UNITED STATES
SECURITIES AND EXCHANGE COMMISSION
WASHINGTON, DC 20549

FORM 10-K

(Mark One)

☒ ANNUAL REPORT PURSUANT TO SECTION 13 OR 15(d) OF THE SECURITIES EXCHANGE ACT OF 1934

For the fiscal year ended December 31, 2022

OR

☐ TRANSITION REPORT PURSUANT TO SECTION 13 OR 15(d) OF THE SECURITIES EXCHANGE ACT OF 1934

For the transition period from to

Commission file number 001-36385

BIOLASE, INC.

(Exact Name of Registrant as Specified in Its Charter)

Delaware	**87-0442441**
(State or Other Jurisdiction of Incorporation or Organization)	**(I.R.S. Employer Identification No.)**

27042 Towne Centre Drive, Suite 270
Lake Forest, California 92610
(Address of Principal Executive Offices) (Zip code)

(949) 361-1200
(Registrant's Telephone Number, including Area Code)

Indicate by check mark if the registrant is a well-known seasoned issuer, as defined in Rule 405 of the Securities Act. Yes ☐ No ☒

Indicate by check mark if the registrant is not required to file reports pursuant to Section 13 or Section 15(d) of the Act. Yes ☐ No ☒

Indicate by check mark whether the registrant: (1) has filed all reports required to be filed by Section 13 or 15(d) of the Securities Exchange Act of 1934 during the preceding 12 months (or for such shorter period that the registrant was required to file such reports), and (2) has been subject to such filing requirements for the past 90 days. Yes ☒ No ☐

Indicate by check mark whether the registrant has submitted electronically every Interactive Data File required to be submitted pursuant to Rule 405 of Regulation S-T (§ 232.405 of this chapter) during the preceding 12 months (or for such shorter period that the registrant was required to submit such files). Yes ☒ No ☐

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

Large accelerated filer	☐	Accelerated filer	☐
Non-accelerated filer	☒	Smaller reporting company	☒
		Emerging growth company	☐

If an emerging growth company, indicate by check mark if the registrant has elected not to use the extended transition period for complying with any new or revised financial accounting standards provided pursuant to Section 13(a) of the Exchange Act. ☐

Indicate by check mark whether the registrant has filed a report on and attestation to its management's assessment of the effectiveness of its internal control over financial reporting under Section 404(b) of the Sarbanes-Oxley Act (15 U.S.C. 7262(b)) by the registered public accounting firm that prepared or issued its audit report. ☐

If securities are registered pursuant to Section 12(b) of the Act, indicate by check mark whether the financial statements of the registrant included in the filing reflect the correction of an error to previously issued financial statements. ☐

Indicate by check mark whether any of those error corrections are restatements that required a recovery analysis of incentive-based compensation received by any of the registrant's executive officers during the relevant recovery period pursuant to §240.10D-1(b). ☐

Indicate by check mark whether the registrant is a shell company (as defined in Rule 12b-2 of the Act). Yes ☐ No ☒

The aggregate market value of the Registrant's common stock held by non-affiliates was $103,837,004 based on the last sale price of common stock on June 30, 2021.

Title of each class	**Trading Symbol(s)**	**Name of each exchange on which registered**
Common stock, par value $0.001 per share	BIOL	The NASDAQ Stock Market LLC (NASDAQ Capital Market)

As of March 21, 2023, there were 26,326,664 shares of the registrant's common stock, par value $0.001 per share, outstanding.

DOCUMENTS INCORPORATED BY REFERENCE

Portions of the registrant's definitive proxy statement related to its 2023 Annual Meeting of Stockholders, to be filed with the Securities and Exchange Commission pursuant to Regulation 14A within 120 days after the registrant's fiscal year ended December 31, 2022, are incorporated by reference into Part III of this Annual Report on Form 10-K.

BIOLASE, INC.

ANNUAL REPORT ON FORM 10-K
FOR THE FISCAL YEAR ENDED DECEMBER 31, 2022

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CAUTIONARY STATEMENT REGARDING FORWARD-LOOKING STATEMENTS

This Annual Report on Form 10-K ("Form 10-K"), particularly in Item 1, "Business," and Item 7, "Management's Discussion and Analysis of Financial Condition and Results of Operations," and the documents that we incorporate herein by reference, contain "forward-looking statements." Such forward-looking statements include statements, predictions, or expectations regarding market opportunities, our plans for future products and services and enhancements of existing products and services, future market growth and our anticipated growth strategies, future demand for improved dental care and dental laser equipment, expansion of our international operations, compliance with laws and regulatory requirements, the impact of cost-saving measures and future decreases in expenses, statements regarding the effects of seasonality on revenue, anticipated cash needs, capital requirements and capital expenditures, needs for additional financing, anticipated use of proceeds from debt or equity financing, use of working capital, plans to explore potential collaborations, potential acquisitions of products and technologies, effects of engineering and development efforts, plans to expand our field sales force, the development of distributor relationships, our ability to attract customers, the adequacy of our facilities, products and solutions from competitors, our ability to maintain product quality standards, protection of patents and other technology, the ability of third party payers to pay for costs of our products, limitations on capital expenditures, critical accounting policies and the impact of recent accounting pronouncements, recording tax benefits or other financial items in the future, plans, strategies, expectations, or objectives of management for future operations, our financial condition or prospects, and any other statement that is not historical fact. Forward-looking statements are identified by the use of words such as "may," "might," "will," "intend," "should," "could," "can," "would," "continue," "expect," "believe," "anticipate," "estimate," "predict," "outlook," "potential," "plan," "seek" and similar expressions and variations or the negatives of these terms or other comparable terminology.

Forward-looking statements are based on the expectations, estimates, projections, beliefs and assumptions of our management based on information available to management as of the date on which this Form 10-K was filed with the Securities and Exchange Commission (the "SEC") or as of the date on which the information incorporated by reference was filed with the SEC, as applicable, all of which are subject to change. Forward-looking statements are subject to risks, uncertainties and other factors that are difficult to predict and could cause actual results to differ materially from those stated or implied by our forward-looking statements. Factors that could cause or contribute to such differences include, but are not limited to:

- substantial doubt about our ability to continue as a going concern;
- the effects of the COVID-19 pandemic and the actions taken to contain it;
- losses that we have experienced for each of the past three years;
- global economic uncertainty and volatility in financial markets;
- inability to raise additional capital on terms acceptable to us;
- our relationships with, and the efforts of, third-party distributors;
- failure in our efforts to train dental practitioners or to overcome the hesitation of dentists and patients to adopt laser technologies;
- inconsistencies between future data and our clinical results;
- competition from other companies, including those with greater resources;
- our inability to successfully develop and commercialize enhanced or new products that remain competitive with products or alternative technologies developed by others;
- the inability of our customers to obtain third-party reimbursement for their use of our products;
- limitations on our ability to use net operating loss carryforwards;
- problems in manufacturing our products;
- warranty obligations if our products are defective;
- adverse publicity regarding our technology or products;
- adverse events to our patients during the use of our products, regardless of whether caused by our products;

- issues with our suppliers, including the failure of our suppliers to supply us with a sufficient amount or adequate quality of materials;
- rapidly changing standards and competing technologies;
- our inability to effectively manage and implement our growth strategies;
- risks associated with operating in international markets, including potential liabilities under the Foreign Corrupt Practices Act (“FCPA”);
- breaches of our information technology systems;
- seasonality;
- litigation, including the failure of our insurance policies to cover certain expenses relating to litigation and our inability to reach a final settlement related to certain litigation;
- disruptions to our operations at our primary manufacturing facility;
- loss of our key management personnel or our inability to attract or retain qualified personnel;
- risks and uncertainties relating to acquisitions, including difficulties integrating acquired businesses successfully into our existing operations and risks of discovering previously undisclosed liabilities;
- failure to meet covenants in the Credit Agreement, dated as of November 9, 2018 (as amended from time to time, the “Credit Agreement”), by and between BIOLASE and SWK Funding LLC ("SWK") and related risks of foreclosure triggered by an event of default under the Credit Agreement;
- interest rate risk, which could result in higher expense in the event of interest rate increases;
- obligations to make debt payments under the Credit Agreement;
- risks of foreclosure triggered by an event of default under the Credit Agreement;
- failure to comply with the reporting obligations of the Securities Exchange Act of 1934, as amended (the “Exchange Act”) and Section 404 of the Sarbanes-Oxley Act of 2002, as amended (the “Sarbanes-Oxley Act”) or maintain adequate internal control over financial reporting;
- climate change initiatives;
- failure of our intellectual property rights to adequately protect our technologies and potential third-party claims that our products infringe their intellectual property rights;
- changes in government regulation or the inability to obtain or maintain necessary governmental approvals;
- our failure to comply with existing or new laws and regulations, including fraud and abuse and health information privacy and securities laws;
- changes in the regulatory requirements of the Food and Drug Administration (“FDA”) applicable to laser products, dental devices, or both;
- recall or other regulatory action concerning our products after receiving FDA clearance or approval;
- our failure to comply with continued listing requirements of the NASDAQ Capital Market; and
- risks relating to ownership of our common stock, including high volatility and dilution.

Further information about factors that could materially affect the Company, including our results of operations, financial condition and stock price, is contained under the heading “Risk Factors” in Item 1A in this Form 10-K. Except as required by law, we undertake no obligation to revise or update any forward-looking statements to reflect changed assumptions, the occurrence of anticipated or unanticipated events, new information, or changes to future results over time or otherwise.

PART I

Item 1. *Business*

Overview

BIOLASE, Inc. ("BIOLASE" and, together with its consolidated subsidiaries, the "Company," "we," "our" or "us") is a leading provider of advanced laser systems for the dental industry. We develop, manufacture, market, and sell laser systems that provide significant benefits for dental practitioners and their patients. Our proprietary systems allow dentists, periodontists, endodontists, pediatric dentists, 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. Potential patient benefits include less pain, fewer shots, faster healing, decreased fear and anxiety, and fewer appointments. Potential practitioner benefits include improved patient care and the ability to perform a higher volume, and wider variety of procedures.

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 and is FDA cleared for over 80 clinical indications to perform most procedures currently performed using drills, scalpels, and other traditional dental instruments for cutting soft and hard tissue. For example, Waterlase safely debrides implants without damaging or significantly affecting surface temperature and is an effective, safe solution for preserving sick implants. In addition, Waterlase disinfects root canals more efficiently than some traditional chemical methods. We offer our diode laser systems to perform soft tissue, pain therapy, and cosmetic procedures, including teeth whitening. As of December 31, 2022, we maintained approximately 259 active and 24 pending United States and international patents, with the majority relating to our Waterlase technology. Our patent portfolio is regularly evaluated, and we strategically prioritize our core patents to ensure optimal Intellectual Property coverage while minimizing annual maintenance fees. From 1998 through December 31, 2022, we have sold over 45,500 laser systems in over 80 countries around the world, and we believe that Waterlase iPlus is the world's best-selling all-tissue dental laser. Since 1998, we have been the global leading innovator, manufacturer, and marketer of dental laser systems.

We also manufacture and sell consumable products and accessories for our laser systems. Our Waterlase and diode systems use disposable laser tips of differing sizes and shapes depending on the procedure being performed. We also market flexible fibers and hand pieces that dental practitioners replace at some point after initially purchasing laser systems. For our Epic line of diode laser systems, we sell teeth whitening gel kits. During the year ended December 31, 2022, the sale of lasers accounted for approximately 65% of our total sales, and consumables, accessories, and services accounted for approximately 35% of our total sales.

We currently operate in a single reportable business segment. We had net revenues of $48.5 million, $39.2 million, and $22.8 million, in 2022, 2021, and 2020, respectively, and we had net losses of $28.6 million, $16.2 million, and $16.8 million for the same periods, respectively. We had total assets of $38.2 million and $55.3 million as of December 31, 2022 and 2021, respectively.

Recent Developments

Other Recent Developments

The disclosure set forth under Part II, Item 7 — Management's Discussion and Analysis of Financial Condition and Results of Operations – Recent Developments is hereby incorporated herein by reference.

Industry Background

General

Dental procedures, including medical and cosmetic treatment, are performed on hard tissue, such as bone and teeth, and soft tissue, such as gum and other oral tissue.

An estimated one-third of the worldwide population avoids going to the dentist because of “dental anxiety or fear,” according to DentaVox. Such anxiety causes dental conditions, such as gum disease, to go under-diagnosed, under-treated, and under-managed. Due to the limitations associated with traditional and alternative dental instruments, we believe there is a large market opportunity for all-tissue dental laser systems that provide superior clinical outcomes, reduce the need to use anesthesia, help reduce trauma, pain, and discomfort associated with dental procedures, and increase patient acceptance for treatment protocols. We also believe there is a growing awareness among consumers globally of the value and importance of oral health and its connections to overall systemic health and wellness. The American Academy of Periodontology estimates that over 60 million people in the U.S. alone have periodontitis, an advanced stage of gum disease, and studies indicate a link between periodontitis and other health conditions such as heart disease, diabetes, and stroke.

As of 2021, according to the American Dental Association, there were approximately 202,000 professionally active dentists in the U.S. In 2022, a study published by Grandview Research estimated the global dental equipment market to be $10.6 billion and projected it to grow at a compound annual rate of 6.2% through 2030. Factors cited contributing to the growth include rising demand for dental procedures, prevalence of dental disorders, a rising geriatric population, and demand for preventive, restorative, and surgical services. The study also highlighted that dental laser equipment is expected to be the fastest growing segment over the forecast period. We believe that all-tissue laser systems have penetrated only 7-8% of U.S. dental practices and less than 2% worldwide, and we estimate a market opportunity in excess of $50 billion.

Traditional Dental Instruments

Dentists and other specialists utilize a variety of instruments depending on the tissue involved and the type of procedure. Most procedures require the use of multiple instruments to achieve desired results. Many of the instruments available today are based on decades-old practices. Examples are as follows:

High-Speed Drills. Most dentists use conventional high-speed drills for hard tissue procedures, such as preparing cavities for filling, gaining access for performing root canals, and shaving or contouring oral bone tissue. Potentially adverse effects associated with drills include thermal heat transfer, vibration, pressure and noise. The cutting and grinding action of high-speed drills can cause damage, such as microfractures, to the patient’s teeth. The trauma can lead to longer recovery times and the need for future crowns and root canals. Additionally, this grinding action of high-speed drills may weaken the tooth’s underlying structure, leading to fractures and broken cusps. Procedures involving high-speed drills typically require anesthesia and are often the source of patient anxiety and fear. Because many dentists do not recommend anesthetizing more than one or two sections of the mouth in a single appointment, patients may need to return several times to complete their treatment plan.

Cutting Instruments. Soft tissue procedures are typically performed by dentists using scalpels, scissors, and other surgical tools. Due to the pain, bleeding, post-operative swelling, and discomfort associated with these instruments, most soft tissue procedures require the use of local anesthetic which may result in numbness and longer recovery time, and often require stitches. Bleeding can impair the practitioner’s visibility during the procedure, thereby reducing efficiency and is a particular problem for patients with immune deficiencies or blood disorders and for patients taking blood-thinning medications.

Alternative Dental Instruments

Alternative technologies have been developed over the years to address the problems associated with traditional methods used in dentistry. However, most alternatives have addressed either hard or soft tissue applications but not both, or have other limitations.

Electrosurge Systems. Electrosurge systems use an electrical current to heat a shaped tip that simultaneously cuts and cauterizes soft tissue, resulting in less bleeding than occurs with scalpels. However, electrosurge systems are generally less precise than lasers and can damage surrounding tissue. Electrosurge systems are also not suitable for hard tissue procedures and, due to the depth of penetration, generally require anesthesia and a lengthy healing process. Electrosurge systems generally cannot be used in areas near metal fillings and dental implants. Finally, electrosurge systems generally cannot be used to treat patients with implanted pacemakers and defibrillators.

Traditional Laser Systems. More recently, lasers have gained acceptance for use in general and cosmetic dentistry. Most lasers used in dentistry have been adapted from other medical applications, such as dermatology, but are not optimally designed to perform common dental procedures. Most dental lasers use thermal energy to cut tissue and are used primarily for soft tissue procedures.

Our Products

Our laser systems can provide dental professionals with enhanced capabilities for minimally invasive treatment. Our product offering consists of the following:

Waterlase all-tissue laser systems. Our all-tissue Waterlase dental laser systems currently consist of our flagship Waterlase iPlus, Waterlase Express, and Waterlase MDX. Each of these systems features a proprietary laser crystal that produces electromagnetic energy with absorption and tissue interaction characteristics specifically designed for dental procedures. They are minimally invasive and can precisely cut hard tissue, such as bone and teeth, and soft tissue, such as gums and skin, without the heat, vibration, bleeding, or pressure associated with traditional dental treatments. By combining the laser light and water, our Waterlase systems can eliminate the need for anesthesia in most cases and result in faster healing times compared to traditional methods of treatment, both of which could lead to improved patient-reported outcomes. The all-tissue Waterlase is especially effective for treating all types of dental cavities for both children and adults, moderate and advanced periodontal and peri-implant disease, root canals, and esthetic procedures for gummy smiles.

The Waterlase systems incorporate an ergonomic hand-piece and a user-friendly digital interface with presets for a wide range of clinical applications that control a combination of laser energy, air, and water, as well as the pulse rate for clinical efficiency and patient comfort. Each system also has been designed to be easily moved from operatory to operatory within a practice. We developed the Waterlase systems using internally developed intellectual property, as well as intellectual property obtained through various acquisitions. The Waterlase systems are FDA-cleared in the United States, CE mark-approved in Europe, and approved for sale in more than 80 other countries for dental uses. In the United States, we also have regulatory clearance for dermatological, aesthetic, and other general surgery uses.

Diode soft-tissue laser systems. Our diode soft tissue laser systems currently consist of the Epic X, Epic Hygiene, and Epic 10 diode lasers that perform soft tissue, hygiene, cosmetic procedures, teeth whitening, and provide temporary pain relief. Epic X, and Epic 10 systems feature our proprietary 940 nanometer wavelength with patented pulse technology called ComfortPulse, which is designed for added patient comfort. Epic Hygiene was introduced in December 2019 as the Company’s latest innovation in proven Epic laser technology, which is designed to manage non-surgical periodontitis and increase clinical production. The system includes proven step-by-step clinical protocols, including pocket therapy and perio debridement, to facilitate implementation. The Epic Hygiene is the only hygiene specific diode laser with FDA 510 (k) clearance for Laser Bacterial Reduction (LBR), a preventive periodontal procedure conducted in conjunction with routine cleaning. Epic Hygiene, which utilizes a 980 nanometer wavelength, gives dental hygienists the ability to offer dental laser technology to their patients, including minimally invasive and less painful treatments that are designed to allow for quicker procedures and faster recovery times.

