shares you may have elected to purchase by exercise of your rights in order to comply with state securities laws.

Rights of Subscribers

You will have no rights as a stockholder with respect to the shares of our common stock purchased in the rights offering until your account, or your account at your broker, dealer, custodian bank or other nominee, is credited with such shares.

Foreign Stockholders

We will not mail this prospectus or rights certificates to stockholders with addresses that are outside the United States or that have an army post office or foreign post office address. The subscription agent will hold these rights certificates for their account. To exercise subscription rights, our foreign stockholders must notify the subscription agent prior to 5:00 p.m., Eastern Time, at least three business days prior to the expiration of the rights offering (or, if the rights offering is extended, on or before three business days prior to the extended expiration date) and demonstrate to the satisfaction of the subscription agent that the exercise of such subscription rights does not violate the laws of the jurisdiction of such stockholder.

No Revocation or Change

All exercises of subscription rights are irrevocable. Once you submit the rights certificate or have instructed your nominee of your subscription request, you are not allowed to revoke or change the exercise or request a refund of monies paid, unless we are required by law to grant revocation rights, even if the market price of our common stock falls below the \$[] per share subscription price or you learn information about us or the rights offering that you consider to be unfavorable. You should not exercise your subscription rights unless you are certain that you wish to purchase the shares of our common stock offered pursuant to the rights offering.

Material U.S. Federal Income Tax Treatment of Rights Distribution

The receipt and exercise of subscription rights by holders of shares of our common stock should generally not be taxable for U.S. federal income tax purposes. You should seek specific tax advice from your tax advisor in light of your particular circumstances and as to the applicability and effect of any other tax laws. See *Material U.S. Federal Income Tax Consequences*.

No Recommendation to Rights Holders

Our Board is not making any recommendation regarding your exercise of the subscription rights. Stockholders who exercise subscription rights risk investment loss on new money invested. We cannot predict the price at which our shares of common stock will trade, and, therefore, we cannot assure you that the market price for our common stock will be above the subscription price or that anyone purchasing shares at the

Table of Contents

subscription price will be able to sell those shares in the future at the same price or a higher price. You are urged to make your decision based on your own assessment of our business and the rights offering. Please see *Risk Factors* and all other information included in, or incorporated by reference into, this prospectus for a discussion of the risks related to the rights offering and the risks involved in investing in our common stock.

Shares of Our Common Stock Outstanding After the Rights Offering

As of September 22, 2017, we had 76,019,373 shares of our common stock issued and outstanding. Assuming no additional shares of common stock are issued by the Company prior to consummation of the rights offering and assuming all shares are sold in the rights offering, we expect approximately [] shares of our common stock will be outstanding immediately after completion of the rights offering.

Other Matters

We are not making the rights offering in any state or other jurisdiction in which it is unlawful to do so, nor are we distributing or accepting any offers to purchase any shares of our common stock from subscription rights holders who are residents of those states or other jurisdictions or who are otherwise prohibited by federal or state laws or regulations to accept or exercise the subscription rights. We may delay the commencement of the rights offering in those states or other jurisdictions, or change the terms of the rights offering, in whole or in part, in order to comply with the securities laws or other legal requirements of those states or other jurisdictions. Subject to state securities laws and regulations, we also have the discretion to delay allocation and distribution of any shares you may elect to purchase by exercise of your subscription rights in order to comply with state securities laws. We may decline to make modifications to the terms of the rights offering requested by those states or other jurisdictions, in which case, if you are a resident in those states or jurisdictions or if you are otherwise prohibited by federal or state laws or regulations from accepting or exercising the subscription rights, you will not be eligible to participate in the rights offering. However, we are not currently aware of any states or jurisdictions that would preclude participation in the rights offering.

Table of Contents**SECURITY OWNERSHIP OF CERTAIN BENEFICIAL OWNERS AND MANAGEMENT**

The following table sets forth certain information relating to the beneficial ownership of our common stock by each person, entity or group known to the Company to be the beneficial owner of more than five percent (5%) of the outstanding shares of our common stock based on a review of publicly available statements of beneficial ownership filed with the SEC and Company records. Percentage ownership is based on 76,019,373 shares of our common stock being issued and outstanding as of September 22, 2017.

Name of Beneficial Owner	Amount and Nature of Beneficial Ownership	Percentage of Class
Larry N. Feinberg(1)(2) 200 Greenwich Avenue Greenwich, Connecticut 06830	20,971,982	26.7%
Jack W. Schuler(3)(4) 100 North Field Drive, Suite 360 Lake Forest, Illinois 60045	22,572,152	28.7%
Camber Capital Management LLC(5) 101 Huntington Avenue, Suite 2550 Boston, Massachusetts 02199	5,332,394	7.0%

- (1) Based on the information provided in Amendment No. 16 to Schedule 13D, filed with the SEC on August 22, 2017 by Larry N. Feinberg (Mr. Feinberg), Oracle Partners, L.P. (Oracle Partners), Oracle Institutional Partners, L.P. (Institutional Partners), Oracle Ten Fund Master, LP (Ten Fund), Oracle Investment Management, Inc. Employees Retirement Plan (Retirement), Feinberg Family Foundation (Foundation), Oracle Associates, LLC (Oracle Associates) and Oracle Investment Management, Inc. (Oracle Investment) (Mr. Feinberg, together with Oracle Partners, Institutional Partners, Ten Fund, Retirement, Foundation, Oracle Associates and Oracle Investment, the Oracle Reporting Persons). The Oracle Reporting Persons reported that Mr. Feinberg beneficially owns and has shared dispositive power with respect to 20,971,982 shares of our common stock, Oracle Partners beneficially owns and has shared voting and dispositive power with respect to 14,496,058 shares of our common stock, Institutional Partners beneficially owns and has shared voting and dispositive power with respect to 2,790,871 shares of our common stock, Ten Fund beneficially owns and has shared voting and dispositive power with respect to 3,393,628 shares of our common stock, Retirement beneficially owns and has shared voting and dispositive power with respect to 239,425 shares of our common stock, Foundation beneficially owns and has shared voting and dispositive power with respect to 52,000 shares of our common stock, Oracle Investment beneficially owns and has shared voting and dispositive power with respect to 3,633,053 shares of our common stock and Oracle Associates beneficially owns and has shared voting and dispositive power with respect to 20,680,557 shares of our common stock.

Such beneficial ownership excludes warrants held by each of Oracle Partners, Institutional Partners and Ten Fund to purchase 336,047 shares of our common stock, 470,465 shares of our common stock and 537,764 shares of our common stock, respectively, totaling 1,344,276 shares issuable upon exercise of warrants held by one or more of the Oracle Reporting Persons, because the terms of the warrants prohibit the holder of such warrants from exercising the

warrants to the extent that the exercise would result in the holder and its affiliates beneficially owning more than 19.99% of the outstanding shares of our common stock.

Such beneficial ownership includes (i) warrants held by each of Oracle Partners and Institutional Partners to purchase 749,027 shares of our common stock and 101,770 shares of our common stock, respectively, totaling 850,797 shares issuable upon exercise of warrants held by one or more of the Oracle Reporting Persons, which warrants were exercisable as of April 21, 2017, and (ii) warrants held by each of Oracle Partners, Institutional Partners and Ten Fund to purchase 1,296,385 shares of our common stock, 216,064 shares of our common stock and 288,086 shares of our common stock, totaling 1,800,535 shares issuable upon exercise of warrants held by one or more of the Oracle Reporting Persons, which will be exercisable on October 18, 2017.

Table of Contents

In accordance with SEC rules, the percentage indicated in the table above is based on 76,019,373 shares of our common stock outstanding as of September 22, 2017, together with the addition of 850,797 shares issuable upon exercise of the warrants held by the one or more of the Oracle Reporting Persons and 1,800,535 shares issuable upon exercise of warrants held by one or more of the Oracle Reporting Persons, which will be exercisable on October 18, 2017.