Epic 10 is a portable, powerful diode laser that facilitates clinical versatility with surgical, pain therapy, and whitening capabilities and provides an exceptional laser with an attractive value proposition. In December 2014, we introduced the Epic X diode laser, an enhanced soft tissue laser system featuring upgrades and improvements from our Epic 10. The Epic X, Epic10, and Epic Hygiene are FDA-cleared in the United States, CE mark-approved in Europe, and approved for sale in more than 80 other countries for dental uses. In the United States, we also have regulatory clearance for dermatological, aesthetic, and other general surgery uses.

In 2021, BIOLASE designed, developed, received FDA clearance for and began production of a laser using BIOLASE’s proprietary Er,Cr:YSGG laser technology (the "EdgePro") in partnership with EdgeEndo, a leading endodontic company. The EdgePro is a state-of-the-art microfluidic irrigation device designed to clean and disinfect root canals. The partnership with EdgeEndo is BIOLASE’s first exclusive OEM agreement.

Related Accessories and Consumable Products

In addition to sales of our laser systems, we manufacture and sell consumable products and accessories for our laser systems. Our Waterlase and diode systems use disposable laser tips of differing sizes and shapes depending on the procedure being performed. We also market flexible fibers and hand pieces that dental practitioners replace at some point after initially purchasing laser systems. For our Epic systems, we sell teeth whitening gel kits.

Our Laser Solutions

Due to the limitations associated with traditional and alternative dental instruments, we believe there is a large market opportunity for all-tissue dental laser systems that provide superior clinical outcomes, reduce the need to use anesthesia, help reduce trauma, pain, and discomfort associated with dental procedures, and increase patient acceptance for treatment protocols.

Our Waterlase systems precisely cut hard tissue, bone, and soft tissue with minimal or no damage to surrounding tissue and dental structures. Our diode systems are designed to complement our Waterlase systems, and are used only in soft tissue procedures, pain therapy, hygiene, and cosmetic applications, including teeth whitening. The diode systems, together with our Waterlase systems, offer practitioners a broad product line with a range of features and price points.

Benefits to Dental Professionals

- *Expanded range of procedures*. Our laser systems allow general dentists to perform surgical and cosmetic procedures that they are unable or unwilling to perform using conventional methods and that would typically be referred to a specialist. Our laser systems allow dentists to perform these procedures easily and efficiently, increasing their range of skills, professional and patient satisfaction levels, patient retention rates, and new patient attraction rates.

- *Additional procedures through increased information and efficiency*. Our laser systems can shorten and reduce the number of patient visits, providing dental professionals with the ability to service more patients. For hard tissue procedures, our Waterlase systems can reduce the need for anesthesia, which enables the dental practitioner to perform multiple procedures in one visit. The Waterlase and diode systems cut soft tissue more precisely and with minimal bleeding when compared to traditional tools such as scalpels and electrosurge systems. We have FDA clearance for treatment indications for use that comprise our REPAIR Perio and REPAIR Implant, our proprietary periodontal protocols for subgingival calculus removal and debridement of root surfaces and implant surfaces using the Waterlase system and patented Radial and Side Firing Perio Tips. This is a minimally invasive treatment for moderate to advanced gum and peri-implant diseases, which are among the leading causes of dental health conditions for adults over age 35 and conditions that impact more than half of Americans over the age of 55. In addition, our Epic system can be used to quickly perform in-office teeth whitening with our proprietary whitening gel and to provide temporary pain relief.

- *Greater case acceptance and patient reported outcomes*. We believe the improved patient comfort and convenience offered by our laser systems, along with the reduction in chair time helps improve patient experience and patient acceptance of treatment plans.

- *Improved clinical outcomes*. Our laser systems can be used for dozens of clinical indications with reduced trauma, swelling, and general discomfort of the patient, resulting in improved clinical outcomes and less follow-up treatment. Our products are designed to collectively improve clinical outcomes, making it possible for practitioners to devote time to new cases, rather than managing or treating complications.

- *Less Aerosols.* Waterlase all-tissue laser systems create 98% less aerosols than traditional dental handpieces, meeting the American Dental Association's recommendation of reduced aerosol production to limit the spread of COVID-19. Epic soft-tissue lasers do not use water, and meet guidance from the Center for Disease Control, which recommends avoiding aerosol generating procedures whenever possible, including the use of high-speed dental handpieces, air/water syringes, and ultrasonic scalers.to prevent the transmission of COVID-19. Ultrasonic scalers create a visible water spray that can contain particle droplets of water, saliva, blood, microorganisms, and other debris, which can serve as a conduit to spread the virus. In contrast, Epic technology allows dentists and hygienists to perform gentler, highly effective treatments without using water.

Benefits to Patients

- *Comfort*. Our Waterlase systems allow dentists to perform minimally invasive dental procedures without anesthesia in many cases, and patients recover more comfortably, faster, and with less pain than when treated with conventional instruments. The heat, vibration, microfractures, trauma, or pressure associated with traditional dental methods are largely avoided.

- *Convenience and efficiency*. Procedures utilizing our Waterlase systems do not require anesthesia in many cases, which allows dental practitioners to perform multiple procedures in one appointment and saves patients time.

- *Reduced trauma*. Waterlase systems allow for a faster and more pleasant patient recovery with less swelling, bleeding, and general discomfort than when treated with conventional instruments.

Business Strategy

Our business strategy includes the following key elements:

- *Increasing awareness of our products among dental practitioners*. We intend to increase awareness of our products among dental practitioners by educating dental practitioners and patients about the clinical benefits of our product suite. We plan to continue participation in key industry trade shows, the World Clinical Laser Institute ("WCLI") (which we founded in 2002), dental schools, and other educational forums. We also plan on continuing to expand our Waterlase and Epic Diode academies that we started toward the end of 2020. Our products are also used for clinical research, which often leads to published articles that can enhance awareness among dental practitioners.

- *Increasing awareness and education in laser dentistry.* During 2022, we hosted 24 webinars, 183 seminars, and attended 60 tradeshows. We plan to continue these educational opportunities in 2023. We believe the Waterlase Exclusive Trial Program that we are continuing in 2023, which allows dentists to explore how our Waterlase technology improves patient outcomes during a trial period, also helps in increasing the awareness of the benefits of laser dentistry.

- *Increasing awareness of and demand for our laser systems among patients.* We also intend to increase demand for our products by educating patients about the clinical benefits of the Waterlase and diode systems. We believe that patients will understand the clinical benefits, which, in turn, will result in increased awareness of our systems from dental practitioners. During 2023, we expect to distribute a docuseries "Talk Dental to Me" that will focus on the benefits of our technology for the patient.

- *Strengthening customer training and clinical education.* We provide introductory, advanced, and specialized training on our products for dental practitioners to increase their proficiency and to certify them. Our goal is to provide our customers world class training that is accessible and can be executed with a practical technique. To further enhance our capabilities in this area, in 2023 we expect to open a world-class training facility at our corporate office location in Lake Forest, California along with our first-ever dental office adjacent to the training facility ("Laser Smiles").

- *Strengthening sales and distribution capabilities.* In the U.S., we have primarily distributed our products directly to dental practitioners via our field sales force and telesales. Sales representatives and lead generators work in partnership with the field sales team to maximize effectiveness in engaging and servicing customers. In addition to our field sales force in the U.S., we also use various independent distributors to sell and support our products throughout Canada, Europe, the Middle East, Latin America, and Asia-Pacific regions. We plan to continue to build out the infrastructure to support our customers and to drive revenue and profit growth, both domestically and internationally. This includes expanding our sales presence with respect to the rapidly growing group practices, group purchasing organizations, and government channels.

- *Improving product quality*. We strive to achieve the industry's highest rate of defect-free delivery of products, maintain high quality standards, and address and timely resolve customer complaints. In the U.S., we provide maintenance and support services to customers through our support hotline and dedicated staff of in-house and field service personnel. Outside the U.S., we maintain a network of factory-certified service technicians to provide maintenance and support services to customers. In addition, during 2023 we expect to ramp up certain internal manufacturing capabilities for some of our key laser components that we believe will also improve our overall product quality.

- *Strengthening and defending technology leadership*. We plan to continue protecting our intellectual property rights by expanding our existing patent portfolio in the United States and internationally. We strategically enforce our intellectual property rights worldwide.

- *Expanding our product portfolio to dental practitioners.* We plan to continue to evaluate how to optimize the manner in which we market and sell additional products to supplement our core Waterlase and Epic franchises.

- *Creating value through innovation and leveraging existing technologies into adjacent medical applications.* We plan to expand 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. In particular, we believe that our existing technologies can provide significant improvements over existing standards of care in fields, including ophthalmology, otolaryngology, orthopedics, podiatry, pain management, aesthetics/dermatology, veterinary, and consumer products. We plan to continue to explore potential collaborations to bring our proprietary laser technologies with expanded FDA-cleared indications for other medical applications in the future. In addition, we may acquire complementary products and technologies. We also aim to increase our consumables revenue by selling more single-use accessories used by dental practitioners when performing procedures using our dental laser systems.

- *Generating revenue through OEM partnerships.* In addition to the new partnership with EdgeEndo, we plan to continue to explore potential collaborations to bring our proprietary laser technologies with expanded FDA-cleared indications for other medical applications in the future.

Warranties

Our Waterlase laser systems sold domestically are covered by a warranty against defects in material and workmanship for a period of up to one year from the date of sale to the end-user by us or a distributor. Our diode systems sold domestically are covered by a warranty against defects in material and workmanship for a period of up to two years from the date of sale to the end-user by us or a distributor. Waterlase systems and diode systems sold internationally are covered by a warranty against defects in material and workmanship for a period of up to 24 months from date of sale to the international distributor. Our laser systems warranty covers parts and service for sales in our North American territories and parts only for international distributor sales. In North America and select international locations, we sell extended warranty contracts to our laser systems end users that cover the period after the expiration of our standard warranty coverage for our laser systems. Extended warranty coverage provided under our service contracts varies by the type of system and the level of service desired by the customer. Products or accessories remanufactured, refurbished, or sold by unauthorized parties, voids all warranties in place for such products and exempts us from liability issues relating to the use of such products.

Manufacturing

Our strategy is to manufacture products in-house when it is efficient for us to do so. We currently manufacture, assemble, and test all of our laser systems at our 26,000 square foot manufacturing facility in Corona, California. This facility is dedicated to manufacturing and warehousing. The facility is ISO 13485 certified. ISO 13485 certification signifies a comprehensive quality management system associated with the design, manufacture, installation, and servicing of our products. In addition, our U.S. facility is registered with the FDA and complies in all material respects with the FDA's Quality System Regulation.

We use an integrated approach to manufacturing, including the assembly of tips, laser hand pieces, fiber assemblies, laser heads, electro-mechanical subassembly, final assembly, and testing. We obtain components and subassemblies for our products from third-party suppliers, the majority of which are located in the United States. We generally purchase components and subassemblies from a limited group of suppliers through purchase orders. In general, we rely on these purchase orders and do not have written supply contracts with many of our key suppliers. Three key components used in our Waterlase system (power suppliers, laser crystals, and fiber components) are each supplied by separate single-source suppliers. In recent years, we have not experienced material delays from the suppliers of these three key components. However, an unexpected interruption from a single-source supplier could cause manufacturing delays, re-engineering, significant costs, and sales disruptions, any of which could have a material adverse effect on our operations. We regularly seek to identify and qualify alternate source suppliers for our key components, including but not limited to those noted above. 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.

As discussed below, we are subject to periodic inspections by the FDA as well as other state and foreign agencies, as a manufacturer of medical devices. Such inspections can cover manufacturing, design, production, reporting, recordkeeping, and other processes and can lead to FDA observations requiring corrective action, which can disrupt normal processes.

Marketing and Sales

Marketing

We market our laser systems worldwide. Our marketing efforts are focused on driving brand awareness for our laser solutions with dental practitioners. We also continue to test methods to increase awareness of our brands' benefits by marketing directly to patients.

Dental Practitioners. We market our laser systems to dental practitioners through regional, national, and international educational events, seminars, industry tradeshows, trade publications, digital/social media, field sales forces, and agents and distributors. We also use social media, sales materials, direct communications, public relations, and other promotional tools and materials.

Our primary marketing message to dental practitioners focuses on the ability of our lasers to resolve dental challenges and deliver improved cash flow, which can be realized with improved patient-reported outcomes. BIOLASE Education is a leader in educating and training dental practitioners in laser dentistry. We believe that, as the community of dental practitioners that use our products expands, the BIOLASE Education will continue to deliver innovative and valued educational opportunities by utilizing the latest in learning methodologies and platforms. In addition, the World Clinical Laser Institute conducts and sponsors educational programs internationally on the use of lasers in dentistry. These are intended for dental practitioners, researchers and academicians and include both seminars and hands-on training sessions. BIOLASE has also developed a "Waterlase Academy" for Endodontists, Periodontists, Pediatric specialists and general practitioners, and an Epic Diode Academy for both dental hygienists and dentists. These academies are designed to foster peer-to-peer learning on the appropriate and effective use of our products.

We believe the Waterlase Exclusive Trial Program that we are continuing in 2023, which allows dentists to evaluate our Waterlase technology during a trial period, also helps in increasing the awareness of the benefits of laser dentistry. We have also developed relationships with research institutions, dental schools, and dental laboratories that use our products for clinical research and in-clinical training, and believe these relationships will continue to increase awareness of and demand for our products.

Patients. We believe that making patients aware of our laser systems and their benefits will motivate them to be proactive in requesting from dental practitioners laser procedures and their outcomes. During 2023, we expect to distribute a docuseries "Talk Dental to Me" that will focus on the benefits of our technology for the patient. We can be found online at www.biolase.com, and on Facebook, Twitter, LinkedIn, YouTube, and Instagram. Unless specifically stated otherwise, none of the information contained on any of these sites online is incorporated in this Form 10-K by reference.

Sales

We sell our products primarily to dentists in general practice through our field sales force and our distributor network. We expect our laser systems to continue to gain acceptance among periodontists, endodontists, oral surgeons, pediatric dentists, and other dental specialists as they become aware of the clinical benefits and minimally invasive treatment options available by using our laser systems.

The following table summarizes our net revenues by category ($ in thousands):

	Years Ended December 31,					
	2022		2021		2020	
Laser systems	$ 31,443	64.8%	$ 25,023	63.9%	$ 12,342	54.2%
Consumables and other	11,322	23.4%	9,456	24.1%	6,124	26.9%
Services	5,697	11.8%	4,709	12.0%	4,314	18.9%
Net revenue	$ 48,462	100.0%	$ 39,188	100.0%	$ 22,780	100.0%

Net revenue by geographic location based on the location of customers was as follows (in thousands):

	Years Ended December 31,					
	2022		2021		2020	
United States	$ 33,876	69.9%	$ 25,384	64.8%	$ 16,195	71.1%
International	14,586	30.1%	13,804	35.2%	6,585	28.9%
Net revenue	$ 48,462	100.0%	$ 39,188	100.0%	$ 22,780	100.0%

International revenue accounts for a significant portion of our total revenue and accounted for approximately 30%, 35%, and 29% of our net revenue in 2022, 2021, and 2020, respectively. No individual country outside the United States represented more than 10% of our net revenue during the years ended December 31, 2022, 2021, and 2020.

For financial information about our long-lived assets, see Note 3 – Supplementary Balance Sheet Information, Note 4 – Intangible Assets and Goodwill, and Note 9 – Segment Information.

United States Sales. In the United States, we primarily sell our products directly to dental practitioners utilizing a field sales force consisting of laser sales representatives and regional managers. We also have an in-house sales force, which is located at our corporate headquarters and is comprised of sales representatives and lead generators who work in partnership with the field sales team to maximize sales by leveraging the existing installed customer base.

International Sales. Our distributors purchase laser systems and disposables from us at wholesale dealer prices and resell them to dentists in their sales territories. All sales to distributors are final, and we can terminate our arrangements with dealers, agents, and distributors for cause or non-performance. We have granted certain distributors the right to be our exclusive distributor in select territories. These distributors are generally required to satisfy certain minimum purchase requirements to maintain their exclusivity. We have sold our products directly to end users in Germany since 2011 and directly to end users in India and neighboring countries since 2012.

Customer Concentration. We sell our products through our field sales force, agents, and distributors. For the years ended December 31, 2022, 2021, and 2020, sales to our largest distributor worldwide accounted for approximately 4%, 5%, and 5%, respectively, of our net revenue. As of December 31, 2022, accounts receivable from one customer totaled approximately 12% of total gross accounts receivable. The entire balance is either current or outstanding for less than 30 days. No individual customer represented more than 10% of the Company’s accounts receivable at December 31, 2021.

Customer Service. We provide high quality maintenance and support services in the United States through our support hotline and dedicated staff of in-house and field service personnel. Outside the United States, we maintain a network of factory-certified service technicians to provide maintenance and support services to customers. Our international distributors are responsible for providing maintenance and support services for products sold by them. We provide parts to distributors at no additional charge for products covered under warranty.

Financing Options. Most customers (other than distributors) finance their purchases through several third-party financial institutions with which we have established good relationships. In the United States, third-party customers enter into a financing agreement with one of the financial institutions that purchases the product from us or one of our distributors. We are not party to these financing agreements. Thus, if the customer agrees to pay the financial institution in installments, we do not bear the credit risk. The financial institutions do not have recourse to us for a customer’s failure to make payments, nor do we have any obligation to take back the product.

Seasonality. Typically, we experience fluctuations in revenue from quarter to quarter due to seasonality. Revenue in the first quarter typically is lower than average and revenue in the fourth quarter typically is higher 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 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 may 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 may also be impacted by sales promotions used by large dental distributors that encourage end-of-quarter and end-of-year buying in our industry. Because of these seasonal fluctuations, historically we have often used less cash in operations for the six months ended December 31 as compared to the six months ended June 30.

Engineering and Product Development

Engineering and product development activities are essential to maintaining and enhancing our business. We believe our engineering and product development team has demonstrated its ability to develop innovative products that meet evolving market needs. As of December 31, 2022, our engineering and product development group consists of 13 individuals with medical device or laser development experience. During the years ended December 31, 2022, 2021, and 2020, our engineering and product development expenses totaled approximately $7.3 million, $6.0 million, and $3.7 million, respectively. Our current engineering and product development activities are focused on developing new product platforms, improving our existing products and technology and extending our product range in order to provide dental practitioners and patients with new and improved protocols or procedures that are less painful and have clinically superior results. Some examples of the improvements we are pursuing for our laser systems include faster cutting speed, improved ease of use, less need for anesthesia, interconnectivity, and an expanded portfolio of consumable products for use with our laser systems. Our engineering and product development activities encompass both fundamental and applied fields. We seek to improve methods to perform clinical procedures through the use of new laser wavelengths, laser operation modes and accessories.

We also devote engineering and product development resources toward markets outside of dentistry in which we might exploit our technology platform and capabilities. We believe our laser technology and development capabilities could address unmet needs in several other medical applications, including ophthalmology, otolaryngology, orthopedics, podiatry, pain management, aesthetics/dermatology, veterinary, and consumer products. We have started to enter the otolaryngology, pain management, and veterinary markets to varying degrees.

Intellectual Property and Proprietary Rights

We believe that to maintain a competitive advantage in the marketplace, we must develop and maintain protection of the proprietary aspects of our technology. We rely on a combination of patents, trademarks, trade secrets, copyrights and other intellectual property rights to protect our intellectual property. We have developed a patent portfolio internally, and to a lesser extent through acquisitions and licensing, that covers many aspects of our product offerings. As of December 31, 2022, we maintained approximately 259 active and 24 pending United States and international patents, with the majority relating to our Waterlase technology. Our patent portfolio is regularly evaluated, and we strategically prioritize our core patents to ensure optimal Intellectual Property coverage while minimizing annual maintenance fees. While we hold a variety of patents that cover a broad range of technologies and methods, the majority of these patents provide market protection for our core technologies incorporated in our laser systems and related accessories. Existing patents related to our core technology, which are at various stages of being incorporated into our products, are scheduled to expire as follows: 5 in 2023 and the majority of the remaining patents having expiration dates ranging from 2025 to 2042. With 24 patent applications pending, we expect the number of new grants to exceed the number of patents expiring. We do not expect the expiration of the expired or soon-to-expire patents to have a material adverse effect on our business, financial condition, or results of operations.

There are risks related to our intellectual property rights. For further details on these risks, see Item 1A — “Risk Factors.”

Competition

We operate under relatively competitive market conditions. We believe that the principal competitive factors for companies that market technologies in dental and other medical applications include acceptance by leading dental and medical practitioners, product performance, product pricing, intellectual property protection, customer education and support, timing of new product research, and development of successful national and international distribution channels.

Our competitors vary by product and location. There are companies that market some, but not all, of the same types of products as ours. Our laser systems compete with other lasers, mostly with other wavelengths, patient outcomes, and benefit profiles, as well as with drills, scalpels, scissors, air abrasion systems, and a variety of other tools that are used to perform dental and medical procedures. We believe our products have key differentiating performance features. For example, we market diode lasers which also have FDA clearance for use in both pain management therapy and teeth whitening and our Waterlase systems have been FDA-cleared for a wide range of uses beyond dentistry, including dermatological, aesthetics, and other general surgery uses. Our teeth whitening technology competes with other in-office whitening products and high intensity lights used by dentists, as well as teeth whitening strips, and other over-the-counter products. Our pain management technology competes with a variety of traditional, advanced, and pharmaceutical pain management products and services. The dental imaging equipment and in-office milling machines that we offer compete with traditional dental laboratories, imaging centers and products and services.

Traditional tools are generally less expensive than our laser systems for performing similar procedures. For example, a high-speed drill or an electrosurge device can be purchased for less than $2,500. In addition, though our systems are superior to traditional tools in many ways, they are not intended to replace all of the applications of traditional tools, such as removing metal fillings and certain polishing and grinding functions.

Some of our competitors have significantly greater financial, marketing, and/or technical resources than we do. In addition, some competitors have developed, and others may attempt to develop, products with applications similar to those performed by our products. Because of the large size of the potential market for our products, it is possible that new or existing competitors may develop competing products, procedures, or clinical solutions that could prove to be more effective, safer, or less costly than procedures using our laser systems. The introduction of new products, procedures, or clinical solutions by competitors may result in price reductions, reduced margins, or loss of market share, or may render our products obsolete.

Government Regulations

FDA and Related Regulatory Requirements

Our products are subject to extensive regulation particularly as to safety, efficacy, and compliance to FDA Quality System Regulation and related manufacturing standards. Medical device products are subject to FDA and other governmental agency regulations in the United States and similar regulations of foreign agencies abroad. The FDA regulates the design, development, preclinical and clinical testing, manufacture, advertising, labeling, packaging, marketing, distribution, import and export, and record keeping for such products, in order to ensure that medical device products distributed in the United States are safe and effective for their intended use. In addition, the FDA is authorized to establish special controls to provide reasonable assurance of the safety and effectiveness of most devices. Non-compliance with applicable regulations can result in import detentions, fines, civil and administrative penalties, injunctions, suspensions or loss of regulatory approvals, recall or seizure of products, operating restrictions, refusal of the government to approve product export applications or allow us to enter into supply contracts, and criminal prosecution.

Unless an exemption applies, the FDA requires that a manufacturer introducing a new medical device or a new indication for use of an existing medical device obtain either a Section 510(k) premarket clearance, de novo classification, or a premarket approval (“PMA”) before introducing it into the U.S. market. The type of marketing authorization is generally linked to the classification of the device. The FDA classifies medical devices into one of three classes (Class I, II, or III) based on the degree of risk the FDA determines to be associated with a device and the level of regulatory control deemed necessary to ensure the device’s safety and effectiveness.

Most Class I devices are exempt from the requirement to obtain FDA premarket clearance or approval. For most Class II devices (and a small number of Class I devices), a company must submit to the FDA a premarket notification (known as 510(k) submission) requesting clearance to commercially distribute the device. Devices deemed by the FDA to pose the greatest risk, such as life-sustaining, life-supporting or implantable devices, or devices deemed not substantially equivalent to a previously cleared 510(k) devices, are placed in Class III, requiring either FDA premarket approval via a Premarket Approval (PMA) application or a De Novo petition requesting that the FDA reclassify the device into a lower class (i.e., Class II or Class I). The FDA has issued regulations identifying the Class into which different types of devices fall and identifying whether the device type is exempt from the 510(k) process or if a 510(k) is needed.

Our products currently marketed in the United States are marketed pursuant to 510(k) pre-marketing clearances and are either Class I or Class II devices. The process of obtaining a Section 510(k) clearance generally requires the submission of performance data and clinical data with an assessment and mitigation of any risks involved which in some cases can be extensive, to demonstrate that the device is “substantially equivalent” to a device that was on the market before 1976 or to a device that has been found by the FDA to be “substantially equivalent” to such a pre-1976 device (referred to as a “predicate device”). As a result, FDA clearance requirements may extend the development process for a considerable length of time. The FDA may require further information, including clinical data, to make a determination regarding substantial equivalence. In addition, in some cases, the FDA may require additional review by an advisory panel, which can further lengthen the process for clearance. If the FDA determines that the device is not substantially equivalent to a previously cleared device, the FDA will issue a "Not Substantially Equivalent" letter and place the device into Class III. If the device is placed into Class III automatically based only on the lack of a predicate device and the device is lower risk, a De Novo submission may be submitted petitioning the FDA to reclassify the device into Class II or Class I, as appropriate. Moreover, the PMA process, which is reserved for new devices that are not substantially equivalent to any predicate device and for high-risk devices or those that are used to support or sustain human life, may take several years and requires the submission of extensive performance and clinical data.

Medical devices can be marketed only for the indications for which they are cleared or approved. After a device has received 510(k) clearance for a specific intended use, any change or modification that significantly affects its safety or effectiveness, such as a significant change in the design, materials, method of manufacture, or intended use, may require a new 510(k) clearance or PMA approval and payment of the FDA user fee. The determination as to whether or not a modification could significantly affect the device's safety or effectiveness is initially left to the manufacturer using available FDA guidance; however, the FDA may review this determination to evaluate the regulatory status of the modified product at any time and may require the manufacturer to cease marketing and recall the modified device until 510(k) clearance or PMA approval is obtained. The manufacturer may also be subject to significant regulatory fines or penalties.

Any devices we manufacture and distribute pursuant to clearance or approval by the FDA are subject to ongoing regulation by the FDA and certain state agencies. These include product listing and establishment registration requirements, which help facilitate FDA inspections and other regulatory actions. As a medical device manufacturer, our manufacturing facility is subject to inspection on a periodic basis by the FDA. We are required to adhere to detailed current good manufacturing practice ("cGMP") requirements, as set forth in the FDA's Quality System Regulation ("QSR"), which require those who design, manufacture, package, label, store, install, and service devices, including third-party manufacturers, to follow design, testing, control, documentation, and other quality assurance procedures during all phases of the design and manufacturing process. Noncompliance with these regulations can result in, among other things, fines, injunctions, civil penalties, recalls or seizures of products, total or partial suspension of production, refusal of the government to grant 510(k) clearance or PMA approval of devices, withdrawal of marketing approvals, and criminal prosecution. We believe that our design, manufacturing, and quality management system are in compliance with the FDA's regulatory requirements.

We must also comply with post-market surveillance and complaint handling and adverse event reporting regulations, including medical device reporting (MDR) requirements which require that we review and report to the FDA any incident in which our products may have caused an adverse event which required medical attention or contributed to a death or serious injury. We must also report any incident in which any of our products has malfunctioned if that malfunction would likely cause or contribute to a death or serious injury if it were to recur. We must also comply with FDA regulations pertaining to recalls and notices of corrections and removals.

Labeling and promotional activities are subject to scrutiny by the FDA and, in certain circumstances, by the Federal Trade Commission ("FTC") and by state regulatory and enforcement authorities. In particular, the FTC has issued regulations and guidance regarding the use of social media, testimonials, and endorsements in product advertising. Medical devices approved or cleared by the FDA may not be promoted for unapproved or uncleared uses, otherwise known as "off-label" promotion. The FDA and other governmental agencies actively enforce the laws and regulations prohibiting the promotion of off-label uses, and a company that is found to have improperly promoted off-label uses may be subject to significant liability, including substantial monetary penalties and criminal prosecution.

If the FDA determines that our promotional materials or training constitutes promotion of an uncleared or unapproved use, the FDA could request that we modify our training or promotional materials or subject us to regulatory or enforcement actions, including the issuance of an untitled letter, a cease and desist letter, a notice of violation, a warning letter, an injunction, a seizure, a civil fine, or criminal penalties. In that event, our reputation could be damaged and adoption of the products could be impaired.

Promotional activities for FDA-regulated products of other companies have also been the subject of enforcement actions brought under health care reimbursement laws and consumer protection statutes. In addition, under the federal Lanham Act and similar state laws, competitors and others can initiate litigation relating to advertising claims. The FDA similarly regulates claims regarding competitor products.

We have registered with the FDA as a medical device manufacturer and we have obtained a medical device manufacturing license from the California Department of Public Health. As a medical device manufacturer, we are subject to announced and unannounced facility inspections by the FDA and the California Department of Public Health to determine our compliance with various regulations. Our subcontractors' manufacturing facilities are also subject to inspection.

Foreign Regulation

Sales of medical devices outside the United States are subject to regulatory requirements that vary widely from country to country. In the EU, placing our medical devices on the market must comply with the requirements of Council Directive 93/42/EEC concerning medical devices ("MDD"), and effective May 26, 2021 the Medical Device Regulation, MDR 2017/745 which will ultimately replace the MDD upon completion of the transition periods granted to the medical device manufacturers. Applicable requirements include compliance with the essential requirements of the MDD/MDR (the "Essential Requirements") and the CE marking process. Our devices are classified as Class I, Class IIa, or Class IIb devices.

Medical devices marketed in the EU must meet all proper regulatory requirements and have a CE mark affixed to them. For devices falling within Class I (low risk), the manufacturer is responsible for ensuring that the product complies with the Essential Requirements and must draw up a written statement to this effect (a "Declaration of Conformity"). Class I devices without a measuring function and supplied in non-sterile condition do not require the involvement of an organization designated by an EU-competent authority to assess the conformity of certain products before being placed on the EU market (a "Notified Body").

For devices falling within Class IIa (low – medium risk), in order to affix the CE mark and place the product on the EU market, the manufacturer must follow one of several authorization procedures involving the engagement of a Notified Body. For Class I devices, the manufacturer is responsible for declaring conformity with the provisions of the MDD/MDR and ensuring that the products comply with the Essential Requirements. This declaration must be supported by a conformity assessment by a Notified Body. Once the manufacturer has received certification from the Notified Body, it may affix the CE mark to the relevant products and place them on the EU market.

For devices falling within Class IIb (medium – high risk) and Class III (high risk), in order to affix the CE mark and place the product on the EU market, the manufacturer must follow one of several authorization procedures. For Class IIa devices, this requires the engagement of a Notified Body. The procedure for placing Class III devices on the market is similar to that applicable for Class IIb devices. However, the manufacturer must also submit a design dossier to the Notified Body for approval under Annex II of the MDD and equivalent MDR, and some of the authorization procedures permitted for Class IIb devices are not permitted.

Once medical devices have the CE mark and comply with other applicable regulatory requirements, they may be placed on the market in any member state of the European Economic Area ("EEA").

In addition, other EU regulatory requirements may apply to our medical devices, including other types of CE markings having different requirements, where applicable. For example, Directive 2014/35/EU relating to the making available on the market of electrical equipment designed for use within certain voltage limits, Directive 2014/30/EU on electromagnetic compatibility and Directive2011/65/EU on the restriction of the use of certain hazardous substances in electrical and electronic equipment may apply to our electrical products. Moreover, we must ensure compliance with applicable EU chemical legislation such as Directive 2011/65/EU on the restriction of the use of certain hazardous substances in electrical and electronic equipment and Regulation 1907/2006 on the Registration, Evaluation, Authorization and Restriction of Chemicals. Additional EU requirements may also include safety, health, and environmental protection.

The European Association for the Co-ordination of Consumer Representation in Standardization has cautioned that, amongst other things, CE marking cannot be considered a "safety mark" for consumers.

CE marking is a self-certification program for Class I devices. Retailers sometimes refer to products as "CE approved," but the CE marking does not actually signify approval. As mentioned above, certain categories of products (such as Class IIa, Class IIb and Class III medical devices) require involvement of a Notified Body to ensure conformity with relevant technical standards, but CE marking by the manufacturer in itself does not certify that this has been done.

Our facilities manufacturing medical devices for the EEA market are EN ISO 13485 (Medical devices - Quality management systems - Requirements for regulatory purposes) certified. Moreover, our Waterlase and diode laser systems have the CE mark. In addition, we have attained the proper licensing for Waterlase and diode laser systems for sale in Canada, meeting the Canadian Medical Device Regulation requirements as part of the ISO certification process.

Other U.S. Regulation

We and our subcontractors also must comply with numerous federal, state and local laws relating to matters such as safe working conditions, manufacturing practices, environmental protection, fire hazard control, and hazardous substance disposal. Furthermore, we are subject to various reporting requirements including those prescribed by the Affordable Care Act and the Dodd-Frank Wall Street Reform and Consumer Protection Act. We cannot be sure that we will not be required to incur significant costs to comply with these laws and regulations in the future or that these laws or regulations will not adversely affect our business, financial condition, and results of operations. Unanticipated changes in existing regulatory requirements or the adoption of new requirements could adversely affect our business, financial condition, and results of operations.

Environmental

Our manufacturing processes involve the use, generation, and disposal of hazardous materials and wastes, including alcohol, adhesives, and cleaning materials. As such, we are subject to stringent federal, state, and local laws relating to the protection of the environment, including those governing the use, handling, and disposal of hazardous materials and wastes. Future environmental laws may require us to alter our manufacturing processes, thereby increasing our manufacturing costs. We believe that our products and manufacturing processes at our facilities comply in all material respects with applicable environmental laws and worker health and safety laws. However, the risk of environmental liabilities cannot be completely eliminated.

Health Care Fraud and Abuse

As a medical device manufacturer, our operations and interactions with health care providers, including dentists, are subject to extensive laws and regulations imposed at the federal, state, and local level in the U.S., including, but not limited to, those discussed in this Form 10-K. In the U.S., there are federal and state anti-kickback statutes that generally prohibit the payment or receipt of kickbacks, bribes, or other remuneration in exchange for the referral of patients or other health-related business. For example, the federal Anti-Kickback Statute is a criminal statute that prohibits anyone from, among other things, knowingly and willfully offering, paying, soliciting, or receiving any bribe, kickback, or other remuneration intended to induce a referral for the furnishing of, or the purchase, order, or recommendation of, any item or service reimbursable under the Federal health care programs ("FHCPs"), including Medicare, Medicaid, and TRICARE. Recognizing that the federal Anti-Kickback Statute is broad and potentially applicable to many commonplace arrangements, the U.S. Congress and the Office of Inspector General ("OIG") within the Department of Health and Human Services ("HHS") have created statutory "exceptions" and regulatory "safe harbors" to the federal Anti-Kickback Statute. Exceptions and safe harbors exist for a number of arrangements relevant to our business, including, among other things, certain payments to bona fide employees, certain discount and rebate arrangements, and certain payment arrangements with health care providers, assuming all elements of the relevant exception/safe harbor have been satisfied. Although an arrangement that fits squarely into one or more of these exceptions or safe harbors may pose reduced risk of prosecution, OIG has also cautioned in various contexts that even where each component of an arrangement has been structured to satisfy a safe harbor, the components, as part of an overall arrangement, may still violate the federal Anti-Kickback Statute. However, arrangements that do not fit squarely within an exception or safe harbor do not necessarily violate the federal Anti-Kickback Statute. Rather, OIG and/or other government enforcement authorities will examine the facts and circumstances relevant to the specific arrangement to determine whether it involves the sorts of abuses that the statute was designed to combat. Violations of this federal law constitute a felony offense punishable by imprisonment, criminal fines of up to $250,000 for individuals and $500,000 for corporations, civil fines of up to $100,000 per violation (as adjusted for annual inflation) and three times the amount of the unlawful remuneration, and exclusion from Medicare, Medicaid, and other FHCPs. Exclusion of a manufacturer like us would preclude any FHCP from paying for the manufacturer's products. In addition, pursuant to the changes made by the Affordable Care Act, a claim resulting from a violation of the federal Anti-Kickback Statute may serve as the basis for a false claim under the federal civil False Claims Act. Many states also have their own laws that parallel and implicate anti-kickback restrictions but may apply regardless of whether any FHCP business is involved. Federal and state anti-kickback laws may affect our sales, marketing and promotional activities, educational programs, pricing and discount practices and policies, and relationships with dental and medical providers by limiting the kinds of arrangements we may have with hospitals, alternate care market providers, physicians, dentists, and others in a position to purchase or recommend our products.