- (2) Each of Oracle Partners, Institutional Partners, Ten Fund, Oracle Associates and Oracle Investment are party to that certain Standstill Agreement, dated as of November 10, 2015 and amended as of August 1, 2016, with the Company, pursuant to which the Oracle Reporting Persons agreed, among other things, that neither they, nor any of their affiliates or associates would purchase or acquire any additional shares of our common stock, if, after such purchase or acquisition, the aggregate beneficial ownership of the Oracle Reporting Persons and their affiliates and associates would exceed 30% of the issued and outstanding shares of our common stock.
- (3) Based on the information provided in Amendment No. 11 to Schedule 13D, filed with the SEC on July 6, 2017 by Jack W. Schuler (Mr. Schuler), the Jack W. Schuler Living Trust (the Schuler Trust), Renate Schuler (Mrs. Schuler) and the Schuler Family Foundation (the Schuler Foundation, and together with Mr. Schuler, Mrs. Schuler and the Schuler Trust, the Schuler Reporting Persons). In Amendment No. 11 to Schedule 13D, the Schuler Reporting Persons reported that Mr. Schuler beneficially owns and has shared voting and dispositive power with respect to 22,572,152 shares of our common stock, the Schuler Trust beneficially owns and has shared voting and dispositive power with respect to 11,089,552 shares of our common stock, Mrs. Schuler beneficially owns and has shared voting and dispositive power with respect to 11,482,600 shares of our common stock and the Schuler Foundation beneficially owns and has shared voting and dispositive power with respect to 11,382,600 shares of our common stock.

The beneficial ownership for Mr. Schuler, Mrs. Schuler and the Schuler Foundation excludes warrants to purchase 3,824,252 shares of our common stock because the terms of the warrants prohibit the holder of such warrants from exercising the warrants to the extent that the exercise would result in the holder and its affiliates beneficially owning more than 19.99% of the outstanding shares of our common stock.

The beneficial ownership of Mr. Schuler and the Schuler Trust includes warrants held by the Schuler Trust to purchase 850,796 shares of our common stock issuable upon exercise of the warrants held by one or more of the Schuler Reporting Persons. The beneficial ownership of Mr. Schuler, Mrs. Schuler and the Schuler Foundation includes warrants held by the Schuler Foundation to purchase 1,800,535 shares of our common stock issuable upon exercise of warrants held by one or more of the Schuler Reporting Persons, which will be exercisable on October 18, 2017.

In accordance with SEC rules, the percentage indicated in the table above is based on 76,019,373 shares of our common stock outstanding as of September 22, 2017, together with the addition of 850,796 shares issuable upon exercise of the warrants held by one or more of the Schuler Reporting Persons and 1,800,535 shares issuable upon exercise of warrants held by one or more of the Schuler Reporting Persons, which will be exercisable on October 18, 2017.

- (4) Each of the Schuler Reporting Persons is a party to that certain Standstill Agreement, dated as of November 10, 2015 and amended as of August 1, 2016, with the Company, pursuant to which the Schuler Reporting Persons

agreed, among other things, that neither they, nor any of their affiliates or associates would purchase or acquire any additional shares of our common stock, if, after such purchase or acquisition, the aggregate beneficial ownership of the Schuler Reporting Persons and their affiliates and associates would exceed 30% of the issued and outstanding shares of our common stock.

- (5) Based on the information provided in Amendment No. 3 to Schedule 13G, filed with the SEC on February 12, 2016 by Camber Capital Management LLC (Camber) and Stephen DuBois (Mr. Dubois), reporting that Camber and Mr. DuBois each beneficially owns and has shared voting and dispositive power with respect to 5,332,394 shares of our common stock. Such beneficial ownership includes warrants held by Camber Capital Master Fund, LP and Camber Capital Fund II, LP to purchase 1,761,452 and 13,808 shares

Table of Contents

of our common stock, respectively, which warrants became exercisable on May 7, 2015. In accordance with SEC rules, the percentage indicated in the table above is based on 76,019,373 shares of our common stock outstanding as of September 22, 2017, together with the addition of 1,775,260 shares issuable upon exercise of the warrants as described above.

The following table sets forth the beneficial ownership of shares of our common stock as of September 22, 2017 by (i) each current director, (ii) each named executive officer and (iii) all current directors and executive officers as a group. Except as indicated in the footnotes to this table, the persons named in the table have sole voting and investment power with respect to all shares of our common stock shown as beneficially owned by them, subject to community property laws, where applicable. Percentage ownership is based on 76,019,373 shares of our common stock outstanding as of September 22, 2017. Shares underlying options or warrants exercisable within 60 days of September 22, 2017 are deemed outstanding for the purpose of computing the percentage ownership of the person or persons holding such options or warrants, but are not deemed outstanding for computing the percentage ownership of any other persons.

	Beneficially Owned Shares of Common Stock	Number of Shares Underlying Options or Warrants Exercisable Within 60 Days of September 22, 2017	Percentage of Class
Paul N. Clark(1)(2)	1,651,601(6)(7)	932,567(8)	3.4%
Harold C. Flynn, Jr.(1)(3)	162,820(5)	632,304(9)	1.0%
Jonathan T. Lord, M.D.(1)	367,145(6)	513,583(10)	1.2%
Frederic H. Moll, M.D.(1)	251,317(6)	403,806	*
James R. Talevich(1)	61,717(6)	389,312	*
Dmitri Boutoussov(3)	36,159	364,975	*
David C. Dreyer(3)(4)	123,000	623,026	*
All current directors and executive officers as a group (5 persons)	879,158	2,303,980	4.1%

* Represents less than 1%.

(1) Director.

(2) Resigned from the Company in September 2017.

(3) Named executive officer.

(4) Resigned from the Company in January 2017.

(5) Includes 46,720 vested RSUs. Includes 66,100 shares held by Flynn Living Trust dated September 3, 2014. Mr. Flynn is a trustee of the Flynn Living Trust dated September 3, 2014.

(6) Includes 128,061 vested RSUs for Mr. Clark, 59,217 vested RSUs for Dr. Lord, 59,217 vested RSUs for Dr. Moll and 98,739 vested RSUs for Mr. Talevich.

(7) Includes 1,302,340 shares held by the Paul and Carolyn Clark Revocable Trust of 2009. Mr. Clark is the trustee of the Paul and Carolyn Clark Revocable Trust of 2009.

(8) Includes warrants to purchase 263,024 shares of our common stock held by the Paul and Carolyn Clark Revocable Trust of 2009. Mr. Clark is the trustee of the Paul and Carolyn Clark Revocable Trust of 2009. Also

includes warrants to purchase 50,885 shares of our common stock held by PNC Investments LLC. Paul Clark is the sole managing member of PNC Investments LLC.

(9) Includes warrants to purchase 8,142 shares of our common stock.

(10) Includes warrants to purchase 106,463 shares of our common stock.

DESCRIPTION OF CAPITAL STOCK

The following summary description sets forth some of the general terms and provisions of our common stock. Because this is a summary description, it does not contain all of the information that may be important to you.

Table of Contents

For a more detailed description of our common stock, you should refer to the applicable provisions of the General Corporation Law of the State of Delaware (the "DGCL") and our charter and bylaws as in effect at the time of any offering. Copies of our Restated Certificate of Incorporation, as amended, and our Sixth Amended and Restated Bylaws are included as exhibits to the registration statement of which this prospectus forms a part.

General

Under our charter, we are authorized to issue 200,000,000 shares of our common stock, par value \$0.001 per share, and 1,000,000 shares of preferred stock, par value \$0.001 par value per share. As of September 22, 2017, there were 76,019,373 shares of our common stock issued and outstanding and no shares of our preferred stock issued and outstanding.

Holders of our common stock are entitled to one vote per share. Each of our directors is elected by the affirmative vote of a majority of the votes cast with respect to such director in uncontested elections. In a contested election, each of our directors is elected by an affirmative vote of a plurality of the votes cast by the shares represented and entitled to vote with respect to the election of such director. A contested election is defined in our bylaws as an election with respect to which, as of the record date for the meeting at which directors are to be elected, the number of nominees exceeds the number of directors to be elected at such meeting. Vacancies on our Board may be filled by an affirmative vote of two-thirds of the remaining members of our Board or at a meeting of the stockholders in the manner set forth in the second preceding sentence.

Subject to any preferential rights of any outstanding shares of our preferred stock to receive dividends before any dividends may be paid on our common stock, the holders of our common stock will be entitled to share ratably in any dividends that may be declared by our Board out of funds legally available for the payment of dividends. Subject to any preferential rights of any outstanding shares of our preferred stock, in the event of our liquidation, dissolution or winding up, holders of our common stock are entitled to share ratably in the assets remaining after payment of liabilities and the liquidation preferences of any outstanding preferred stock. Our common stock does not carry any redemption rights or any preemptive rights enabling a holder to subscribe for, or receive shares of, any class of our common stock or any other securities convertible into shares of any class of our common stock.

Our charter authorizes our Board to provide for the issuance of shares of preferred stock in one or more series. Prior to issuance of shares of each series, our Board is required by the DGCL and our charter to fix the designation, powers, preferences and rights of the shares of such series and the qualifications, limitations or restrictions thereof. Thus, our Board could authorize the issuance of shares of preferred stock that have priority over our common stock with respect to dividends or rights upon liquidation or with terms and conditions that could have the effect of delaying, deferring or preventing a transaction or a change of control of our company that might involve a premium price for holders of our common stock or otherwise be in their best interests.

Anti-Takeover Provisions of Delaware Law and Our Governing Documents

Delaware Law

We are subject to Section 203 of the DGCL ("Section 203"). In general, Section 203 prohibits a publicly held Delaware corporation from engaging in business combination transactions with any interested stockholder for a period of three years following the time that the stockholder became an interested stockholder, unless:

prior to the time the stockholder became an interested stockholder, either the applicable business combination or the transaction which resulted in the stockholder becoming an interested stockholder is approved by the corporation's board of directors;

upon consummation of the transaction which resulted in the stockholder becoming an interested stockholder, the interested stockholder owned at least 85% of the voting stock of the corporation outstanding at the time the transaction commenced, excluding for purposes of determining the voting

Table of Contents

stock outstanding (but not the voting stock owned by the interested stockholder) shares owned by directors who are also officers of the corporation and shares owned by employee stock plans in which the employee participants do not have the right to determine confidentially whether shares held subject to the plan will be tendered in a tender or exchange offer; or

at or subsequent to the time that the stockholder became an interested stockholder, the business combination is approved by the corporation's board of directors and authorized at an annual or special meeting of stockholders by the affirmative vote of at least 66 2/3% of the outstanding voting stock which is not owned by the interested stockholder.

A business combination is defined to include, in general and subject to exceptions, a merger of the corporation with the interested stockholder; a sale of 10% or more of the market value of the corporation's consolidated assets to the interested stockholder; certain transactions that result in the issuance of the corporation's stock to the interested stockholder; a transaction that has the effect of increasing the proportionate share of the corporation's stock owned by the interested stockholder; and any receipt by the interested stockholder of loans, guarantees or other financial benefits provided by the corporation. An interested stockholder is defined to include, in general and subject to exceptions, a person that (1) owns 15% or more of the outstanding voting stock of the corporation or (2) is an affiliate or associate (as defined in Section 203) of the corporation and was the owner of 15% or more of the corporation's outstanding voting stock at any time within the prior three year period.

A Delaware corporation may opt out of Section 203 with an express provision in its original certificate of incorporation or by an amendment to its certificate of incorporation or bylaws expressly electing not to be governed by Section 203 and approved by a majority of its outstanding voting shares. We have not opted out of Section 203. As a result, Section 203 could delay, deter or prevent a merger, change of control or other takeover of our company that our stockholders might consider to be in their best interests, including transactions that might result in a premium being paid over the market price of our common stock, and may also limit the price that investors are willing to pay in the future for our common stock.

Undesignated Preferred Stock

The ability to authorize undesignated preferred stock makes it possible for our Board to issue one or more series of preferred stock with voting or other rights or preferences. These and other provisions may have the effect of deferring hostile takeovers or delaying changes in control or management of our company.

Requirements for Advance Notification of Stockholder Nominations and Proposals

Our bylaws establish advance notice procedures with respect to stockholder proposals and the nomination of candidates for election as directors, other than nominations made by or at the direction of our Board or a committee of our Board.

Stockholder Action by Written Consent; Special Meetings of Stockholders

Our stockholders may take action by written consent in lieu of a meeting as provided in our bylaws. Our bylaws provide that certain procedures, including notifying our Board and awaiting a record date, must be followed for stockholders to act by written consent. A special meeting of our stockholders may be called only by our Board, the Chairman of our Board, the Executive Vice Chairman, the Chief Executive Officer or the President. A special meeting may also be called at the request of stockholders holding a majority of the aggregate number of shares of capital stock of the Company issued and outstanding and entitled to vote at that meeting (subject to certain timeliness and content

requirements of the demand).

Table of Contents

Amendment of Certificate of Incorporation and Bylaws

Our charter may be amended by the affirmative vote of a majority of the aggregate number of shares of each class of our capital stock issued and outstanding after a resolution of our Board declaring the advisability of such amendment has been adopted in accordance with Delaware law. Our bylaws may be amended by the affirmative vote of a majority of the aggregate number of shares of each class of our capital stock issued and outstanding (and entitled to vote on the subject matter) present in person or represented by proxy at a meeting of stockholders provided that notice thereof is stated in the written notice of the meeting. Our bylaws may also be amended by a majority of our Board in accordance with Delaware law and our charter, except that certain sections of our bylaws (including but not limited to certain provisions regarding special meetings, voting, officers, and approval of securities issuances) require either the affirmative vote of two-thirds of the persons then serving as directors on our Board or our stockholders.

Forum Selection

Unless our Board acting on behalf of the Company selects an alternative forum, the Court of Chancery of the State of Delaware (or, if the Court of Chancery does not have jurisdiction, another state court located within the State of Delaware or, if no court located within the State of Delaware has jurisdiction, the federal district court for the District of Delaware) shall be the sole and exclusive forum for (i) any derivative action or proceeding brought on behalf of the Company, (ii) any action asserting a claim of breach of a fiduciary duty owed by any of our directors, officers or other employees to the Company or our stockholders, (iii) any action asserting a claim against the Company or any of our directors, officers or other employees arising pursuant to any provision of the DGCL, our charter or our bylaws or (iv) any action asserting a claim against the Company or any of our directors, officers or other employees governed by the internal affairs doctrine of the State of Delaware, in all cases subject to the court's having personal jurisdiction over all indispensable parties named as defendants.

If any action the subject matter of which is within the scope of the immediately preceding paragraph is filed in a court other than a court located within the State of Delaware in the name of any stockholder, such stockholder will be deemed to have consented to (i) the personal jurisdiction of the state and federal courts located within the State of Delaware in connection with any action brought in any such court to enforce the exclusive forum provision (an Enforcement Action) and (ii) having service of process made upon such stockholder in any such Enforcement Action by service upon such stockholder's counsel in the action outside of the State of Delaware as agent for such stockholder.