Federal and state false claims laws prohibit anyone from presenting, or causing to be presented, claims for payment to third-party payers that are false or fraudulent. For example, the federal civil False Claims Act 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. Some suits filed under the civil False Claims Act can be brought by a "whistleblower" or a "relator" on behalf of the government, and such individuals may share in any amounts paid by the entity to the government in fines or settlement. Manufacturers, like us, can be held liable under false claims laws, even if they do not submit claims to the government, where they are found to have caused submission of false claims by, among other things, providing incorrect coding or billing advice about their products to customers that file claims, or by engaging in kickback arrangements with customers that file claims. A violation of the civil False Claims Act could result in fines of up to $23,607 (as adjusted for annual inflation) for each false claim, plus up to three times the amount of damages sustained by the government. A civil False Claims Act violation may also provide the basis for the imposition of administrative penalties and exclusion from participation in FHCPs. In addition to the civil False Claims Act, the federal government also can use several criminal statutes to prosecute persons who are alleged to have submitted false or fraudulent claims for payment to the federal government, or improperly retained funds received which were not due. Moreover, a number of states also have false claims laws, and some of these laws may apply to claims for items or services reimbursed under Medicaid and/or commercial insurance.

In addition to the general fraud statutes mentioned above, there are a variety of other fraud and abuse laws specific to health care. For example, the Health Insurance Portability and Accountability Act of 1996 (“HIPAA”) created several new federal crimes, including health care fraud and false statements related to health care matters. The health care fraud statute prohibits, among other things, knowingly and willfully executing a scheme to defraud any health care benefit program, including private payers. A violation of this statute is a felony and may result in fines, up to ten years imprisonment (assuming no serious bodily injury or death results), or exclusion from FHCPs. The false statements statute prohibits, among other things, knowingly and willfully falsifying, concealing or covering up a material fact, or making any materially false, fictitious, or fraudulent statement in connection with the delivery of or payment for items or services under a health care benefit program. A violation of this statute is a felony and may result in fines and imprisonment and could potentially result in the government’s pursuit of exclusion from FHCPs. Additionally, a person who offers or transfers to a Medicare or Medicaid beneficiary any remuneration that the person knows or should know is likely to influence the beneficiary’s selection of a particular provider, practitioner, or supplier of items or services payable by Medicare or Medicaid may be liable for civil money penalties of up to $10,000 for each item or service and potential exclusion from FHCPs.

The Physician Payments Sunshine Act requires us to report annually to the Centers for Medicare and Medicaid Services (“CMS”) certain payments and other transfers of value we make to U.S.-licensed physicians, dentists, teaching hospitals, physician assistants, nurse practitioners, clinical nurse specialists, certified registered nurse anesthetists, anesthesiologist assistants, and certified nurse midwives. These annual reports are publicly available, which could impact the number of health care providers who are willing to work with us on the research and development of our products. In addition, several states have implemented similar transparency and disclosure laws applicable to medical device manufacturers, some of which require reporting of transfers of value made to a wider variety of health care professionals and institutions.

The federal physician self-referral prohibition (the “Stark Law”) is a strict liability, civil statute, which, in the absence of a statutory or regulatory exception, prohibits: (i) the referral of Medicare and Medicaid patients by a physician to an entity for the provision of specified "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) the submission of a bill to Medicare or Medicaid for services rendered pursuant to a prohibited referral. Penalties for violations of the Stark Law include denial of payment for the service, required refund of payments received pursuant to the prohibited referral, and civil monetary penalties for knowing violations of up to $26,125 per claim (as adjusted for annual inflation), up to $174,172 for circumvention schemes, and up to $20,731 per day for failing to report information concerning the entity’s ownership, investment, and compensation arrangements upon HHS’ request. Stark Law violations also may lead to False Claims Act liability and possible exclusion from FHCPs.

The FCPA’s anti-bribery provisions generally prohibit 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 by a corporation or business entity can result in criminal fines of up to $2 million and civil penalties of up to $23,011 for each violation. Individuals, including officers, directors, stockholders, and agents of companies, can be subject to a criminal fine of up to $250,000 and/or imprisonment, in addition to civil penalties of up to $23,011, per violation. Also, under the alternative fines provision of the FCPA, an individual or entity can be fined an amount of up to twice the gross pecuniary gain or loss from a violation.

The FCPA’s accounting provisions require that all issuers 1) make and keep books, records, and accounts that, in reasonable detail, accurately and fairly reflect an issuer’s transactions and dispositions of an issuer’s assets; and 2) devise and maintain a system of internal accounting controls sufficient to ensure management’s control, authority, and responsibility over the firm’s assets. Violations of the accounting provisions by a corporation or other business entity can result in criminal fines of up to $25 million per violation and civil penalties of up to $1,035,909. Individuals can be subject to a criminal fine of up to $5 million per violation and/or imprisonment and civil penalties of up to $207,183. As with an anti-bribery violation, under the alternative fines provision of the FCPA, an individual or entity can be fined an amount of up to twice the gross pecuniary gain or loss from the violation. The SEC may also seek injunctive relief, disgorgement of ill-gotten gains, and a bar prohibiting an individual from serving as an officer or director of a public company.

Due to the breadth of some of these laws, it is possible that some of our current or future practices might be challenged under one or more of these laws. In addition, there can be no assurance that we would not be required to alter one or more of our practices to comply with these laws. Evolving interpretations of current laws or the adoption of new federal or state laws or regulations could adversely affect some of the arrangements we have with customers, physicians, and dentists. Violations of any of these laws or any other applicable laws or regulations may result in significant penalties, including, without limitation, administrative, civil, and criminal penalties, damages, fines, disgorgement, the curtailment or restructuring of operations, integrity oversight and reporting obligations to resolve allegations of noncompliance, exclusion from participation in federal and state healthcare programs, such as Medicare and Medicaid, and imprisonment. Ensuring business arrangements comply with applicable healthcare laws, as well as responding to possible investigations by government authorities, can be time- and resource-consuming and can divert a company's attention from its business.

Privacy and Security of Health Information

Numerous federal, state, and international laws and regulations govern the collection, use, and disclosure of patient-identifiable health information, including HIPAA. HIPAA applies to covered entities, which include, among other entities, a "health care provider" that transmits health information in electronic form in connection with certain transactions regulated under HIPAA. HIPAA also applies to "business associates," meaning persons or entities that create, receive, maintain, or transmit protected health information ("PHI") to perform a function on behalf of, or provide a service to, a covered entity. Although we are not a covered entity, most health care (including dental) facilities that purchase our products are covered entities under HIPAA. Due to activities that we perform for or on behalf of covered entities, we may sometimes act as a business associate, or our customers may ask us to enter Business Associate Agreements and assume business associate responsibilities.

Various implementing regulations have been promulgated under HIPAA. The HIPAA Security Rule requires implementation of certain administrative, physical, and technical safeguards to ensure the confidentiality, integrity, and availability of electronic PHI. The HIPAA Privacy Rule governs the use and disclosure of PHI and provides certain rights to individuals with respect to that information. For example, for most uses and disclosures of PHI, other than for treatment, payment, health care operations, and certain public policy purposes, the HIPAA Privacy Rule generally requires obtaining valid written authorization from the individual, including in the research context. With certain limited exceptions, the covered entity performing the research must obtain valid authorization from the research subject (or an appropriate waiver) before providing that subject's PHI to sponsors like us. Furthermore, in most cases, the HIPAA Privacy Rule requires that use or disclosure of PHI be limited to the minimum necessary to achieve the purpose of the use or disclosure.

The HIPAA Privacy and Security Rules require covered entities to contractually bind us, where we are acting as a business associate, to protect the privacy and security of individually identifiable health information that we may use, access, or disclose for purposes of services we may provide. Moreover, the Health Information Technology for Economic and Clinical Health Act ("HITECH") enacted in February 2009, made certain provisions of the HIPAA Privacy and Security Rules directly applicable to business associates.

HITECH also established breach notification requirements, increased civil penalty amounts for HIPAA violations, and requires HHS to conduct periodic audits of covered entities and business associates to confirm compliance. In addition, HITECH authorizes state attorneys general to bring civil actions in response to HIPAA violations committed against residents of their respective states.

In 2013, the Office for Civil Rights ("OCR") of HHS released an omnibus final rule (the "Final Rule"), implementing HITECH. Among other provisions, the Final Rule made certain changes to the breach notification regulations, including requiring business associates to notify covered entities if a breach occurs at or by the business associate. Following a breach of unsecured PHI, covered entities must provide notification of the breach to affected individuals, the HHS Secretary, and, for breaches affecting more than 500 residents of a state or jurisdiction, prominent media outlets serving that state/jurisdiction. Breaches of health information can also give rise to class actions by affected individuals and result in significant reputational damage to the covered entity and/or business associates or other parties involved in the breach.

The Final Rule also provides for heightened governmental investigations of potential non-compliance. However, the Final Rule did not address accounting of disclosures, although such regulations are forthcoming. The proposed rule addressing accounting of disclosures, if finalized, could impose a significant burden on us, as it would require covered entities and their business associates to develop systems to monitor (1) which employees access an individual's electronic PHI contained in a designated record set, (2) the time and date such access occurs, and (3) the action taken during the access session (e.g., modification, deletion, viewing).

Failure to comply with HIPAA may result in civil and criminal penalties. Civil penalties for a single violation of the regulations occurring on or after February 18, 2009 range from $120 to more than $60,000 per violation, with a maximum penalty of $1,806,757 per year for violations of an identical provision of the regulations. Criminal penalties of up to $250,000 and imprisonment may also be imposed for certain knowing violations of HIPAA. We may be required to make costly system modifications, which may restrict our business operations, to comply with HIPAA, to the extent we act as a business associate. Our failure to comply may result in liability and adversely affect our business, financial condition, and results of operations.

Numerous other federal and state laws protect the confidentiality of patient information, including state medical privacy laws and federal and state consumer protection laws. These state laws may be similar to or possibly more stringent than the federal provisions. These laws in many cases are not preempted by the HIPAA rules and may be subject to varying interpretations by the courts and government agencies, creating complex compliance issues for us and our customers and potentially exposing us to additional expense, adverse publicity, and liability. Other countries also have, or are developing, laws governing the collection, use, and transmission of personal or patient information, which could create liability for us or increase our cost of doing business.

New health information standards, whether implemented pursuant to HIPAA, new state privacy laws, future Congressional action, or otherwise, could have a significant effect on the manner in which we handle health information, and the cost of complying with these standards could be significant. If we do not properly comply with existing or new laws and regulations related to patient health information, we could be subject to criminal or civil sanctions.

Third-Party Reimbursement

Dentists and other health care providers that purchase our products may rely on third-party payers, including Medicare, Medicaid, and private payers to cover and reimburse all or part of the cost of the clinical procedures performed using our products. As a result, coverage and reimbursement of the procedures using our products is dependent in part on the policies of these payers. We believe that most of the procedures being performed with our current products generally are reimbursable, with the exception of cosmetic applications, such as teeth whitening.

No uniform coverage or reimbursement policy for dental and medical treatment exists among third-party payers, and coverage and reimbursement can differ significantly from payer to payer. Under Medicaid, for example, states are required to cover basic dental services for children, but retain discretion as to whether to provide coverage for dental services for adults. Under the Early Periodic Screening, Diagnostic, and Treatment benefit available to children, dental services determined to be “medically necessary” and provided at intervals that meet reasonable standards of dental practice (or at such other intervals, as indicated by medical necessity) are generally covered by Medicaid. Although not required to cover dental services for adults, most state Medicaid programs still provide a degree of coverage for at least emergency dental services.

Original Medicare covers dental services only in certain limited circumstances. For instance, Medicare will pay for certain dental services when provided in the inpatient hospital setting if the dental procedure itself made hospitalization necessary. Medicare will also pay for certain dental services that are an integral part of a covered procedure (e.g., jaw reconstruction following accidental injury), extractions done in preparation for certain radiation treatments, and oral examinations preceding kidney transplantation or heart valve replacement, under certain circumstances. However, Medicare Advantage plans, which are health insurance plans administered by private-sector health insurers that receive payment from Medicare to provide Medicare benefits to Medicare-eligible beneficiaries, may (and often do) cover additional items services beyond those covered by original Medicare, including dental items and services.

Future legislation, regulation or coverage and reimbursement policies of third-party payers may adversely affect the utilization of our products. For example, the Affordable Care Act included various reforms impacting Medicare reimbursement and coverage, including revision to prospective payment systems, any of which may adversely impact any Medicare reimbursements received by our end-user customers. Moreover, in August 2011, the Budget Control Act of 2011, among other things, created measures for spending reductions by Congress. A Joint Select Committee on Deficit Reduction, tasked with recommending a targeted deficit reduction of at least $1.2 trillion for the years 2013 through 2021, was unable to reach required goals, thereby triggering the legislation’s automatic reduction to several government programs. This includes aggregate reductions of Medicare payments to providers of 2% per fiscal year, which went into effect in April 2013, and, due to subsequent legislative amendments, will remain in effect into 2031, unless additional Congressional action is taken. However, COVID-19 relief support legislation suspended the 2% Medicare sequester from May 1, 2020 through March 31, 2022. Sequestration will start again on April 1, 2022. From April 1 to June 30, 2022, payment for Medicare fee-for-service claims will be adjusted downwards by 1%; beginning July 1, 2022, the payment will be adjusted downwards by 2%.

In addition, private payers and employer-sponsored health care plans became subject to various rules and potential penalties under the Affordable Care Act. For example, health plans in the individual and small group markets were required to begin providing a core package of health care services, known as "essential health benefits." Essential health benefits include ten general categories of care, including pediatric services, which requires coverage of dental and vision care, among other medical services, for children. The Affordable Care Act also required employers with 50 or more employees to offer health insurance coverage to full-time workers or pay a penalty, which could potentially increase the availability of third-party reimbursement for some medical procedures using our products, although we continue to assess the impact of the Affordable Care Act on our business.

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.

Because third-party payments may be less than a provider's actual costs in furnishing care, providers have incentives to lower their operating costs by utilizing products that will decrease labor or otherwise lower their costs. However, we cannot be certain that dental and medical service providers will purchase our products, despite the clinical benefits and opportunity for cost savings that we believe can be derived from their use. If providers cannot obtain adequate coverage and reimbursement for our products, or the procedures in which they are used, our business, financial condition, and results of operations could suffer.

Human Capital Resources

As of December 31, 2022, the Company employed 192 employees in five countries, with 188 being full-time and 173 of those full-time employees working in the United States. We also leverage a limited number of temporary employee resources from time to time. Our employees are not represented by any collective bargaining agreement, and we believe our employee relations are good.

The Company was awarded a Top Workplaces 2022 honor by the Orange County Register Top Workplaces, as well as by the Inland News Group. The Top Workplaces award is based solely on employee feedback gathered through a third-party survey administered by employee engagement technology partner, Energage LLC. The confidential survey measures 15 culture drivers that are critical to the success of any organization, including alignment, execution, and connection.

We are committed to diversity in our workforce, and we report diversity statistics to the BIOLASE board of directors (the "Board") on a quarterly basis. Continuing to develop an inclusive culture in which each employee has the opportunity to contribute his or her individual talents on a daily basis is also a high priority. As the Company's future depends on our ability to attract, engage and retain talented employees, the Company strives to select talent who share our passion for advancing dentistry and who can best help us achieve our objectives through interviews, as well as with externally-provided assessments for select positions. Compensation decisions are based on performance, external market data and internal equity. Employee retention data is reviewed on a monthly basis by Company leaders and on a quarterly basis by the Board. We strive to provide development opportunities for employees and encourage open sharing of ideas, as we know that each member of our team contributes to the Company's performance.

Information about Our Executive Officers

The executive officers of the Company are elected each year at the meeting of our Board, which follows the annual meeting of stockholders, and at other Board meetings, as appropriate.

As of March 28, 2023, the executive officers of the Company was as follows:

Name	Age	Position
John R. Beaver	61	President and Chief Executive Officer
Jennifer Bright	52	Chief Financial Officer
Steven Sandor	42	Chief Operating Officer

John R. Beaver was named President and Chief Executive Officer in February 2021, and was previously the Company's Executive Vice President, Chief Operating Officer and Chief Financial Officer. He joined the Company in 2017 as Senior Vice President and Chief Financial Officer. He assumed roles of varying responsibilities over the past few years, including Interim Chief Executive Officer of the Company. Prior to joining the Company, Mr. Beaver served as the Chief Financial Officer of Silicor Materials, Inc., a global leader in the production of solar silicon, from 2009 to 2013 and 2015 to 2017. Mr. Beaver also served on the Board of Directors of Silicor Materials, Inc. from 2013 to 2015. From 2013 to 2015, Mr. Beaver was Chief Financial Officer for Modumetal, Inc., a nano-laminated alloy company focused on oil and gas applications. Prior to 2009, Mr. Beaver was Senior Vice

President—Finance and Chief Financial Officer at Sterling Chemicals, a public commodity chemical manufacturer. Mr. Beaver holds a Bachelor of Business Administration in Accounting from the University of Texas at Austin and is a Certified Public Accountant.

Jennifer Bright was named Chief Financial Officer in July 2022. From April 2021 until her appointment as Chief Financial Officer, Ms. Bright was the Company's Vice President of Finance and Accounting Director. Ms. Bright, 51, is a certified public accountant with more than 25 years of professional accounting and finance experience. From June 2020 to December 2020 she was consulting as Interim Director of Accounting at Spectrum Pharmaceuticals and was the Corporate Controller at Kellermeyer Bergensons Services from November 2018 to April 2020. Previously, Ms. Bright held senior accounting director and controller positions at Advantage Solutions, Inc., Crunch Holdings, LLC, Apria Healthcare Group, Inc., and Richmond American Homes, and was a Supervising Senior Auditor at the accounting firm of PricewaterhouseCoopers LLP. Ms. Bright holds a B.A. degree in Business Administration from the University of Washington.