Stock Exchange Listing

Our common stock trades on the NASDAQ Capital Market under the symbol BIOL.

Transfer Agent and Registrar

The transfer agent and registrar for our common stock is Computershare Trust Company, N.A.

PLAN OF DISTRIBUTION

We are distributing rights certificates and copies of this prospectus to those persons who were holders of our common stock on [], 2017, the record date for the rights offering, promptly following the effective date of the registration statement of which this prospectus forms a part. We are offering the rights and the shares of common stock underlying the rights directly to you. We have not employed any brokers, dealers or underwriters in connection with the solicitation or exercise of subscription rights in this offering and no commissions, fees or discounts will be paid in connection with this offering. Those directors and officers of the Company who may assist in the rights offering will

not register with the SEC as brokers in reliance on certain safe harbor provisions contained in Rule 3a4-1 under the Exchange Act. Computershare Trust Company, N.A is acting as our

Table of Contents

subscription agent to effect the exercise of the rights and the issuance of the underlying common stock. Therefore, while certain of our directors and officers may solicit responses from you, those directors and officers will not receive any commissions or compensation for those services.

Delivery of Shares

As soon as practicable after the record date for the rights offering, we will distribute the subscription rights and rights certificates to individuals who owned shares of our common stock at 5:00 p.m., Eastern Time, on [], 2017.

If your shares are held in the name of a broker, dealer, custodian bank or other nominee, then you should send your subscription documents and subscription payment to that record holder. If you are the record holder, then you should send your subscription documents, rights certificate, notice of guaranteed delivery and subscription payment to the address provided below. If sent by mail, we recommend that you send documents and payments by registered mail, properly insured, with return receipt requested, and that a sufficient number of days be allowed to ensure delivery to the subscription agent. Do not send or deliver these materials to the Company.

By Registered Certified or Express Mail
Computershare Trust Company, N.A.
c/o Voluntary Corporate Actions
P.O. Box 43011
Providence, RI 02940

Overnight Courier
Computershare Trust Company, N.A.
c/o Voluntary Corporate Actions
250 Royall Street Suite V
Canton, MA 02021

See *The Rights Offering Method of Exercising Subscription Rights*. If you have any questions regarding the Company or the rights offering, or you have any questions regarding completing a rights certificate or submitting payment in the rights offering, please contact the information agent, Georgeson LLC, toll free at (800) 561-3991, or by mail at 1290 Avenue of the Americas, 9th Floor, New York, NY 10104.

MATERIAL U.S. FEDERAL INCOME TAX CONSEQUENCES

The following discussion is a summary of material U.S. federal income tax consequences to U.S. holders (as defined below) of our common stock of the receipt and ownership of the subscription rights acquired through the rights offering and the ownership and disposition of shares of common stock received upon exercise of the subscription rights.

This summary deals only with U.S. holders that acquire subscription rights in the rights offering and assumes that the subscription rights or shares of common stock issued upon exercise of the subscription rights will be held as capital assets within the meaning of Section 1221 of the Code. This discussion does not address all aspects of U.S. federal income taxation that may be relevant to U.S. holders in light of their personal circumstances. This discussion also does not address tax consequences to U.S. holders that may be subject to special tax rules, including, without limitation, insurance companies, real estate investment trusts, regulated investment companies, grantor trusts, tax-exempt organizations, employee stock purchase plans, partnerships and other pass-through entities, persons holding shares of common stock as part of a hedging, integrated, conversion or constructive sale transaction or a straddle, financial institutions, brokers, dealers in securities or currencies, traders that elect to mark-to-market their securities, persons that acquired shares of common stock in connection with employment or other performance of services, persons subject to the alternative minimum tax, U.S. holders that have a functional currency other than the U.S. dollar, U.S. expatriates and foreign holders. In addition, the discussion does not describe any tax consequences arising out of the tax laws of any state, local or foreign jurisdiction, or any U.S. federal tax considerations other than income taxation

(such as Medicare contribution taxation or estate or gift taxation).

Table of Contents

Furthermore, the discussion below is based upon the provisions of the Code, and regulations, administrative pronouncements and judicial decisions thereunder, as of the date hereof, and such authorities may be repealed, revoked or modified, perhaps retroactively. We have not sought, and will not seek, any rulings from the Internal Revenue Service (the IRS) regarding the matters discussed below. There can be no assurance that the IRS or a court will not take positions concerning the tax consequences of the receipt and ownership of the subscription rights acquired through the rights offering and the ownership of shares of common stock received upon exercise of the subscription rights that are different from those discussed below.

As used herein, a U.S. holder means a beneficial owner of subscription rights or shares of common stock that is for U.S. federal income tax purposes:

an individual who is a citizen or resident of the United States;

a corporation (or other entity treated as a corporation for U.S. federal income tax purposes) created or organized in or under the laws of the United States or any state thereof or the District of Columbia;

an estate the income of which is subject to U.S. federal income taxation regardless of its source; or

a trust (a) the administration of which is subject to the primary supervision of a court within the United States and one or more U.S. persons as described in the Code have authority to control all substantial decisions of the trust, or (b) that has a valid election in effect under applicable U.S. Treasury regulations to be treated as a U.S. person.

If any entity or arrangement that is treated as a partnership for U.S. federal income tax purposes is a beneficial owner of subscription rights or shares of common stock, the U.S. federal income tax treatment of a partner will generally depend upon the status of the partner and the activities of the partnership. U.S. holders that are partnerships (and partners in such partnerships) are urged to consult their own tax advisors.

U.S. HOLDERS SHOULD CONSULT THEIR OWN TAX ADVISORS REGARDING THE APPLICATION OF THE U.S. FEDERAL INCOME TAX LAWS TO THEIR PARTICULAR SITUATIONS AND THE CONSEQUENCES UNDER FEDERAL ESTATE AND GIFT TAX LAWS, FOREIGN, STATE, AND LOCAL LAWS AND TAX TREATIES OF RECEIVING, OWNING AND EXERCISING SUBSCRIPTION RIGHTS AND ACQUIRING, HOLDING AND DISPOSING OF SHARES OF COMMON STOCK.

Taxation of Subscription Rights

Receipt of Subscription Rights. Although the authorities governing the rights offering are complex and do not speak directly to the consequences of certain aspects of the rights offering, we believe your receipt of subscription rights pursuant to the rights offering with respect to your shares of our common stock should be treated as a nontaxable distribution with respect to such shares of our common stock for U.S. federal income tax purposes. Under Section 305(a) of the Code, a corporation's distribution of stock rights to stockholders is generally tax-free. Section 305(b) of the Code, however, provides certain instances where a distribution of stock rights is taxable to stockholders. One such instance is a disproportionate distribution in which a distribution or a series of distributions, including deemed distributions, has the result of (1) the receipt of cash or non-stock property by some stockholders or

holders of debt instruments convertible into stock, and (2) an increase in the proportionate interest of other stockholders in the assets or earnings and profits of the corporation. During the last 36 months, we have not made any distributions of cash or non-stock property with respect to our common stock. In addition, within the last 36 months, we have not made any payments in cash or non-stock property of interest on previously outstanding convertible notes or of dividends or previously outstanding preferred stock. Currently, we do not have any convertible debt or preferred stock outstanding, nor do we currently intend to issue any convertible debt or preferred stock or pay any dividends on our common stock (other than the issuance of the subscription rights in connection with this offering), but there is no guarantee that we will not do so. While the

Table of Contents

application of this rule is very complex and subject to uncertainty, we believe that the distribution of the subscription rights hereunder does not result in an increase to any stockholder's proportionate interest in our earnings and profits or assets. Accordingly, we believe that pursuant to Section 305 of the Code and the Treasury regulations promulgated thereunder, the receipt of subscription rights with respect to shares of our common stock should generally not be taxable to our holders of shares of our common stock.

Our position regarding the tax-free treatment of the subscription rights distribution is not binding on the IRS, or the courts. If this position is finally determined by the IRS or a court to be incorrect, whether on the basis that the issuance of the subscription rights is a disproportionate distribution or otherwise, the fair market value of the subscription rights would be taxable to holders of our common stock as a dividend to the extent of the holder's pro rata share of our current and accumulated earnings and profits, if any. Any excess would be treated first as a tax-free return of capital to the extent of your adjusted basis in your shares of our common stock and then as capital gain from the sale or exchange of your shares of our common stock. Although no assurance can be given, it is anticipated that we will not have current or accumulated earnings and profits through the end of 2017.

The discussion below assumes that the receipt of subscription rights with respect to your shares of our common stock will be treated as a nontaxable distribution.

Tax Basis and Holding Period of Subscription Rights. Your tax basis of the subscription rights you receive with respect to your shares of common stock for U.S. federal income tax purposes will depend on the fair market value of the subscription rights you receive and the fair market value of your existing shares of common stock on the date you receive the subscription rights.

If the fair market value of the subscription rights you receive is less than 15% of the fair market value of your existing shares of common stock on the date you receive the subscription rights, the subscription rights will be allocated a zero basis for U.S. federal income tax purposes, unless you elect to allocate your basis in your existing shares of common stock between your existing shares of common stock and the subscription rights in proportion to the relative fair market values of the existing shares of common stock and the subscription rights determined on the date of receipt of the subscription rights. If you choose to allocate basis between your existing shares of common stock and the subscription rights, you must make this election on a statement included with your timely filed tax return (including extensions) for the taxable year in which you receive the subscription rights. Such an election is irrevocable.

However, if the fair market value of the subscription rights you receive is 15% or more of the fair market value of your existing shares of common stock on the date you receive the subscription rights, then you must allocate your basis in your existing shares of common stock between your existing shares of common stock and the subscription rights you receive in proportion to their fair market values determined on the date you receive the subscription rights.

The fair market value of the subscription rights on the date that the subscription rights are distributed is uncertain, and we have not obtained, and do not intend to obtain, an appraisal of the fair market value of the subscription rights on that date. In determining the fair market value of the subscription rights, you should consider all relevant facts and circumstances, including any difference between the subscription price of the subscription rights and the trading price of our shares of common stock on the date that the subscription rights are distributed, the length of the period during which the subscription rights may be exercised and the fact that the subscription rights are non-transferable.

Your holding period of the subscription rights will include your holding period of the shares of common stock with respect to which the subscription rights were distributed.

Exercise of Subscription Rights. You generally will not recognize gain or loss on the exercise of a subscription right received with respect to your shares of common stock.

Table of Contents

Your tax basis in a share of common stock acquired through exercise of a subscription right will equal the sum of (1) the subscription price and (2) your tax basis, if any, in the subscription right as determined above.

The holding period of a share of common stock acquired through exercise of a subscription right will begin on the date the subscription right is exercised.

If you exercise a subscription right received in the rights offering after disposing of the common stock with respect to which such subscription right is received, then certain aspects of the tax treatment of the exercise of the subscription right are unclear, including (1) the allocation of tax basis between the common stock previously sold and the subscription right, (2) the impact of such allocation on the amount and timing of gain or loss recognized with respect to the common stock previously sold, and (3) the impact of such allocation on the tax basis of common stock acquired through exercise of the subscription right. If you exercise a subscription right received in the rights offering after disposing of the common stock with respect to which the subscription right is received, you should consult with your tax advisor.

Expiration of Subscription Rights. If you allow subscription rights received in the rights offering with respect to your shares of common stock to expire, you should not recognize any gain or loss for U.S. federal income tax purposes and any portion of the tax basis in your existing shares of common stock previously allocated to the subscription rights that have expired will be reallocated to the existing shares of common stock.

Taxation of Shares of Common Stock

Distributions. Distributions with respect to shares of common stock acquired upon exercise of subscription rights will be taxable as dividend income when actually or constructively received to the extent of our current or accumulated earnings and profits as determined for U.S. federal income tax purposes. To the extent that the amount of a distribution exceeds our current and accumulated earnings and profits, such distribution will be treated first as a tax-free return of capital to the extent of your adjusted tax basis in such shares of common stock and thereafter as capital gain.

Dispositions. If you sell or otherwise dispose of shares of common stock acquired upon exercise of subscription rights, you will generally recognize capital gain or loss equal to the difference between the amount realized and your adjusted tax basis in the shares of common stock. Such capital gain or loss will be long-term capital gain or loss if your holding period for the shares of common stock is more than one year. Long-term capital gain of an individual, estate or trust is generally taxed at favorable rates. The deductibility of capital losses is subject to limitations.

Information Reporting and Backup Withholding

You may be subject to information reporting and/or backup withholding with respect to dividend payments on or the gross proceeds from the disposition of our shares of common stock acquired through the exercise of subscription rights. Backup withholding may apply under certain circumstances if you (i) fail to furnish your social security or other taxpayer identification number (TIN), (ii) furnish an incorrect TIN, (iii) fail to report interest or dividends properly, or (iv) fail to provide a certified statement, signed under penalty of perjury, that the TIN provided is correct, that you are not subject to backup withholding and that you are a U.S. person. Any amount withheld from a payment under the backup withholding rules is allowable as a credit against (and may entitle you to a refund with respect to) your U.S. federal income tax liability, provided that the required information is timely furnished to the IRS. Certain persons are exempt from backup withholding, including corporations and financial institutions. You are urged to consult your own tax advisor as to your qualification for exemption from backup withholding and the procedure for obtaining such exemption.

Table of Contents

Additional Withholding Tax

Sections 1471 through 1474 of the Code (provisions commonly referred to as FATCA) generally impose an additional withholding tax on certain types of payments made to foreign financial institutions and certain other non-U.S. entities. Specifically, a 30% withholding tax will be imposed on dividends on, or gross proceeds from the sale or other disposition of, shares of common stock paid to a foreign financial institution or to a non-financial foreign entity, unless (i) the foreign financial institution undertakes certain diligence and reporting obligations, (ii) the non-financial foreign entity either certifies it does not have any substantial U.S. owners or furnishes identifying information regarding each substantial U.S. owner, or (iii) the foreign financial institution or non-financial foreign entity otherwise qualifies for an exemption from these rules. If the payee is a foreign financial institution, and is subject to the diligence and reporting requirements in clause (i) above, it must enter into an agreement with the U.S. Treasury requiring, among other things, that it undertake to identify accounts held by certain U.S. persons or U.S.-owned foreign entities, annually report certain information about such accounts, and withhold 30% on payments to account holders whose actions prevent it from complying with these reporting and other requirements. Current IRS guidance delays the implementation of withholding under FATCA with respect to payments of gross proceeds from a sale or other disposition of shares of common stock until after December 31, 2018.

THE PRECEDING DISCUSSION OF MATERIAL U.S. FEDERAL INCOME TAX CONSEQUENCES IS NOT TAX ADVICE. EACH U.S. HOLDER SHOULD CONSULT ITS OWN TAX ADVISOR REGARDING THE PARTICULAR U.S. FEDERAL, STATE, LOCAL AND FOREIGN TAX CONSEQUENCES OF RECEIVING, OWNING AND EXERCISING SUBSCRIPTION RIGHTS AND ACQUIRING, HOLDING AND DISPOSING OF SHARES OF COMMON STOCK, INCLUDING THE CONSEQUENCES OF ANY PROPOSED CHANGE IN APPLICABLE LAWS.

LEGAL MATTERS

The validity of the shares of common stock issuable upon exercise of the rights and offered by this prospectus will be passed upon for us by Sidley Austin LLP.