Steven Sandor was named Chief Operating Officer in July 2022. From April 2019 until his appointment as Chief Operating Officer, Mr. Sandor served in several positions of increasing responsibility at the Company, and was most recently Senior Director of Commercial Operations and Service. From October 2016 to April 2019 he was Director of Global Training at KaVo Kerr and from May 2014 to May 2016 he was Sales Development Manager. Previously, Mr. Sandor held managerial positions at Sybron Endo, Sybron Orascoptic and AT&T, and served in the United States Coast Guard. Mr. Sandor holds an Executive Masters in Business Administration from Chapman University.

Available Information

Our Annual Report on Form 10-K, Quarterly Reports on Form 10-Q, Current Reports on Form 8-K and amendments to reports filed or furnished pursuant to Sections 13(a) and 15(d) of the Exchange Act, are available free of charge on our website at http://www.biolase.com, as soon as reasonably practicable after the Company electronically files such reports with, or furnishes those reports to, the SEC. We are providing our internet site solely for the information of investors. We do not intend the address to be an active link or to otherwise incorporate the contents of the website into this report.

Additional Information

1A. ***Risk Factors***

Investing in our securities involves a high degree of risk. You should carefully consider the following risk factors together with all of the other information included in this Form 10-K. The risks and uncertainties described below are not the only ones we face. Additional risks and uncertainties not presently known to us or that we presently consider to be immaterial could also adversely affect us. If any of the following risks come to fruition, our business, financial condition, results of operations, cash flows, and future growth prospects could be materially and adversely affected. In these circumstances, the market price of our stock could decline, and you could lose all or part of your investment.

RISK FACTORS

Investing in our common stock involves substantial risks. You should carefully consider the following risk factors before making an investment decision. Additional risks and uncertainties not presently known to us or that we presently consider to be immaterial could also adversely affect us. If any of those risks or uncertainties come to fruition, our business, financial condition, results of operations, cash flows, and future growth prospects could be materially and adversely affected. In these circumstances, the market price of our common stock could decline, and you could lose all or part of your investment.

Risks Related to Our Business and Operations

Due to our accumulated deficit, recurring and negative cash flow from operations for the year ended December 31, 2022 there is substantial doubt about our ability to continue as a going concern.

Our audited consolidated financial statements for the year ended December 31, 2022 were prepared on a going concern basis in accordance with generally accepted accounting principles in the United States. 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 commitments in the normal course of business. Thus, our consolidated financial statements do not include any adjustments that might be necessary if we are unable to continue as a going concern. Our recurring losses, negative cash flow, need for additional capital, and the uncertainties surrounding our ability to raise such capital raise substantial doubt about our ability to continue as a going concern. 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 operations or raise additional funds when needed. Our goal is to improve our financial condition and ultimately improve our financial results by increasing revenues through expanding awareness of the benefits of our dental lasers among dental specialists and general practitioners and reducing expenses. However, if we are unable to do so on a timely basis, we will be required to seek additional capital. In that event, we would seek additional funds through various financing sources, including the sale of our equity and debt securities, however, there can be no guarantees that such funds will be available on commercially reasonable terms, if at all. If we are unable to raise additional capital, increase sales or reduce expenses, we will be unable to continue to fund our operations, develop our products, realize value from our assets, and 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.

The COVID-19 pandemic has adversely affected, and may continue to adversely affect, our business, results of operations and financial condition. In addition, similar risks related to health epidemics and other outbreaks or pandemics may adversely affect our business, results of operations and financial condition.

We face risks related to health epidemics and other outbreaks, including the global outbreak of the novel coronavirus and the disease caused by it, COVID-19. During 2020, the spread of the novel coronavirus led to disruption and volatility in the global capital markets. If such disruption and volatility recurs, there could be an increase to our cost of capital and an adverse effect on our ability to access the capital markets. In addition, efforts to contain the COVID-19 pandemic led to travel restrictions, prohibitions on public gatherings and closures of dental offices and clinics throughout much of Europe and the United States. The ability of our salespeople to call on dental customers during these closures was greatly limited. In addition, most dental shows and workshops scheduled in 2020 were canceled and many were moved to virtual gatherings in 2021.

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 $296.2 million as of December 31, 2022. We recorded net losses of $28.6 million, $16.2 million, and $16.8 million for the years ended December 31, 2022, 2021, and 2020, respectively. In order to achieve profitability, we must increase net revenue through new sales and control our costs. 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 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. We believe these disruptions are likely to have an ongoing adverse effect on the world economy. A continued economic downturn and financial market disruptions could have a material adverse effect on our business, financial condition, and results of operations. Also, the imposition of economic sanctions on Russia as a result of the conflict in Ukraine could prevent us from performing existing contracts and pursuing new growth opportunities, which could adversely affect our business, financial condition and results of operations.

We may 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.

As of the date of this report, we do not have cash on hand to fund our proposed plan of operations over the next 12 months. In order to continue our proposed operations beyond that date we will need to either achieve a significant level of continuing cash flow from operations or 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 capital expenditures.

If we are unable to achieve and sustain an adequate level of profitability or 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. For the fiscal years ended December 31, 2022, 2021, and 2020, revenue from distributors accounted for approximately 30%, 35%, and 29% of our total net revenue, respectively. 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 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 lead to an inability to meet operating cash flow requirements, which would 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.

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. 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.

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

Our ability to use our federal and state NOL carryforwards to offset potential future taxable income is dependent upon our generation of future taxable income before the expiration dates of the NOL carryforwards, and we cannot predict with certainty when, or whether we will generate sufficient taxable income to use all our NOL carryforwards. As of December 31, 2022, the Company had U.S. federal net operating loss carryforwards of $87.6 million. Of the total U.S. federal net operating loss carryforwards as of December 31, 2022, $11.9 million is subject to a 20 year carryover period which will be fully expired by 2038. Losses generated beginning in 2018 will carryover indefinitely. The Company had state net operating loss carryforwards of $50.3 million as of December 31, 2022. Net operating loss carryforwards of the Company are subject to review and possible adjustment by the taxing authorities. With certain exceptions (e.g. the net operating loss carryforwards), the Company is no longer subject to U.S. federal, state or local examinations by tax authorities for years prior to 2017. There are no tax examinations currently in progress.

In the future, the Company's ability to utilize its net operating loss carryforwards, tax credits, and built-in items of deduction, including capitalized start-up costs and research and development costs, may be significantly limited due to changes in ownership. These changes in ownership can limit the amount of these tax benefits that can be utilized each year to offset future taxable income. In general, an ownership change, as defined in IRC Section 382, results from a transaction or series of transactions over a three-year period resulting in an ownership change of more than 50% of the outstanding stock of a company by certain stockholders or public groups. Due to the valuation allowance against deferred tax assets as of December 31, 2022, the net effect of any further limitation will have no impact on results of operations. Refer to *Note 5 - Income Taxes* for further discussion.

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 to expand the commercial manufacture of our products, we must ensure that any such expansion of our manufacturing facilities, processes, and quality systems, and the manufacture of our laser systems, will 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 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 Quality System Regulation 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 product sales, cash collections from customers, and our ability to meet operating cash flow requirements, which 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 to comply with Quality System Regulation, 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.

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 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 by reducing cash collections from customers and limiting our ability to meet our operating cash flow requirements.

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 cease 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. We are continually 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.

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

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, 2022, 2021, and 2020, international sales accounted for approximately 30%, 35%, and 29% of our net revenue, respectively. Political, economic, and health conditions outside the United States, could make it difficult for us to increase our international revenue or to operate abroad. For example, efforts to contain the outbreak of COVID-19 in Asia and Europe included travel restrictions and closures of dental offices and clinics, significantly adversely impacting our international sales in 2022 and 2021.

In addition, international operations are subject to many inherent risks, which could have a material adverse effect on our revenues and operating cash flow, 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;
- 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.

Security breaches of our information technology systems could harm our reputation and customer relationships. Such breaches could subject us to significant reputational, financial, legal, and operational consequences.

We rely on information systems in our business to obtain, rapidly process, analyze and manage data. Any failure by us or our third-party service providers to prevent or mitigate security breaches and improper access to or disclosure of our data could lead to a material disruption of our information systems and loss of business information. In addition, computer malware, viruses, software vulnerabilities, social engineering (predominantly spear phishing attacks), ransomware and general hacking have become more prevalent in the business environment, have occurred on our systems in the past, and may occur on our systems in the future. Such an attack could result in, among other things: the theft, destruction, loss, unavailability, misappropriation or release of confidential data and intellectual property; operational or business delays; cyber extortion; 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 these results could have a material adverse effect on our business due to the time and expense to respond to such an attack, recover data, and remediate information system weaknesses, each of which would disrupt our daily business operations. Further, such an attack would expose us to a risk of loss, regulatory investigations, or litigation and possible liability, including under laws that protect the privacy of personal information.

In December 2021, we experienced a cybersecurity attack that caused a brief network disruption and impacted certain systems. We have taken actions to strengthen our existing systems and implement additional prevention measures, but there is no assurance that such actions will be effective.

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 buying in our industry.

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.

Our manufacturing 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 manufacturing operations are located at our facility in Corona, 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 Corona, 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, and 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 personnel and to attract and retain qualified 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 or delayed, which could have a material adverse effect on our daily operations, operating cash flows, results of operations, and ultimately share price. In general, our officers could terminate their employment at any time without notice for any reason.

Failure to meet covenants in the Credit Agreements with our debt agreements could result in acceleration of our payment obligations thereunder, and we may not be able to find alternative financing.

Under the Credit Agreement dated November 9, 2018, as amended from time to time, between BIOLASE, Inc. and SWK, we are required to maintain a specified amount of consolidated unencumbered liquid assets as of the end of each fiscal quarter, and, if we fall below those levels, generate minimum levels of revenue as of the end of each period specified in the Credit Agreement and maintain specified levels of consolidated EBITDA as of the end of each period specified in the Credit Agreement. Our ability to comply with these covenants may be affected by factors beyond our control.

If we fail to comply with the covenants contained in the Credit Agreement or if the Required Lenders (as defined in the Credit Agreement) contend that we have failed to comply with these covenants or any other restrictions, it could result in an event of default under the Credit Agreement, which would permit or, in certain events, require SWK to declare all amounts outstanding thereunder to be immediately due and payable. There can be no assurances that we will be able to repay all such amounts or able to find alternative financing in an event of a default. Even if alternative financing is available in an event of a default under the Credit Agreement, it may be on unfavorable terms, and the interest rate charged on any new borrowings could be substantially higher than the interest rate under the Credit Agreement, thus adversely affecting cash flows, results of operations, and ultimately, our ability to meet operating cash flow requirements.

The restrictive covenants in the Credit Agreement and BIOLASE's obligation to make debt payments under the Credit Agreement may limit our operating and financial flexibility and may adversely affect the Company's business, financial condition, and results of operations.

The Credit Agreement imposes operating and financial restrictions and covenants, which may limit or prohibit our ability to, among other things:

- incur additional indebtedness;
- make investments, including acquisitions;
- create liens;
- make dividends, distributions or other restricted payments;
- effect affiliate transactions;
- enter into mergers, divisions, consolidations or sales of substantially all of our or our subsidiaries' assets;
- change business activities and issue equity interests; or
- sell material assets (without using the proceeds thereof to repay the obligations under the Credit Agreement).

In addition, we are required to comply with certain financial covenants under the Credit Agreement as described above.

Such restrictive covenants in the Credit Agreement and our repayment obligations under the Credit Agreement could have adverse consequences to us, including:

- limiting our ability to use cash;
- limiting our flexibility in operating our business and planning for, or reacting to, changes in our business and our industry;
- requiring the dedication of a substantial portion of any cash flow from operations to the payment of principal of, and interests on, the indebtedness, thereby reducing the availability of such cash flow to fund our operations, working capital, capital expenditures, future business opportunities and other general corporate purposes;
- restricting us from making strategic acquisitions or causing us to make non-strategic divestitures;
- limiting our ability to obtain additional financing;
- limiting our ability to adjust to changing market conditions; and
- placing us at a competitive disadvantage relative to our competitors who are less highly leveraged.

If we fail to comply with the terms of the Credit Agreement and there is an event of default, the creditor(s) may foreclose upon the assets securing our obligations thereunder.

To secure the performance of our obligations under the Credit Agreement, we granted SWK security interests in substantially all of the assets of BIOLASE and certain of our foreign and domestic subsidiaries. Our failure to comply with the terms of the Credit Agreement could result in an event of default thereunder. In that event, SWK will have the option to (and, in certain circumstances, will have the obligation to) foreclose on the assets of BIOLASE and certain of our subsidiaries pledged as collateral under the Credit Agreement or the other documents executed in connection with the Credit Agreement. The foreclosure on the Company's assets could severely and negatively impact our business, financial condition, and results of operations.

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.

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.

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 addition, there have been recent changes in the patent laws and rules of the U.S. Patent and Trademark Office, 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 we may not be able to obtain a license on acceptable terms, or at all. Refer to Item 3 - *Legal Proceedings* for discussion on such a pending litigation.

Risks Related to Our Regulatory Environment

Changes in government regulation, failure to comply with 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 globally 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, marketing, and sales. Generally, products must meet regulatory standards as safe and effective for their intended use before being marketed for human applications. The clearance and approval 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 clearances or 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. 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.

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 the CE Mark, indicating conformance with European Union laws and regulations before it can be marketed 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 and operations. 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 Biden 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. If our past or present operations are found to be in violation of governmental laws or regulations to which we or our customers are subject, we may be subject to penalties, including civil, criminal and administrative penalties, damages, fines, disgorgement, individual imprisonment, possible exclusion from participation in federal and state funded healthcare programs, contractual damages, and the curtailment or restricting of our operations, as well as additional reporting obligations and oversight if we become subject to a corporate integrity agreement or other agreement to resolve allegations of non-compliance with these laws. This could harm our ability to operate our business and our financial results. 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 sales, cash collections, and our ability to meet operating cash flow requirements.

Changes to the reimbursement rates for procedures performed using our products and measures to reduce healthcare costs may adversely impact our business.

Dentists and other health care providers that purchase and use our products may rely on third-party payers, including Medicare, Medicaid, and private payers to cover and reimburse all or part of the cost of the procedures performed using our products. As a result, coverage and reimbursement of the procedures using our products is dependent in part on the policies of these payers. There is a significant trend in the healthcare industry by public and private payers to contain or reduce their costs, including by taking the following steps, among others: decreasing the portion of costs payers will cover, ceasing to provide full payment for certain products or procedures depending on outcomes, or not covering certain products or procedures at all. If payers implement any of the foregoing with respect to our procedures performed using our products, it would have an adverse impact on our revenue and results of operations.

There have been, and likely will continue to be, legislative and regulatory proposals at the foreign, federal, and state levels directed at broadening the availability of healthcare and containing or lowering the cost of healthcare. We cannot predict the initiatives that may be adopted in the future. Any reduction in reimbursement rates for dental procedures using our products may adversely affect our customers' businesses and cause them to enact cost reduction measures, which could result in reduced demand for our product or additional pricing pressures.

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 $23,011 for each violation. Individuals, including officers, directors, stockholders, and agents of companies, can be subject to a criminal fine of up to $250,000 and imprisonment, in addition to civil penalties of up to $23,011, per violation. Also, under the alternative fines provision of the FCPA an individual or entity can be fined an amount of up to twice the gross pecuniary gain or loss from a 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 PMA 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 additional 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 we will not be required to obtain new clearances or approvals for modifications or improvements to our products.

Our marketed products may be used by healthcare practitioners for indications that are not cleared or approved by the FDA. If the FDA finds that we marketed our products in a manner that promoted off-label use, we may be subject to civil or criminal penalties.

Under the United States Federal Food, Drug, and Cosmetic Act and other laws, we are prohibited from promoting our products for off-label uses. This means that we may not make claims about the use of any of our marketed medical device products outside of their approved or cleared indications, and that our website, advertising, promotional materials and training methods and materials may not promote or encourage unapproved uses. Note, however, that the FDA does not generally restrict healthcare providers from prescribing products for off-label uses (or using products in an off-label manner) in their practice of medicine. Should the FDA determine that our activities constitute the promotion of off-label uses, the FDA could bring action to prevent us from distributing our devices for the off-label use and could impose fines and penalties on us and our executives. In addition, failure to follow FDA rules and guidelines relating to promotion and advertising can result in, among other things, the FDA's refusal to approve or clear other products in our pipeline, the withdrawal of an approved product from the market, product recalls, fines, disgorgement of profits, operating restrictions, injunctions, or criminal prosecutions. Any of these adverse regulatory actions could result in substantial costs and could significantly and adversely impact our reputation and divert management's attention and resources, which could have a material adverse effect on our business.

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 errors in labeling or other safety issues. 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.

If we or our third-party manufacturers fail to comply with the FDA's QSR, our business would suffer.

We and our third-party manufacturers are required to demonstrate and maintain compliance with the FDA's QSR. The QSR is a complex regulatory scheme that covers the methods and documentation of the design, testing, control, manufacturing, labeling, quality assurance, packaging, storage, and shipping of our product. The FDA enforces the QSR through periodic unannounced inspections. We anticipate that in the future we will be subject to such inspections. Our failure, or the failure of our third-party manufacturers, to take satisfactory corrective action in response to an adverse QSR inspection could result in enforcement actions, including a public warning letter, a shutdown of our manufacturing operations, a recall of our product, civil or criminal penalties, or other sanctions, which could have a material adverse effect on our business, financial condition, and results of operations.

If our product causes or contributes to a death or a serious injury, or malfunctions in certain ways, we will be subject to medical device reporting regulations, which can result in voluntary corrective actions or agency enforcement actions.

Under the FDA's medical device reporting regulations, medical device manufacturers are required to report to the FDA information that a device has or may have caused or contributed to a death or serious injury or has malfunctioned in a way that would be likely to cause or contribute to death or serious injury if the malfunction of the device were to recur. If we fail to report these events to the FDA within the required timeframes, or at all, the FDA could take enforcement action against us. Any such adverse event involving our devices could result in future voluntary corrective actions, such as recalls or customer notifications, or agency action, such as inspection or enforcement action. Any corrective action, whether voluntary or involuntary, as well as mounting a defense to a legal action, if one were to be brought, would require the dedication of our time and capital, distract management from operating our business, and could have a material adverse effect on our business, financial condition, and results of operations.

Risks Related to Our Stock

Failure to meet NASDAQ's continued listing requirements could result in the delisting of our common stock, negatively impact the price of our common stock and negatively impact our ability to raise additional capital.