EXPERTS

The consolidated financial statements and schedule of BIOLASE, Inc. as of December 31, 2016 and 2015 and for each of the three years in the period ended December 31, 2016 incorporated by reference into this prospectus and in the Registration Statement from our Annual Report on Form 10-K for the fiscal year ended December 31, 2016, filed with the SEC on March 10, 2017, which contains an explanatory paragraph regarding the Company's ability to continue as a going concern, have been so incorporated in reliance upon the report of BDO USA, LLP, an independent registered accounting firm, incorporated herein by reference, given upon the authority of said firm as experts in accounting and auditing.

WHERE YOU CAN FIND MORE INFORMATION

We are subject to the informational requirements of the Exchange Act and in accordance therewith file reports, proxy statements and other information with the SEC. Our filings are available to the public over the Internet at the SEC's website at www.sec.gov, as well as at our website at www.biolase.com.

You may also read and copy, at prescribed rates, any document we file with the SEC at the Public Reference Room of the SEC located at 100 F Street, N.E., Washington, D.C. 20549. Please call the SEC at (800) SEC-0330 for further information on the SEC's Public Reference Room.

Table of Contents

INFORMATION INCORPORATED BY REFERENCE

The SEC allows us to incorporate by reference into this prospectus the information contained in other documents we file with the SEC, which means that we can disclose important information to you by referring you to those documents. Any statement contained in any document incorporated or deemed to be incorporated by reference herein shall be deemed to be modified or superseded, for purposes of this prospectus, to the extent that a statement contained in or omitted from this prospectus, or in any other subsequently filed document that also is or is deemed to be incorporated by reference 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. We incorporate by reference the documents listed below which have been filed by us and any future filings we make with the SEC under Sections 13(a), 13(c), 14 or 15(d) of the Exchange Act until the offering is completed:

1. Our Annual Report on Form 10-K, for the year ended December 31, 2016, filed with the SEC on March 10, 2017;
2. Our Quarterly Reports on Form 10-Q filed with the SEC on May 4, 2017 and August 7, 2017;
3. Our Current Reports on Form 8-K, filed with the SEC on January 6, 2017, January 13, 2017, March 1, 2017, April 14, 2017 (Items 1.01 and 3.02 only), April 20, 2017, May 16, 2017, July 10, 2017, August 14, 2017, September 5, 2017 and September 15, 2017; and
4. Our definitive proxy statement on Schedule 14A filed with the SEC on April 5, 2017.
5. Our preliminary proxy statement on Schedule 14A filed with the SEC on May 5, 2017.
6. Our definitive proxy statement on Schedule 14A filed with the SEC on May 19, 2017.

Upon written or oral request, we will provide without charge to each person to whom a copy of the prospectus is delivered a copy of the documents incorporated by reference herein (other than exhibits to such documents unless such exhibits are specifically incorporated by reference herein). You may request a copy of these filings, at no cost, by writing or telephoning us at the following address: BIOLASE, Inc., 4 Cromwell, Irvine, California 92618, Attention: Investor Relations, telephone: (949) 361-1200.

Table of Contents**PART II****INFORMATION NOT REQUIRED IN PROSPECTUS****Item 13. *Other Expenses of Issuance and Distribution.***

The following table sets forth the fees and expenses payable by us in connection with the sale of the securities being registered hereunder, all of which will be borne by us. With the exception of the SEC registration fee, all amounts shown are estimates.

SEC registration fee	\$ 1,390.80
Subscription agent fees and expenses	\$ *
Information agent fees and expenses	\$ *
Legal fees and expenses	\$ *
Accounting fees and expenses	\$ *
Printing expenses	\$ *
Miscellaneous	\$ *
 Total	 \$ *

* To be provided by amendment.

Item 14. *Indemnification of Directors and Officers.*

Section 145 of the Delaware General Corporation Law (the "DGCL") authorizes and empowers a Delaware corporation to indemnify its directors, officers, employees and agents against liabilities incurred in connection with, and related expenses resulting from, any claim, action or suit brought against any such person as a result of his or her relationship with the corporation, provided that such persons acted in good faith and in a manner such person reasonably believed to be in, and not opposed to, the best interests of the corporation in connection with the acts or events on which such claim, action or suit is based. Section 145 of the DGCL also authorizes corporations to purchase and maintain insurance on behalf of such persons so indemnified. The finding of either civil or criminal liability on the part of such person in connection with such acts or events is not necessarily determinative of the question of whether such person has met the required standard of conduct and is, accordingly, entitled to be indemnified.

Section 102(b)(7) of the DGCL enables a corporation in its certificate of incorporation or an amendment thereto to eliminate or limit the personal liability of a director to the corporation or its stockholders of monetary damages for violations of the director's fiduciary duty of care, except (i) for any breach of the director's duty of loyalty to the corporation or its stockholders, (ii) for acts or omissions not in good faith or that involve intentional misconduct or a knowing violation of law, (iii) pursuant to Section 174 of the DGCL (providing for liability of directors for unlawful payment of dividends or unlawful stock purchases or redemptions) or (iv) for any transaction from which a director derived an improper personal benefit.

Our Restated Certificate of Incorporation, as amended (the "charter") provides that, to the extent permitted by applicable law, the registrant's directors shall not be personally liable to the registrant or its stockholders for monetary damages

for any breach of fiduciary duty as directors of the registrant. The charter eliminates the personal liability of directors to the fullest extent permitted by the DGCL. Our bylaws provide that each person who was or is made a party or is threatened to be made a party to or is involved in any action, suit or proceeding, whether civil, criminal, administrative or investigative, by reason of the fact that he or she, or a person of whom he or she is the legal representative, is or was a director or officer of the registrant shall be indemnified and held harmless by the registrant to the fullest extent authorized by the DGCL, against all costs, charges, expenses, liabilities and losses (including attorneys' fees, judgments, fines, ERISA excise taxes or penalties and amounts paid or to be paid in settlement) reasonably incurred or suffered by such person in connection therewith, and such indemnification shall

II-1

Table of Contents

continue as to a person who has ceased to be a director or officer and shall inure to the benefit of his or her heirs, executors and personal or legal representatives. The registrant has also obtained liability insurance for its officers and directors and has entered into indemnification agreements with its directors and officers.

The foregoing statements are subject to the provisions of Sections 145 and 102(b)(7) of the DGCL, our bylaws and the charter, which bylaws and charter have been filed as exhibits to this registration statement.

Item 15. *Recent Sales of Unregistered Securities.*

During the three years preceding the filing of this registration statement, we have issued the following securities that were not registered under the Securities Act:

On November 7, 2014, we completed a private placement (the November 2014 Private Placement) with several institutional and individual investors, and certain of our directors and officers, under which we sold an aggregate of 14,162,873 unregistered shares of our common stock at the price of \$2.39 per share, the closing price of our common stock on November 3, 2014, and warrants (the 2014 Warrants) to purchase up to an aggregate of 9,205,862 unregistered shares of our common stock at an exercise price of \$4.00 per share. Gross proceeds from the sale totaled \$35.0 million, and net proceeds, after offering expenses of approximately \$235,000, were approximately \$34.8 million. The 2014 Warrants became exercisable on May 7, 2015, six months after the closing of the private placement, and expire on November 7, 2017. We used the proceeds for working capital and general corporate purposes. In connection with the registration rights granted to these investors, we filed a registration statement on Form S-3 with the SEC, which was declared effective on December 12, 2014.

On August 8, 2016, we completed a private placement (the August 2016 Private Placement) with several institutional and individual investors, and certain of our directors and officers, under which we sold an aggregate of 88,494 shares of our Series C Participating Convertible Preferred Stock (Series C Preferred Stock) and warrants (the 2016 Warrants) to purchase up to an aggregate of 2,035,398 unregistered shares of our common stock at an exercise price of \$2.00 per share. Each share of Series C Preferred Stock converted automatically into 100 shares of our common stock upon receipt of stockholder approval on September 30, 2016, reflecting a conversion price equal to \$1.13 per share, which was the closing price of the common stock quoted on the NASDAQ Capital Market on July 29, 2016. On September 30, 2016, we also approved the issuance of common stock in connection with the exercise of the 2016 warrants by certain holders whose 2016 warrants were subject to a beneficial ownership limitation. Gross proceeds from the sale were \$10.0 million, and net proceeds, after offering expenses of approximately \$0.5 million, were approximately \$9.5 million. The 2016 Warrants became exercisable on February 8, 2017, six months after the closing of the private placement, and expire on August 8, 2021. We used the proceeds from the sale for working capital and general corporate purposes. In connection with the registration rights granted to these investors, we filed a registration statement on Form S-3 with the SEC, which was declared effective on November 3, 2016.

On April 18, 2017, we completed a private placement with several institutional and individual investors, and certain of our directors and officers, under which we sold an aggregate of 80,644 shares of our Series D Participating Convertible Preferred Stock, par value \$0.001 per share (Series D Preferred Stock), and warrants (the 2017 Warrants) to purchase up to an aggregate of 3,925,871 unregistered shares of our common stock at an exercise price of \$1.80 per share (the Exercise Price), subject to customary anti-dilution adjustments. Each share of Series D Preferred Stock converted automatically into 100 shares of our common stock upon receipt of stockholder approval on June 30, 2017, reflecting a conversion price equal to \$1.24 per share, which was the closing price of our common stock quoted on the NASDAQ Capital Market on April 10, 2017. On June 30, 2017, our stockholders also approved the issuance of common stock related to the exercise of the 2017 Warrants by certain holders whose 2017 Warrants were subject to a beneficial ownership limitation. The 2017 Warrants become exercisable on October 18, 2017 and expire on April 18,

2022 or, if earlier, five business days after we deliver notice that the closing price per share of our common stock exceeded the Exercise Price for 30 consecutive trading days during the exercise period. Gross proceeds from the sale were approximately \$10.5 million, and net proceeds, after offering expenses of approximately \$0.2 million, were

Table of Contents

approximately \$10.3 million. We are using the proceeds from the sale for working capital and general corporate purposes. In connection with the registration rights granted to these investors, we filed a registration statement on Form S-3 with the SEC, which was declared effective on August 24, 2017.

The offers and sales of securities described above were made in reliance upon an exemption from registration requirements pursuant to Section 4(a)(2) under the Securities Act, based upon representations made to us by the purchasers thereof.

Item 16. Exhibits.

The exhibits listed in the accompanying Exhibit Index are filed (except where otherwise indicated) as part of this registration statement.

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 Securities and Exchange Commission pursuant to Rule 424(b) if, in the aggregate, the changes in volume and price represent no more than a 20% 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 (a)(1)(i), (a)(1)(ii) and (a)(1)(iii) of this section do not apply if the information required to be included in a post-effective amendment by those paragraphs is contained in reports filed with or furnished to the Commission by the registrant pursuant to Section 13 or Section 15(d) of the 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 to any purchaser, each prospectus filed pursuant to Rule 424(b) as part of a registration statement relating to an offering, other than registration statements relying on Rule 430B or other than prospectuses filed in reliance on Rule 430A, 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

II-3

Table of Contents

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.

(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, 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.

(c) 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.

(h) 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 foregoing provisions, 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 Securities Act of 1933 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 Securities Act of 1933 and will be governed by the final adjudication of such issue.

(i) The undersigned hereby undertakes that:

(1) 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.

(2) 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.

Table of Contents**EXHIBIT INDEX**

Exhibit	Description	Incorporated by Reference				
		Filed	Ending/Date	Filing	Period	
		Herewith	Form	of Report	Exhibit	Date
3.1.1	<u>Restated Certificate of Incorporation, including, (i) Certificate of Designations, Preferences and Rights of 6% Redeemable Cumulative Convertible Preferred Stock of the Registrant; (ii) Certificate of Designations, Preferences and Rights of Series A 6% Redeemable Cumulative Convertible Preferred Stock of the Registrant; (iii) Certificate of Correction Filed to Correct a Certain Error in the Certificate of Designation of the Registrant; and (iv) Certificate of Designations of Series B Junior Participating Cumulative Preferred Stock of the Registrant</u>		S-1, Amendment No. 1	12/23/2005	3.1	12/23/2005
3.1.2	<u>Amendment to Restated Certificate of Incorporation</u>		8-K	05/10/2012	3.1	05/16/2012
3.1.3	<u>Second Amendment to Restated Certificate of Incorporation</u>		8-A/A	11/04/2014	3.1.3	11/04/2014
3.1.4	<u>Certificate of Elimination of Series B Junior Participating Cumulative Preferred Stock</u>		8-K	11/10/2015	3.1	11/12/2015
3.1.5	<u>Certificate of Designations, Preferences and Rights of Series C Participating Convertible Preferred Stock</u>		8-K	08/08/2016	3.1	08/08/2016
3.1.6	<u>Certificate of Elimination of Series C Participating Convertible Preferred Stock of the Registrant</u>		8-K	04/18/2017	3.1	04/20/2017
3.1.7	<u>Certificate of Designations, Preferences and Rights of Series D Participating Convertible Preferred Stock of the Registrant</u>		8-K	04/18/2017	3.2	04/20/2017
3.1.8	<u>Third Amendment to Restated Certificate of Incorporation</u>		S-3	07/21/2017	3.4	07/21/2017
3.2	<u>Sixth Amended and Restated Bylaws of the Registrant, adopted on June 26, 2014</u>		8-K	06/26/2014	3.1	06/30/2014

Table of Contents

Exhibit	Description	Filed Herewith	Incorporated by Reference Period		
			Form	Ending/Date of Report	Filing Exhibit Date
4.1	<u>Form of Warrant issued on November 7, 2014 (incorporated by reference to Exhibit A to the Securities Purchase Agreement filed as Exhibit 99.1 to the Current Report on Form 8-K filed on November 7, 2014)</u>		8-K	11/03/2014	99.1 11/07/2014
4.2	<u>Form of Warrant issued on August 8, 2016 (incorporated by reference to Exhibit B to the Securities Purchase Agreement filed as Exhibit 99.1 to the Current Report on Form 8-K filed on August 8, 2016)</u>		8-K	08/01/2016	99.1 08/02/2016
4.3	<u>Standstill Agreement, dated November 10, 2015, by and among the Registrant and Jack W. Schuler, Renate Schuler, and the Schuler Family Foundation</u>		8-K	11/10/2015	99.1 11/12/2015
4.4	<u>Standstill Agreement, dated November 10, 2015, by and among the Registrant and Larry N. Feinberg, Oracle Partners, L.P., Oracle Institutional Partners, L.P., Oracle Ten Fund Master, L.P., Oracle Associates, LLC, and Oracle Investment Management, Inc.</u>		8-K	11/10/2015	99.2 11/12/2015
4.5	<u>Amendment to Standstill Agreement, dated August 1, 2016, by and among the Registrant and Jack W. Schuler, Renate Schuler, Shuler Family Foundation</u>		8-K	08/01/2016	99.2 08/02/2016
4.6	<u>Amendment to Standstill Agreement, dated August 1, 2016, by and among the Registrant and Larry N. Feinberg, Oracle Partners, L.P., Oracle Institutional Partners, L.P., Oracle Ten Fund Master, L.P., Oracle Associates, LLC, Oracle Investment Management, Inc.</u>		8-K	08/01/2016	99.3 08/02/2016
4.7	<u>Form of Warrant</u>		DEF 14 A		D 05/19/2017
4.8	Form of rights certificate**				