On January 11, 2023, BIOLASE, Inc. (the "Company") received a deficiency letter from the Listing Qualifications Department (the "Staff") of the Nasdaq Stock Market ("Nasdaq") notifying the Company that, for the last 30 consecutive business days, ending on January 10, 2023, the bid price for the Company's common stock had closed below the minimum $1.00 per share requirement for continued inclusion on the Nasdaq Capital Market pursuant to Nasdaq Listing Rule 5550(a)(2) (the "Bid Price Rule"). In accordance with Nasdaq rules, the Company has been provided an initial period of 180 calendar days, or until July 10, 2023 (the "Compliance Date"), to regain compliance with the Bid Price Rule. If, at any time before the Compliance Date, the bid price for the Company's common stock closes at $1.00 or more for a minimum of 10 consecutive business days, the Staff will provide written notification to the Company that it complies with the Bid Price Rule. If the Company does not regain compliance with the Bid Price Rule by the Compliance Date, the Company may be eligible for an additional 180 calendar day compliance period. To qualify, the Company would need to provide written notice of its intention to cure the deficiency during the additional compliance period, by effecting a reverse stock split, if necessary, provided that it meets the continued listing requirement for the market value of publicly held shares and all other initial listing standards, with the exception of the bid price requirement. If the Company does not regain compliance with the Bid Price Rule by the Compliance Date and is not eligible for an additional compliance period at that time, the Staff will provide written notification to the Company that its common stock may be delisted. At that time, the Company may appeal the Staff's delisting determination to a NASDAQ Listing Qualifications Panel. The Company intends to monitor the closing bid price of its common stock and may, if appropriate, consider available options to regain compliance with the Bid Price Rule.

We have received deficiency letters from NASDAQ in the past. Most recently, in May 2021, we received a deficiency letter from NASDAQ notifying us that we violated the Bid Price Rule. After receiving an additional six months to achieve compliance with the Bid Price Rule, in April 2022 we effected 1 for 25 reverse stock split in order to achieve compliance with the Bid Price Rule

If we cannot regain compliance with the Bid Price Rule, our common stock will be subject to delisting. If that were to occur, our common stock would be subject to rules that impose additional sales practice requirements on broker-dealers who sell our securities. The additional burdens imposed upon broker-dealers by these requirements could discourage broker-dealers from effecting transactions in our common stock. This would adversely affect the ability of investors to trade our common stock and would adversely affect the value of our common stock. These factors could contribute to lower prices and larger spreads in the bid and ask prices for 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 may be 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. During the 12 months ended December 31, 2022, the market price of our common stock has ranged from a high of $11.00 per share to a low of $0.59 per share. Stockholders may not be able to resell their shares at or above the price they 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.

Stockholders could experience substantial dilution of their investment as a result of future sales of our equity, subsequent exercises of our outstanding warrants and options, or the future grant of equity by us.

As of the date of the filing of this annual report on Form 10-K, management is evaluating all options to conserve cash and to obtain additional debt or equity financing and/or enter into a collaborative arrangement or sale of assets, to permit the Company to continue operations. Moreover, we may choose to raise additional capital from time to time, even if we believe we have sufficient funds for our current or future operating plans. To the extent that we raise additional funds through the future sale of equity or convertible securities, the issuance of such securities will result in dilution to our stockholders. The price per share at which we sell additional shares of our common stock, or securities convertible or exchangeable into common stock, in future transactions may be higher or lower than the price per share paid by investors in the offering. Investors purchasing shares or other securities in the future could have rights superior to existing stockholders.

In addition, stockholders could experience substantial dilution of their investment as a result of subsequent exercises of outstanding warrants and outstanding options and vesting of restricted stock units issued as compensation for services performed by employees, directors, consultants, and others, warrants issued in past sales of our equity, or the grant of future equity-based awards. As of December 31, 2022, an aggregate of 1.0 million shares of common stock were reserved for issuance under our equity incentive plans, approximately 30,000 of which were subject to options outstanding, 529,000 of which were subject to restricted stock units outstanding or expected to be issued as of that date, 32,000 Stock Appreciation Rights outstanding, and 403,000 phantom restricted stock units outstanding or expected to be issued as of that date. In addition, as of December 31, 2022, 1.4 million shares of our common stock were subject to warrants at a weighted-average exercise price of $10.17 per share. In June 2022, 726,660 pre-funded warrants, and 1,405,405 warrants were issued and in January 2023 an additional 11,403,571 pre-funded warrants were issued. All pre-funded warrants issued in 2022 were fully exercised as of December 31, 2022. To the extent that outstanding warrants or options are exercised or the convertible preferred stock is converted, 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.

Because we do not intend to pay cash 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.

If securities or industry analysts do not publish research or publish inaccurate or unfavorable research about our business, our share price and trading volume could decline.

The trading market for our common stock will depend on the research and reports that securities or industry analysts publish about us or our business. We do not have any control over these analysts. There can be no assurance that analysts will cover us or provide favorable coverage. If one or more of the analysts who cover us downgrade our stock or change their opinion of our stock, our share price would likely decline. If one or more of these analysts cease coverage of the Company or fail to regularly publish reports on the Company, we could lose visibility in the financial markets, which could cause our share price or trading volume to decline.

Item 1B. ***Unresolved Staff Comments***

None.

Item 2. ***Properties***

As of December 31, 2022, we owned or leased a total of approximately 52,000 square feet of space worldwide. We lease our corporate headquarters, which consists of approximately 12,000 square feet in Lake Forest, California and we expanded to 20,000 square feet in early 2023. Our lease expires on December 31, 2025. We lease our manufacturing facility, which consists of approximately 26,000 square feet in Corona, California. Our lease expires on June 30, 2025. For additional information, see Note 7 – Commitments and Contingencies – Leases in our Consolidated Financial Statements.

We believe that our current facilities are sufficient for the current operations of our business, and we believe that suitable additional space in various applicable local markets is available to accommodate any needs that may arise.

Item 3. ***Legal Proceedings***

From time to time, we are involved in legal proceedings and regulatory proceedings arising out of our operations. We establish reserves for specific liabilities in connection with legal actions that we deem to be probable and estimable. The ability to predict the ultimate outcome of such matters involves judgments, estimates, and inherent uncertainties. The actual outcome of such matters could differ materially from management's estimates.

On January 4, 2023, Plaintiff PIPStek, LLC (a wholly-owned subsidiary of Sonendo, Inc.) filed a lawsuit against BIOLASE, Inc. in the Federal District Court for the District of Delaware, alleging that BIOLASE's Waterlase dental laser product infringes two PIPStek patents. The Complaint seeks unspecified damages and injunctive relief, as well as costs and attorneys' fees against

BIOLASE. BIOLASE intends to fully defend itself against PIPStek's claims, and is currently required to answer or otherwise respond to the Complaint by April 27, 2023.

Item 4. ***Mine Safety Disclosures***

Not applicable.

PART II

Item 5. ***Market for the Registrant's Common Equity, Related Stockholder Matters, and Issuer Purchases of Equity Securities***

Market Information

Our common stock is traded on the NASDAQ Capital Market under the symbol "BIOL."

As of March 21, 2023, the closing price of our common stock on the NASDAQ Capital Market was $0.33 per share, and the number of stockholders of record was 46. We believe that the number of beneficial owners is substantially greater than the number of record holders because a large portion of our stock is held of record through brokerage firms in "street name."

Dividend Policy

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 are prohibited from declaring and paying cash dividends under our Credit Agreement with SWK. As a result, we do not anticipate paying any cash dividends in 2023. Our dividend policy may be changed at any time, and from time to time, by our Board. We did not pay or declare any cash dividends in 2022, 2021, or 2020.

Item 6. ***[Reserved]***

Item 7. ***Management's Discussion and Analysis of Financial Condition and Results of Operations***

The following information should be read in conjunction with our consolidated financial statements and related notes included elsewhere in this Form 10-K. In addition to historical information, this discussion and analysis contains forward-looking statements that involve risks, uncertainties, and assumptions, which could cause actual results to differ materially from management's expectations. Please see the "Cautionary Statement Regarding Forward-Looking Statements" section immediately preceding Part I, Item 1 of this Form 10-K and the "Risk Factors" section in Part I, Item 1A of this Form 10-K.

Overview

BIOLASE, Inc. ("BIOLASE" and, together with its consolidated subsidiaries, the "Company," "we," "our" or "us") is a leading provider of advanced laser systems for the dental industry. We develop, manufacture, market, and sell laser systems that provide significant benefits for dental practitioners and their patients. Our proprietary 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. Potential patient benefits include less pain, fewer shots, faster healing, decreased fear and anxiety, and fewer appointments. Potential practitioner benefits include improved patient care and the ability to perform a higher volume and wider variety of procedures and generate more patient referrals.

We offer two categories of laser system products: Waterlase (all-tissue) systems and diode (soft-tissue) systems. Our flagship brand, Waterlase, uses a patented combination of water and laser energy and is FDA cleared for over 80 clinical indications to perform most procedures currently performed using drills, scalpels, and other traditional dental instruments for cutting soft and hard tissue. For example, Waterlase safely debrides implants without damaging or significantly affecting surface temperature and is the only effective, safe solution to preserving sick implants. In addition, Waterlase disinfects root canals more efficiently than some traditional chemical methods. We also offer our diode laser systems to perform soft tissue, pain therapy, and cosmetic procedures, including teeth whitening. As of December 31, 2022, we maintained approximately 259 active and 24 pending United States and international patents, with the majority relating to our Waterlase technology. Our patent portfolio is regularly evaluated, and we strategically prioritize our core patents to ensure optimal Intellectual Property coverage while minimizing annual maintenance fees. From 1982 through December 31, 2022 we have sold over 45,500 laser systems in over 80 countries around the world, and we believe that Waterlase iPlus is the world's best-selling all-tissue dental laser. Since 1998, we have been the global leading innovator, manufacturer, and marketer of dental laser systems.

Recent Developments

2023 Public Equity Raise

On January 9, 2023, BIOLASE completed a public offering, pursuant to which BIOLASE agreed to issue, (i) in a registered direct offering, 17,167,855 shares of BIOLASE common stock, par value $0.001 per share, and pre-funded warrants to purchase 11,403,571 shares of BIOLASE common stock with an exercise price of $0.001 per share. The combined purchase price for one share of common stock was determined to be $0.35, and the combined purchase price for one Pre-Funded Warrant and one Common Warrant was determined to be $0.34. BIOLASE received aggregate gross proceeds from the transactions of approximately $9.9 million, before deducting fees to the placement agent and other transaction expenses payable by BIOLASE.

Membership Interest Purchase Agreement

On September 22, 2022, BIOLASE entered into a Membership Interest Purchase Agreement (the "Purchase Agreement") with Med-Fiber LLC ("Med-Fiber") and Alexei Tchapyjnikov, pursuant to which we acquired all of the issued and outstanding membership interests of Med-Fiber LLC, on the terms and subject to the conditions set forth in the Purchase Agreement, for a purchase price equal to $1,320,000, plus, subject to the satisfaction of certain milestones, additional earn-out consideration in an aggregate amount of up to $880,000. Med-Fiber was engaged in the business of manufacturing and supplying infrared transmitting fiber optics for laser power delivery applications and activities related thereto.

2022 Direct Offering and Private Placement

On June 27, 2022, BIOLASE entered into a Securities Purchase Agreement with certain accredited institutional investors, pursuant to which BIOLASE agreed to issue, (i) in a registered direct offering, 678,745 shares of BIOLASE common stock, par value $0.001 per share, and pre-funded warrants to purchase 726,660 shares of BIOLASE common stock (the “Pre-Funded Warrants”) with an exercise price of $0.001 per share, and (ii) in a concurrent private placement, warrants to purchase 1,405,405 shares of BIOLASE common stock (the “Common Warrants”). The combined purchase price for one share of common stock and one Common Warrant was determined to be $4.625, and the combined purchase price for one Pre-Funded Warrant and one Common Warrant was determined to be $4.624. BIOLASE received aggregate gross proceeds from the transactions of approximately $6.5 million, before deducting fees to the placement agent and other transaction expenses payable by BIOLASE. The 678,745 shares of BIOLASE's common stock, the Pre-Funded Warrants and the shares of BIOLASE common stock issuable upon exercise of the Pre-Funded Warrants were offered by BIOLASE pursuant to a shelf registration statement on Form S-3, which was declared effective on August 23, 2019.

Reverse Stock Split

On April 28, 2022, BIOLASE’s stockholders approved a proposal at BIOLASE’s 2022 annual meeting of stockholders (the “2022 Annual Meeting”) further amending BIOLASE’s Restated Certificate of Incorporation, as amended (the “Certificate of Incorporation”), to effect a reverse stock split of BIOLASE common stock, par value $0.001 per share, at a ratio between one-for-two (1:2) and one-for-twenty-five (1:25), without reducing the authorized number of shares of BIOLASE common stock. Following the 2022 Annual Meeting, BIOLASE’s board of directors approved a final split ratio of one-for-twenty-five (1:25). Following such approval, the Company filed an amendment to the Certificate of Incorporation with the Secretary of State of the State of Delaware to effect the reverse stock split (the "Reverse Stock Split") on April 28, 2022. Except as the context otherwise requires, all common stock share numbers and common stock share price amounts in this annual report have been adjusted to reflect the Reverse Stock Split.

Elimination of Series G Preferred Stock

On March 1, 2022, the Board declared a dividend of one one-thousandth of a share of Series G Preferred Stock, par value $0.001 per share (“Series G Preferred Stock”), for each share of BIOLASE common stock outstanding as of close of market on March 25, 2022 (as calculated on a pre-Reverse Stock Split basis). The certificate of designation for the Series G Preferred Stock provided that all shares of Series G Preferred Stock not present in person or by proxy at the 2022 Annual Meeting immediately prior to the opening of the polls at the 2022 Annual Meeting would be automatically redeemed (the “Initial Redemption”) and that any outstanding shares of Series G Preferred Stock that have not been redeemed pursuant to the Initial Redemption would be redeemed in whole, but not in part, (i) if and when ordered by the Board or (ii) automatically upon the effectiveness of the amendment to the Certificate of Incorporation effecting the Reverse Stock Split that was subject to the vote at the 2022 Annual Meeting (the “Subsequent Redemption”). On April 28, 2022, both the Initial Redemption and the Subsequent Redemption occurred. As a result, no shares of Series G Preferred Stock remain outstanding. On June 6, 2022, the Series G Preferred Stock was eliminated.

Ninth and Tenth Amendments to the Credit Agreement

On June 30, 2022, BIOLASE entered into the ninth amendment to the Credit Agreement (the “Ninth Amendment”) with SWK. The Ninth Amendment extended the end of the interest only period of the loan by two quarters, from May 2023 to November 2023, reduced the required minimum consolidated unencumbered liquid assets from $7.5 million to $3.0 million, reduced the minimum consolidated unencumbered liquid assets triggering the minimum aggregate revenue covenant from $7.5 million to $5.0 million and reduced the minimum consolidated unencumbered liquid assets triggering the minimum EBITDA covenant from $7.5 million to $5.0 million. In connection with the Ninth Amendment, with some of the net proceeds from the June 2022 offering and private placement, the Company prepaid $1.0 million of the outstanding loan balance.

On December 30, 2022, BIOLASE entered into the tenth amendment to the Credit Agreement (the "Tenth Amendment") with SWK. The Tenth Amendment reduced the required minimum consolidated unencumbered liquid assets from $3.0 million to $2.5 million and removed the conditional minimum last twelve months aggregate revenue and EBITDA for the twelve month period ending December 31, 2022.

Impact of Coronavirus (COVID-19) on Our Operations

In December 2019, a novel strain of coronavirus was reported and in 2020 the World Health Organization declared COVID-19, the disease caused by the novel coronavirus, a pandemic, and the United States as well as most other countries declared a national emergency with respect to the coronavirus outbreak. This outbreak severely impacted global economic activity, and many countries and many states in the United States reacted to the outbreak by instituting quarantines, mandating business and school closures and restricting travel. These mandated business closures included dental office closures in Europe and the United States for all but emergency procedures. As these quarantines and restrictions began to be lifted in 2021 and 2022, operations began to return to pre-pandemic levels and although there are signs of recovery from the impact of COVID-19 both domestically and internationally, no assurance can be provided that our sales will return to normal levels during 2023 or at any time thereafter. See Item 1A — “Risk Factors” for additional information regarding the potential impact of the COVID-19 pandemic on our business, results of operations and financial condition.

Deficiency Letter from NASDAQ

On January 11, 2023, we received a deficiency letter from the NASDAQ Stock Market, LLC ("NASDAQ") notifying the Company that, for the 30 consecutive business days, ending on January 10, 2023, the bid price for BIOLASE common stock had closed below the minimum required by NASDAQ listing rule 5550(a)(2) (the "Minimum Bid Price Rule"). In accordance with NASDAQ rules, we were provided an initial period of 180 calendar days, or until July 10, 2023, to regain compliance with the Minimum Bid Price Rule.

If, at any time before July 10, 2023, the bid price of the Company’s common stock closes at or above $1.00 per share for a minimum of 10 consecutive business days, NASDAQ will provide written notification that the Company has achieved compliance with the Minimum Bid Price Rule. If we do not regain compliance with the Minimum Bid Price Rule by July 10, 2023, we may be eligible for an additional 180 calendar day compliance period. To qualify, we would need to provide written notice of our intention to cure the deficiency during the additional compliance period, provided that we meet the continued listing requirement for the market value of publicly held shares and all other initial listing standards, with the exception of the Minimum Bid Price Rule. If we do not regain compliance with the Minimum Bid Price Rule by the July 10, 2023 and are not eligible for an additional compliance period at that time, the Staff will provide written notification to the Company that BIOLASE common stock may be delisted. We intend to monitor the closing bid price of our common stock and may, if appropriate, consider available options to regain compliance with the Minimum Bid Price Rule.

If compliance with the Minimum Bid Price Rule cannot be demonstrated by July 10, 2023, NASDAQ will provide written notification that the Company’s common stock will be delisted. At that time, the Company may appeal NASDAQ’s determination to a hearings panel.

Critical Accounting Policies

The preparation of consolidated financial statements and related disclosures in conformity with generally accepted accounting principles in the United States (“GAAP”) requires us to make estimates and assumptions that affect the amounts reported in the consolidated financial statements and the accompanying notes. The following is a summary of those accounting policies that we believe are necessary to understand and evaluate our reported financial results.