Table of Contents

Exhibit	Description	Incorporated by Reference				
		Filed	Ending/Date	Filing	Period	Date
		Herewith	Form	of Report	Exhibit	Date
5.1	Opinion of Sidley Austin LLP**					
10.1*	<u>2002 Stock Incentive Plan, as amended</u>		DEF 14A		A	04/07/2016
10.2*	<u>Form of Stock Option Agreement under the 2002 Stock Incentive Plan</u>		10-K	12/31/2004	10.26	07/19/2005
10.3*	<u>Form of Option Award Notice for California Employees under the 2002 Stock Incentive Plan</u>		10-Q	09/30/2015	10.2	11/06/2015
10.4*	<u>Form of Option Award Notice for Non-California Employees under the 2002 Stock Incentive Plan</u>		10-Q	09/30/2015	10.3	11/06/2015
10.5*	<u>Form of Option Award Notice for Non-Employee Directors under the 2002 Stock Incentive Plan</u>		10-Q	09/30/2015	10.4	11/06/2015
10.6*	<u>Form of Restricted Stock Unit Award Notice for Non-Employee Directors under the 2002 Stock Incentive Plan</u>		10-Q	09/30/2015	10.5	11/06/2015
10.8*	<u>Form of Indemnification Agreement between the Registrant and its officers and directors</u>		10-Q	09/30/2005	10.1	11/09/2005
10.9	<u>Lease, dated January 10, 2006, by and between the Registrant and The Irvine Company LLC</u>		8-K	01/10/2006	10.1	01/17/2006
10.10	<u>Third Amendment to Lease, dated March 16, 2015, by and between the Registrant and The Irvine Company LLC</u>		10-Q	03/31/2015	10.3	05/01/2015
10.11	<u>Letter Agreement, dated June 28, 2006, by and between the Registrant and The Procter & Gamble Company</u>		10-Q	06/30/2006	10.1	08/09/2006
10.12	<u>License Agreement, dated January 24, 2007, by and between the Registrant and The Procter & Gamble Company</u>		10-Q	03/31/2007	10.1	05/10/2007
10.13	<u>Letter Agreement, dated June 28, 2011, by and between the Registrant and The Procter & Gamble Company</u>		10-Q	06/30/2011	10.2	08/11/2011
10.14	<u>Securities Purchase Agreement, dated August 1, 2016, among BIOLASE, Inc. and the</u>		8-K	08/01/2016	99.1	08/02/2016

investors listed on Schedule I thereto

10.15*	<u>Employment Agreement, dated February 22, 2015 and entered into on February 24, 2015, by and between the Registrant and David Dreyer</u>	10-K	12/31/2015	10.25	03/06/2015
--------	--	------	------------	-------	------------

II-7

Table of Contents

Exhibit	Description	Filed Herewith	Incorporated by Reference Period		
			Form	Ending/Date of Report	Exhibit Filing Date
10.16*	<u>Employment Agreement, dated May 14, 2015, by and between the Registrant and Harold C. Flynn, Jr.</u>		10-Q	06/30/2015	10.2 08/07/2015
10.17*	<u>Inducement Restricted Stock Unit Award Agreement, dated July 14, 2015, by and between the Registrant and Harold C. Flynn, Jr.</u>		8-K	07/12/2015	10.2 07/15/2015
10.18*	<u>Acknowledgment Letter, dated November 22, 2016, by and between the Registrant and Harold C. Flynn, Jr.</u>		10-K	12/31/2016	10.18 03/10/2017
10.19*	<u>Transition Letter Agreement, dated December 28, 2016, by and between the Registrant and David Dreyer</u>		10-K	12/31/2016	10.19 03/10/2017
10.20*	<u>Separation Agreement, dated January 13, 2017, by and between the Registrant and David Dreyer</u>		10-K	12/31/2016	10.20 03/10/2017
10.21*	<u>Employment Agreement, dated February 23, 2017, by and between the Registrant and Mark Nelson</u>		10-K	12/31/2016	10.21 03/10/2017
10.22	<u>Securities Purchase Agreement, dated April 11, 2017, among BIOLASE, Inc. and the investors listed on Schedule I thereto</u>		8-K	04/11/2017	99.1 04/11/2017
10.23	<u>Commitment Letter, dated September 26, 2017, between each of Oracle Partners, LP, Oracle Institutional Partners, LP and Oracle Ten Fund Master, LP and BIOLASE, Inc.</u>	X			
10.24	<u>Commitment Letter, dated September 26, 2017, between each of Renate Schuler, Jack W. Schuler Living Trust and Schuler Family Foundation and BIOLASE, Inc.</u>	X			
21.1	<u>Subsidiaries of the Registrant</u>		10-K	12/31/2016	10.21 03/10/2017
23.1	<u>Consent of Independent Registered Public Accounting Firm, BDO USA, LLP</u>	X			
23.2	Consent of Sidley Austin LLP (contained in Exhibit 5.1)**				
24.1		X			

Power of Attorney (included on the signature
page hereof)

II-8

Table of Contents

Exhibit	Description	Incorporated by Reference Period				
		Filed Herewith	Form	Ending/Date of Report	Exhibit	Filing Date
99.1	Form of Instructions for Use of rights certificates**					
99.2	Form of Letter to Shareholders**					
99.3	Form of Letter to Beneficial Holders**					
99.4	Form of Letter to Clients**					
99.5	Form of Nominee Holder Certification Form**					
99.6	Beneficial Holder Election Form**					
99.7	Form of Notice of Guaranteed Delivery**					
99.8	Form of Notice of Important Tax Information**					

Confidential treatment was granted for certain confidential portions of this exhibit pursuant to Rule 24b-2 under the Securities Exchange Act of 1934. In accordance with Rule 24b-2, these confidential portions were omitted from this exhibit and filed separately with the Securities and Exchange Commission.

Confidential treatment was requested for certain confidential portions of this exhibit pursuant to Rule 24b-2 under the Securities Exchange Act of 1934. In accordance with Rule 24b-2, these confidential portions were omitted from this exhibit and filed separately with the Securities and Exchange Commission.

* Management contract or compensatory plan or arrangement.

** To be filed by amendment hereto.

Table of Contents**SIGNATURES**

Pursuant to the requirements of the Securities Act of 1933, as amended, the registrant has duly caused this registration statement to be signed on its behalf by the undersigned, thereunto duly authorized in the City of Irvine, State of California, on September 29, 2017.

BIOLASE, INC.

By: */s/ Harold C. Flynn, Jr.*
Harold C. Flynn, Jr.
President and Chief Executive Officer

POWER OF ATTORNEY

Each of the undersigned hereby constitutes and appoints Harold C. Flynn, Jr. as his attorney-in-fact, with power of substitution, in his name and in the capacity indicated below, to sign any and all further amendments and any additional related registration statement filed pursuant to Rule 462(b) under the Securities Act of 1933, as amended (including post-effective amendments) to this registration statement on Form S 1 and to file the same, with exhibits thereto and other documents in connection therewith, with the Securities and Exchange Commission, hereby ratifying and confirming all that said attorney-in-fact, or his substitute or substitutes, may do or cause to be done by virtue hereof.

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

Signature	Title	Date
<i>/s/ Harold C. Flynn, Jr.</i> Harold C. Flynn, Jr.	President and Chief Executive Officer (Principal Executive Officer) and Director	September 29, 2017
<i>/s/ Jonathan T. Lord</i> Jonathan T. Lord	Director and Chairman of the Board	September 29, 2017
<i>/s/ Frederic H. Moll</i> Frederic H. Moll	Director	September 29, 2017
<i>/s/ James R. Talevich</i> James R. Talevich	Director	September 29, 2017