Revenue Recognition. Revenue for sales of products and services is derived from contracts with customers. The products and services promised in customer contracts include delivery of laser systems, imaging systems, and consumables as well as certain ancillary services such as product training and support for extended warranties. Contracts with each customer generally state the terms of the sale, including the description, quantity and price of each product or service. Payment terms are stated in the contract and vary according to the arrangement. Because the customer typically agrees to a stated rate and price in the contract that does not vary over the life of the contract, our contracts do not contain variable consideration. We establish a provision for estimated warranty expense. For further information on warranty, see the discussion under “Warranty Cost” below.

At contract inception, we assess the products and services promised in our contracts with customers. We then identify performance obligations to transfer distinct products or services to the customers. In order to identify performance obligations, we consider all of the products or services promised in the contract regardless of whether they are explicitly stated or are implied by customary business practices.

Revenue from products and services transferred to customers at a single point in time accounted for 88%, 88% and 81% of net revenue for the years ended December 31, 2022, 2021, and 2020, respectively. The majority of the revenue recognized at a point in time is for the sale of laser systems, imaging systems, and consumables. Revenue from these contracts is recognized when the customer is able to direct the use of and obtain substantially all of the benefits from the product which generally coincides with title transfer during the shipping process.

Revenue from services transferred to customers over time accounted for 12%, 12%, and 19% of net revenue for the years ended December 31, 2022, 2021, and 2020, respectively. The majority of our revenue that is recognized over time relates to training and extended warranties.

The transaction price for a contract is allocated to each distinct performance obligation and recognized as revenue when, or as, each performance obligation is satisfied. For contracts with multiple performance obligations, we allocate the contract's transaction price to each performance obligation using the best estimate of the standalone selling price of each distinct good or service in a contract. The primary method used to estimate standalone selling price is the observable price when the good or service is sold separately in similar circumstances and to similar customers.

Revenue is recorded for extended warranties over time as the customer benefits from the warranty coverage. This revenue will be recognized equally throughout the contract period as the customer receives benefits from our promise to provide such services. Revenue is recorded for product training as the customer attends a training program or upon the expiration of the obligation.

We also have contracts that include both the product sales and product training as performance obligations. In those cases, we record revenue for product sales at the point in time when the product has been shipped. The customer obtains control of the product when it is shipped, as all shipments are made FOB shipping point, and after the customer selects its shipping method and pays all shipping costs and insurance. We have concluded that control is transferred to the customer upon shipment.

We perform our obligations under a contract with a customer by transferring products and/or services in exchange for consideration from the customer. We invoice our customers as soon as control of an asset is transferred and a receivable due to us is established. We recognize a contract liability when a customer prepays for goods and/or services and we have not transferred control of the goods and/or services.

Accounts receivable are stated at estimated net realizable value. The allowance for doubtful accounts is based on an analysis of customer accounts and our historical experience with accounts receivable write-offs.

Accounting for Stock-Based Payments. Stock-based compensation expense is estimated at the grant date of the award, is based on the fair value of the award and is recognized ratably over the requisite service period of the award. For restricted stock units we estimate the fair value of the award based on the number of awards and the fair value of our common stock on the grant date and apply an estimated forfeiture rate. For stock options, we estimate the fair value of the option award using the Black-Scholes option pricing model. This option-pricing model requires us to make several assumptions regarding the key variables used to calculate the fair value of its stock options. The risk-free interest rate used is based on the U.S. Treasury yield curve in effect for the expected lives of the options at their grant dates. Since July 1, 2005, we have used a dividend yield of zero, as we do not intend to pay cash dividends on our common stock in the foreseeable future. The most critical assumptions used in calculating the fair value of stock options are the expected life of the option and the expected volatility of our common stock. The expected life is calculated in accordance with the simplified method, whereby for service-based awards, the expected life is calculated as a midpoint between the vesting date and expiration date. We use the simplified method, as there is not a sufficient history of share option exercises. We believe the historic volatility of our common stock is a reliable indicator of future volatility, and accordingly, a stock volatility factor based on the historical volatility of our common stock over a lookback period of the expected life is used in approximating the estimated volatility of new stock options. Compensation expense is recognized using the straight-line method for all service-based employee awards and graded amortization for all performance-based awards. Compensation expense is recognized only for those options expected to vest, with forfeitures estimated at the date of grant based on historical experience and future expectations. Forfeitures are estimated at the time of the grant and revised in subsequent periods as actual forfeitures differ from those estimates.

Valuation of Inventory. Inventory is valued at the lower of cost or net realizable value, with cost determined using the first-in, first-out method. We periodically evaluate the carrying value of inventory and maintain an allowance for excess and obsolete inventory to adjust the carrying value as necessary to the lower of cost or net realizable value. We evaluate quantities on hand, physical condition, and technical functionality, as these characteristics may be impacted by anticipated customer demand for current products and new product introductions. Unfavorable changes in estimates of excess and obsolete inventory would result in an increase in cost of revenue and a decrease in gross profit.

Valuation of Long-Lived Assets. Property, plant, and equipment and certain intangibles with finite lives are amortized over their estimated useful lives. Useful lives are based on our estimate of the period that the assets will generate revenue or otherwise productively support our business goals. We monitor events and changes in circumstances that could indicate that the carrying balances of long-lived assets may exceed the undiscounted expected future cash flows from those assets. If such a condition were to exist, we would determine if an impairment loss should be recognized by comparing the carrying amount of the assets to their fair value.

Valuation of Goodwill and Other Intangible Assets. Goodwill and other intangible assets with indefinite lives are not subject to amortization but are evaluated for impairment annually or whenever events or changes in circumstances indicate that the asset might be impaired. We conducted our annual impairment analysis of our goodwill as of September 30, 2022 and concluded there had been no impairment in goodwill. We closely monitor our stock price and market capitalization and perform such analysis when events or circumstances indicate that there may have been a change to the carrying value of those assets.

Warranty Cost. We provide warranties against defects in materials and workmanship of our laser systems for specified periods of time. For the years ended December 31, 2022, 2021, and 2020 domestic sales of our Waterlase laser systems were covered by our warranty for a period of up to one year and diode systems were covered by our warranty for a period of up to two years from the date of sale by us or the distributor to the end-user. Laser systems sold internationally during the same periods were covered by our warranty for a period of up to 24 months from the date of sale to the international distributor. Estimated warranty expenses are recorded as an accrued liability with a corresponding provision to cost of revenue. This estimate is recognized concurrent with the recognition of revenue on the sale to the distributor or end-user. Warranty expenses expected to be incurred after one year from the time of sale to the distributor are classified as a long-term warranty accrual. Our overall accrual is based on our historical experience and our expectation of future conditions, taking into consideration the location and type of customer and the type of laser, which directly correlate to the materials and components under warranty, the duration of the warranty period, and the logistical costs to service the warranty. Additional factors that may impact our warranty accrual include changes in the quality of materials, leadership and training of the production and services departments, knowledge of the lasers and workmanship, training of customers, and adherence to the warranty policies. Additionally, an increase in warranty claims or in the costs associated with servicing those claims would likely result in an increase in the accrual and a decrease in gross profit. We offer extended warranties on certain imaging products. However, all imaging products are initially covered by the manufacturer’s warranties.

Recent Accounting Pronouncements

For a description of recently issued and adopted accounting pronouncements, including the respective dates of adoption and expected effects on our results of operations and financial condition, please refer to Part I, Item 1, Note 2 – Summary of Significant Accounting Policies, which is incorporated herein by this reference.

Fair Value of Financial Instruments

Our financial instruments, consisting of cash and cash equivalents, accounts receivable, accounts payable, and accrued liabilities, approximate fair value because of the liquid or short-term nature of these items.

Fair value is defined as the price that would be received to sell an asset or paid to transfer a liability in an orderly transaction between market participants in the principal market (or, if none exists, the most advantageous market) for the specific asset or liability at the measurement date (referred to as the “exit price”). The fair value is based on assumptions that market participants would use, including a consideration of non-performance risk. Under the accounting guidance for value hierarchy, there are three levels of measurement inputs. Level 1 inputs are quoted prices in active markets for identical assets or liabilities. Level 2 inputs are observable, either directly or indirectly. Level 3 inputs are unobservable due to little or no corroborating market data.

Results of Operations

The following table sets forth certain data from our operating results, expressed in thousands and as percentages of revenue:

	Years Ended December 31,					
	2022		2021		2020	
Net revenue	$ 48,462	100.0 %	$ 39,188	100.0 %	$ 22,780	100.0 %
Cost of revenue	32,551	67.2 %	22,659	57.8 %	16,607	72.9 %
Gross profit	15,911	32.8 %	16,529	42.2 %	6,173	27.1 %
Operating expenses:						
Sales and marketing	21,675	44.7 %	15,339	39.1 %	11,242	49.4 %
General and administrative	12,309	25.4 %	11,258	28.7 %	9,772	42.9 %
Engineering and development	7,265	15.0 %	6,048	15.4 %	3,695	16.2 %
Loss on patent litigation settlement	—	— %	315	0.8 %	—	— %
Total operating expenses	41,249	85.1 %	32,960	84.1 %	24,709	108.5 %
Loss from operations	(25,338)	(52.3) %	(16,431)	(41.9) %	(18,536)	(81.4) %
Non-operating gain (loss), net	(3,187)	(6.6) %	338	0.9 %	1,835	8.1 %
Loss before income tax provision	(28,525)	(58.9) %	(16,093)	(41.1) %	(16,701)	(73.3) %
Income tax (provision) benefit	(109)	(0.2) %	(65)	(0.2) %	(128)	(0.6) %
Net loss	$ (28,634)	(59.1) %	$ (16,158)	(41.2) %	$ (16,829)	(73.9) %

The following table summarizes our net revenues by category ($ in thousands):

	Years Ended December 31,					
	2022		2021		2020	
Laser systems	$ 31,443	64.8%	$ 25,023	63.9%	$ 12,342	54.2%
Consumables and other	11,322	23.4%	9,456	24.1%	6,124	26.9%
Services	5,697	11.8%	4,709	12.0%	4,314	18.9%
Net revenue	$ 48,462	100.0%	$ 39,188	100.0%	$ 22,780	100.0%

Non-GAAP Disclosure

In addition to the financial information prepared in conformity with GAAP, we provide certain historical non-GAAP financial information. Management believes that these non-GAAP financial measures assist investors in making comparisons of period-to-period operating results and that, in some respects, are indicative of our ongoing core performance.

Management believes that the presentation of this non-GAAP financial information provides investors with greater transparency and facilitates comparison of operating results across a broad spectrum of companies with varying capital structures, compensation strategies, derivative instruments, and amortization methods, which provides a more complete understanding of our financial performance, competitive position, and prospects for the future. However, the non-GAAP financial measures presented in this Form 10-K have certain limitations in that they do not reflect all of the costs associated with the operations of our business as determined in accordance with GAAP. Therefore, investors should consider non-GAAP financial measures in addition to, and not as a substitute for, or as superior to, measures of financial performance prepared in accordance with GAAP. Further, the non-GAAP financial measures presented by us may be different from similarly named non-GAAP financial measures used by other companies.

Adjusted EBITDA

Management uses Adjusted EBITDA in its evaluation of our core results of operations and trends between fiscal periods and believes that these measures are important components of its internal performance measurement process. Adjusted EBITDA is defined as net loss before interest, taxes, depreciation and amortization, stock-based compensation, allowance for doubtful accounts, and other (income) expense, net. Management uses adjusted EBITDA in its evaluation of our core results of operations and trends between fiscal periods and believes that these measures are important components of its internal performance measurement process. Therefore, investors should consider non-GAAP financial measures in addition to, and not as a substitute for, or as superior to, measures of financial performance prepared in accordance with GAAP. Further, the non-GAAP financial measures presented by us may be different from similarly named non-GAAP financial measures used by other companies.

The following table contains a reconciliation of non-GAAP Adjusted EBITDA to GAAP net loss attributable to common stockholders (in thousands):

	Years Ended December 31,		
	2022	2021	2020
GAAP net loss attributable to common stockholders	$ (28,851)	$ (16,704)	$ (34,207)
Deemed dividend on convertible preferred stock	217	546	17,378
GAAP net loss	$ (28,634)	$ (16,158)	$ (16,829)
Adjustments:			
Interest expense, net	2,749	2,224	2,359
Income tax provision (benefit)	109	65	128
Depreciation and amortization	497	400	499
Change in allowance for doubtful accounts	40	(202)	1,328
Loss on patent litigation settlement	—	315	—
Stock-based and other non-cash compensation	2,303	1,662	3,370
Increase in inventory reserves	2,798	—	—
Gain on debt forgiveness	—	(3,014)	—
Other (income) expense, net	—	—	(4,215)
Adjusted EBITDA	$ (20,138)	$ (14,708)	$ (13,360)

Other (income) expense for the year ended December 31, 2022, is comprised of a $2.8 million charge for inventory driven by supply chain issues that we have encountered requiring us to change to new suppliers along with end of life designation for certain products and components, which resulted in higher inventory reserves and warranty expenses.

Other (income) expense for the year ended December 31, 2021 is comprised of a $3.0 million gain on the forgiveness of the loan received under the Paycheck Protection Program under the Coronavirus Aid, Relief, and Economic Security Act (the "CARES Act").

Other (income) expense for the year ended December 31, 2020, is comprised of a $5.8 million gain on the change in fair value of the 45.0 million warrants sold by the Company on July 23, 2020 through the Rights Offering (the “July 2020 Warrants”) partially offset by the costs to issue the July 2020 Warrants of approximately $1.6 million.

Comparison of Results of Operations

Year Ended December 31, 2022 Compared with Year Ended December 31, 2021

Net Revenue. Net revenue for the year ended December 31, 2022 was $48.5 million, an increase of $9.3 million, or 24%, as compared with net revenue of $39.2 million for the year ended December 31, 2021. Domestic revenues were $33.9 million, or 70% of net revenue, for the year ended December 31, 2022 compared to $25.4 million, or 65% of net revenue, for the year ended December 31, 2021. International revenues for year ended December 31, 2022 were $14.6 million, or 30% of net revenue, compared to $13.8 million, or 35% of net revenue for year ended December 31, 2021.

Laser system net revenues increased by $6.4 million, or 26%, for the year ended December 31, 2022 compared to the same period in 2021. Consumables and other net revenue, which includes products such as disposable tips and shipping revenue, increased $1.9 million, or 20%, for the year ended December 31, 2022, as compared to the same period in 2021. Services revenue increased $1.0 million, or 21%, for the year ended December 31, 2022, as compared to the same period in 2021.

The increase in year-over-year net revenue primarily resulted from additional adoption of our lasers in dentistry, an increase in consumable sales and the addition of our OEM product at the start of 2022.

Cost of Revenue. Cost of revenue increased by $9.9 million, or approximately 44%, to $32.6 million, or 67% of net revenue for the year ended December 31, 2022, compared to cost of revenue of $22.7 million, or 58% of net revenue, for the same period in 2021. The increase is primarily due to the increase in sales and higher warranty and inventory reserve charges for the year ended December 31, 2022.

Gross Profit. Gross profit as a percentage of revenue typically fluctuates with product and regional mix, selling prices, product costs and revenue levels. Gross profit for the year ended December 31, 2022 was $15.9 million, or 33% of net revenue, a decrease of $0.6 million, or 4%, as compared with gross profit of $16.5 million, or 42% of net revenue, for the same period in 2021. The decrease in gross profit as a percentage of revenue reflects the impact of a $2.7 million charge for inventory. This inventory charge was driven

by the supply chain issues that we have encountered requiring us to change to new suppliers along with end of life designation for certain products and components, which resulted in higher inventory reserves and warranty expenses. In addition, lower margin OEM products were launched at the beginning of 2022 and an Employee Retention Credit under the CARES Act of $0.7 million was received during the year ended December 31, 2021 that did not occur in 2022. The decrease was partially offset by the impact of the increase in sales and the favorable absorption of fixed expenses.

Operating Expenses. Operating expenses for the year ended December 31, 2022 were $41.2 million, or 85% of net revenue, an increase of $8.3 million, or 25%, as compared with $33.0 million, or 84% of net revenue, for the same period in 2021. See the following expense categories for further explanations.

Sales and Marketing Expense. Sales and marketing expense for the year ended December 31, 2022 increased by $6.3 million, or 41%, to $21.7 million, or 45% of net revenue, as compared with $15.3 million, or 39% of net revenue, for the same period in 2021. This increase is primarily due to $2.9 million from compensation expense due to no open territories, or no territories without a sales representative in 2022, and commissions and bonus incentives for achieving sales targets, $1.9 million in higher travel and trade show related expenses, $0.7 million in higher supply costs and other expenses, $0.2 million in additional advertising expenses, and $0.6 million from an Employee Retention Credit under the CARES Act received during the year ended December 31, 2021 that did not occur in 2022.

General and Administrative Expense. General and administrative expense for the year ended December 31, 2022 increased by $1.1 million, or 9%, to $12.3 million, or 25% of net revenue, as compared with $11.3 million, or 29% of net revenue, for the same period in 2021. This increase is primarily from $0.8 million in compensation expense for achieving sales targets and filling open positions, $0.5 million for the production of the “Talk Dental To Me” docuseries, and $0.2 million in a higher allowance for doubtful accounts. The increase in general and administrative expenses was partially offset by $0.4 million in severance expense that did not occur in 2022, and $0.2 million from an Employee Retention Credit under the CARES Act received during the year ended December 31, 2021 that did not occur in 2022.

Engineering and Development Expense. Engineering and development expense for the year ended December 31, 2022 increased by $1.2 million, or 20%, to $7.3 million, or 15% of net revenue, as compared with $6.0 million, or 15% of net revenue, for the same period in 2021. This increase is primarily due to $0.7 million from compensation expenses driven by more engineering projects for 2022 as compared to 2021, $0.5 million in other various expense, and $0.2 million for the impact of an Employee Retention Credit under the CARES Act received during the year ended December 31, 2021 that did not occur in 2022. This increase in engineering and development expenses was partially offset by $0.2 million decrease in other expenses.

Loss on Patent Litigation Settlement. Loss on patent litigation settlement for the year ended December 31, 2021 was $0.3 million due to the change in fair value of the remaining accrued liability.

Non-Operating Income (Loss)

Loss on Foreign Currency Transactions. We recognized a loss of $0.4 million on foreign currency transactions for the year ended December 31, 2022 compared to a $0.5 million loss for the same period in 2021, due to exchange rate fluctuations primarily between the U.S. dollar and the Euro.

Interest Expense, Net. Net interest expense increased to $2.7 million for the year ended December 31, 2022 compared to $2.2 million of net interest expense for the same period in 2021. The increase was due to the impact of higher variable interest rates applied to outstanding Term Loan balances during the year ended December 31,2022 compared to the same period in 2021 and an accrual for exit fees to be paid in May 2025 upon maturity of the Term Loan, partially offset by lower interest expense associated with reduced Term Loan balances during the year ended December 31, 2022 compared to the same period in 2021.

Gain on debt forgiveness. Gain on debt forgiveness was $3.0 million for the year ended December 31, 2021 due to the approval of the Company's request for forgiveness of the loan received under the Paycheck Protection Program under the CARES Act (the "PPP Loan").

Other Income, Net. There was no Other Income (Expense) for the years ended December 31, 2022 and 2021.

(Provision) benefit for Income Taxes. Our provision for income taxes was a provision of $109 thousand for the year ended December 31, 2022, an increase of $44 thousand as compared with our provision for income taxes of $65 thousand for the same period in 2021. The increase in our provision is primarily due to an increase to our current income taxes in our European subsidiary.

Net Loss. For the reasons stated above, our net loss was $28.6 million for the year ended December 31, 2022 compared to a net loss of $16.2 million for the same period in 2021.

Year Ended December 31, 2021 Compared with Year Ended December 31, 2020

Net Revenue. Net revenue for the year ended December 31, 2021 was $39.2 million, an increase of $16.4 million, or 72%, as compared with net revenue of $22.8 million for the year ended December 31, 2020. Domestic revenues were $25.4 million, or 65% of net revenue, for the year ended December 31, 2021 compared to $16.2 million, or 71% of net revenue, for the year ended December 31, 2020. International revenues for year ended December 31, 2021 were $13.8 million, or 35% of net revenue, compared to $6.6 million, or 29% of net revenue for year ended December 31, 2020.

Laser system net revenues increased by $12.7 million, or 103%, for the year ended December 31, 2021 compared to the same period in 2020. Consumables and other net revenue, which includes products such as disposable tips and shipping revenue, increased $3.3 million, or 54%, for the year ended December 31, 2021, as compared to the same period in 2020. Services revenue increased $0.4 million, or 9%, for the year ended December 31, 2021, as compared to the same period in 2020.

The increase in year-over-year net revenue primarily resulted from the lifting of governmental restrictions from the COVID-19 pandemic and the re-opening of dental offices that had closed in 2020 resulting in increased opportunities for procedures using BIOLASE lasers.

Cost of Revenue. Cost of revenue increased by $6.1 million, or approximately 36%, to $22.7 million, or 58% of net revenue for the year ended December 31, 2021, compared to cost of revenue of $16.6 million, or 73% of net revenue, for the same period in 2020. The increase is primarily due to the increase in sales for the year ended December 31, 2021, partially offset by a $0.7 million Employee Retention Credit under the CARES Act received during the year ended December 31, 2021 that did not occur in 2020.

Gross Profit. Gross profit as a percentage of revenue typically fluctuates with product and regional mix, selling prices, product costs and revenue levels. Gross profit for the year ended December 31, 2021 was $16.5 million, or 42% of net revenue, an increase of $10.4 million, or 168%, as compared with gross profit of $6.2 million, or 27% of net revenue, for the same period in 2020. The increase in gross profit is commensurate with the increase in sales, the favorable absorption of fixed expenses, higher average selling prices, fewer inventory write-offs and reserve adjustments, and an Employee Retention Credit under the CARES Act received during the year ended December 31, 2021 that did not occur in 2020.

Operating Expenses. Operating expenses for the year ended December 31, 2021 were $33.0 million, or 84% of net revenue, an increase of $8.3 million, or 33%, as compared with $24.7 million, or 108% of net revenue, for the same period in 2020. See the following expense categories for further explanations.

Sales and Marketing Expense. Sales and marketing expense for the year ended December 31, 2021 increased by $4.1 million, or 36%, to $15.3 million, or 39% of net revenue, as compared with $11.2 million, or 49% of net revenue, for the same period in 2020. The increase was primarily due to $1.1 million in compensation expense and bonus incentives for achieving sales targets, $1.1 million in sales commissions, $0.9 million in increased advertising expenses and related consulting costs, and $0.8 million in increased travel and trade show related expenses driven by a normalization in such expenses as compared to 2020. These increases were partially offset by $0.6 million from the effect of Employee Retention Credits under the CARES Act received during the year ended December 31, 2021.

General and Administrative Expense. General and administrative expense for the year ended December 31, 2021 increased by $1.5 million, or 15%, to $11.3 million, or 29% of net revenue, as compared with $9.8 million, or 43% of net revenue, for the same period in 2020. The increase in general and administrative expense was primarily due to $2.1 million related to fees incurred in connection with stockholder meetings held during the year, $0.4 million in severance expense, and $0.3 million in legal and audit fees. These increases were partially offset by a $1.5 million change in the allowance for doubtful accounts.

Engineering and Development Expense. Engineering and development expense for the year ended December 31, 2021 increased by $2.4 million, or 64%, to $6.0 million, or 15% of net revenue, as compared with $3.7 million, or 16% of net revenue, for the same period in 2020. The increase was primarily due to a $0.5 million increase in legal and consulting fees and a $1.3 million increase in payroll expenses driven by an increase in engineering projects for 2021 as compared to 2020. Although our primary focus will be on our sales and marketing efforts in 2022, we expect to continue our investment in engineering and development activity during the period.

Loss on Patent Litigation Settlement. Loss on patent litigation settlement for the year ended December 31, 2021 was $0.3 million due to the change in fair value of the remaining accrued liability.

Non-Operating Income (Loss)

Loss on Foreign Currency Transactions. We recognized a loss of $0.5 million on foreign currency transactions for the year ended December 31, 2021 compared to a $21 thousand loss for the same period in 2020, due to exchange rate fluctuations primarily between the U.S. dollar and the Euro.

Interest Expense, Net. Net interest expense decreased to $2.2 million for the year ended December 31, 2021 compared to $2.4 million of net interest expense for the same period in 2020. The decrease was due to the Eighth Amendment which lowered the interest rate and extended the maturity date.

Gain on debt forgiveness. Gain on debt forgiveness was $3.0 million for the year ended December 31, 2021 due to the approval of the Company's request for forgiveness of the loan received under the Paycheck Protection Program under the CARES Act (the "PPP Loan").

Other Income, Net. There was no Other Income (Expense) for the year ended December 31, 2021. Other Income for the year ended December 31, 2020, is comprised of a $5.8 million gain on the change in fair value to the 45.0 million warrants sold by the Company on July 23, 2020 through the Rights Offering (the “July 2020 Warrants”) partially offset by the costs to issue the July 2020 Warrants of approximately $1.6 million.

(Provision) benefit for Income Taxes. Our provision for income taxes was a provision of $65 thousand for the year ended December 31, 2021, an increase of $63 thousand as compared with our provision for income taxes of $128 thousand for the same period in 2020. The increase in our provision is primarily due to an increase to our current income taxes in our European subsidiary.

Net Loss. For the reasons stated above, our net loss was $16.2 million for the year ended December 31, 2021 compared to a net loss of $16.8 million for the same period in 2020.

Liquidity and Capital Resources

The Company has reported losses from operations of $25.3 million, $16.4 million, and $18.5 million for the years ended December 31, 2022, 2021, and 2020, respectively, and has not generated positive net cash from operations for the same periods.

At December 31, 2022, we had $4.2 million in cash and cash equivalents. Management defines cash and cash equivalents as highly liquid deposits with original maturities of 90 days or less when purchased. The decrease in our cash and cash equivalents by $25.8 million from December 31, 2021 was primarily due to cash used in operating activities of $26.8 million and cash used in investing activities of $3.7 million, partially offset by cash provided by financing activities of $4.6 million. The $26.8 million of net cash used in operating activities in 2022 was primarily driven by our net loss of $28.6 million during the year.

At December 31, 2022, we had $11.2 million in working capital. Our principal sources of liquidity consisted of $4.2 million in cash and cash equivalents and $5.8 million of net accounts receivable.

The Company may need to raise additional capital in the future. Additional capital requirements may depend on many factors, including, among other things, the rate at which the Company’s business grows, demands for working capital, manufacturing capacity, and any acquisitions that the Company may pursue. From time to time, the Company could be required, or may otherwise attempt, to raise capital through either equity or debt offerings. The Company cannot provide assurance that it will be able to successfully enter into any such equity or debt financings in the future or that the required capital would be available on acceptable terms, if at all, or that any such financing activity would not be dilutive to its stockholders.

Our recurring losses, level of cash used in operations, potential need for additional capital, and the uncertainties surrounding our ability to raise additional capital, raises substantial doubt about our ability to continue as a going concern. The financial statements do not include any adjustments that might be necessary if the Company is unable 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 either raise additional capital or increase sales of our products, control or potentially reduce expenses, and establish profitable operations in order to generate cash from operations or obtain additional funds when needed.

We will endeavor 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.

Term Loan

The information set forth in Note 6 – Debt – Term Loan is hereby incorporated herein by reference.

EIDL Loan

The information set forth in Note 6 – Debt – EIDL Loan is hereby incorporated herein by reference.

Public Offering of Common Shares and Private Placement of Unregistered Preferred Shares

The information set forth in Note 8 – Redeemable Preferred Stock and Stockholders' Equity – Public Offering of Common Shares and Private Placement of Unregistered Preferred Shares is hereby incorporated herein by reference.

Concentration of Credit Risk

Financial instruments, which potentially expose us to a concentration of credit risk, consist principally of cash and cash equivalents, restricted cash, and trade accounts receivable. We maintain our cash and cash equivalents and restricted cash with established commercial banks. At times, balances may exceed federally insured limits. To minimize the risk associated with trade accounts receivable, we perform ongoing credit evaluations of customers' financial condition and maintain relationships with our customers that allow us to monitor changes in business operations so we can respond as needed. We do not, generally, require customers to provide collateral before we sell them our products. However, we have required certain distributors to make prepayments for significant purchases of our products.

Receivables and Allowance for Doubtful Accounts

Trade accounts receivable are recorded at the invoiced amount and do not bear interest. The allowance for doubtful accounts is our best estimate of the amount of probable credit losses in the existing accounts receivable. We determine the allowance based on a quarterly specific account review of past due balances. All other balances are reviewed on a pooled basis by age of receivable. Account balances are charged off against the allowance when it is probable the receivable will not be recovered. We do not have any off-balance-sheet credit exposure related to our customers.

Consolidated Cash Flows

The following table summarizes our statements of cash flows (in thousands):

	Years Ended December 31,		
	2022	2021	2020
Net cash (used in) provided by:			
Operating activities	$ (26,761)	$ (16,710)	$ (12,795)
Investing activities	(3,727)	(707)	(96)
Financing activities	4,603	29,954	24,349
Effect of exchange rates on cash	(109)	(238)	317
Net change in cash and cash equivalents	$ (25,994)	$ 12,299	$ 11,775

Year Ended December 31, 2022 Compared with Year Ended December 31, 2021

Net cash used in operating activities for the year ended December 31, 2022 totaled $26.8 million and was primarily comprised of our net loss of $28.6 million, and an increase in operating assets of $8.5 million, partially offset by an increase in operating liabilities of $3.5 million, non-cash adjustments for stock-based compensation of $2.3 million, a $2.8 million write-off of inventory, amortization of debt issuance costs of $1.2 million, and depreciation and amortization expenses of $0.5 million. The net increase in our operating assets was primarily due to a $5.8 million increase in inventory as we have increased inventory levels to try to mitigate the impact of supply disruptions from potential product shortages and delivery delays, a $1.1 million increase in prepaid expenses and other current assets, and a $1.6 million increase in accounts receivable, partially offset by a $3.5 million increase in accounts payable and accrued liabilities.

Net cash used in investing activities for the year ended December 31, 2022 was $3.7 million and was primarily driven by our capital expenditures. We expect cash flows used in investing activities to decrease somewhat in 2023 due to the completion of our new training facility.

Net cash provided by financing activities for the year ended December 31, 2022 was $4.6 million primarily comprised of $5.6 million of net proceeds from the June 2022 direct offering and private placement, partially offset by a $1.0 million payment on the SWK Loan.

The $0.1 million effect of exchange rate on cash for the year ended December 31, 2022 was due to a recognized gain on foreign currency transactions, primarily driven by changes in the Euro during the year.

Year Ended December 31, 2021 Compared with Year Ended December 31, 2020

Net cash used in operating activities for the year ended December 31, 2021 totaled $16.7 million and was primarily comprised of our net loss of $16.2 million, and gain on the PPP Loan forgiveness of $3.0 million, partially offset by non-cash adjustments for stock-based compensation of $1.7 million, depreciation and amortization expenses of $0.4 million, and amortization of debt issuance costs of $0.4 million.

Net cash used in investing activities for the year ended December 31, 2021 was $0.7 million and was primarily driven by our capital expenditures. We expect cash flows from investing activities to increase somewhat in 2022 due to the completion of our new training facility.

Net cash provided by financing activities for the year ended December 31, 2021 was $30.0 million primarily due to the sale of common stock from our equity offering in February 2021 for net proceeds of $13.3 million and $16.6 million from the exercise of common stock warrants.

The $0.2 million effect of exchange rate on cash for the year ended December 31, 2021 was due to a recognized gain on foreign currency transactions, primarily driven by changes in the Euro during the year.

Contractual Obligations

Leases

On January 22, 2020, the Company entered into a five-year real property lease agreement for an approximately 11,000 square foot facility in Corona, California where it moved its manufacturing operations. The lease commenced on July 1, 2020. On December 10, 2021, the Company entered into an additional three and a half year lease at this location to expand the leased space by an additional 15,000 square feet to meet growing manufacturing needs. The additional lease commenced on February 1, 2022. Future minimum rent payments under these leases are approximately $0.8 million.

On February 4, 2020, the Company also entered into a sixty-six month real property lease agreement for office space of approximately 12,000 square feet of office space in Lake Forest, California. The lease commenced on July 1, 2020. On May 26, 2022, the Company entered into an additional lease at this location to expand the leased space by an additional 8,000 square feet for an additional training facility and model dental office. The additional lease commenced on March 9, 2023. Future minimum rent payments under these leases are approximately $1.8 million.

SWK Loan

On November 9, 2018, we entered into the Credit Agreement with SWK, which provides us with the SWK Loan, a variable-rate term loan. The Credit Agreement has been amended multiple times with the most recent being effective December 30, 2022 for total outstanding principal of $13.3 million and exit fees of $1.4 million. Refer to *Note 6 - Debt* for further details.

EIDL Loan

On May 22, 2020, the Company executed the standard loan documents required for securing a loan from the United States Small Business Administration under its Economic Injury Disaster Loan (the "EIDL Loan") assistance program in light of the impact of the COVID-19 pandemic on our business. The principal amount of the EIDL Loan is $150,000, with proceeds to be used for working capital purposes. The information set forth in Note 6 – Debt – EIDL Loan is hereby incorporated herein by reference.

Purchase Obligations

Purchase obligations relate to purchase orders with suppliers that we expect to complete primarily during the year ended December 31, 2022. In conformity with current GAAP, purchase obligations that have not met the recognition criteria are not reported in the consolidated balance sheet as of December 31, 2022.

The following table presents our expected cash requirements for contractual obligations outstanding for the years ended as indicated below (in thousands):

	Less Than 1 Year	1 to 3 Years	3 to 5 Years	More Than 5 years	Total
Operating lease obligations	$ 833	$ 1,406	$ —	$ —	$ 2,239
Purchase obligations	28,165	914	—	—	29,079
Loan interest [(1)]	1,863	2,335	15	83	4,296
Loan principal	700	13,950	3	147	14,800
Total	$ 31,561	$ 18,605	$ 18	$ 230	$ 50,414

(1) estimated using LIBOR rates as of December 31, 2022

Item 8. Financial Statements and Supplementary Data

All financial statements required by this Item 8, including the report of the independent registered public accounting firm, are listed in Part IV, Item 15 of this Form 10-K, are set forth beginning on Page F-1 of this Form 10-K, and are hereby incorporated herein by reference.

Item 9. ***Changes in and Disagreements with Accountants on Accounting and Financial Disclosure***

None.

Item 9A. ***Controls and Procedures***

Disclosure Controls and Procedures

Our management has evaluated, with the participation of our President and Chief Executive Officer and Chief Financial Officer the effectiveness of the Company's disclosure controls and procedures (as defined in Rules 13a-15(e) and 15d-15(e) under the Exchange Act) as of the end of the period covered by this report. Based on that evaluation, our President and Chief Executive Officer and Chief Financial Officer has concluded that the Company's disclosure controls and procedures were effective as of December 31, 2022.

Management's Annual Report on Internal Control over Financial Reporting

Our management is responsible for establishing and maintaining adequate internal control over financial reporting, as such term is defined in Rules 13a-15(f) and 15d-15(f) under the Exchange Act. Under the supervision and with the participation of our management, including our principal executive officer and principal financial officer, we conducted an evaluation of the effectiveness of our internal control over financial reporting based on the framework established by the Committee of Sponsoring Organizations of the Treadway Commission entitled "Internal Control — Integrated Framework (2013)" (the "COSO Framework"). Based on that evaluation, the Company's management concluded that its internal control over financial reporting was effective as of December 31, 2022.

This Form 10-K does not include an attestation report from BDO USA, LLP regarding internal control over financial reporting. Management's report was not subject to attestation by BDO USA, LLP pursuant to the SEC rules that permit the Company to provide only management's report in this Form 10-K.

Changes in Internal Control over Financial Reporting

There have been no changes in our internal control over financial reporting that occurred during the Company's quarter ended December 31, 2022 that have materially affected, or are reasonably likely to materially affect, our internal control over financial reporting.

Item 9B. ***Other Information***

None.

Item 9C. Disclosure Regarding Foreign Jurisdictions that Prevent Inspections.

Not applicable.

PART III

Item 10. ***Directors, Executive Officers and Corporate Governance***

Information regarding our executive officers is included in Part I of this Form 10-K under "Item 1. Business — Information about Our Executive Officers." In addition, the information set forth under the caption "Election of Directors" to be included in the proxy statement for the Company's 2023 annual meeting of stockholders (the "Proxy Statement") is incorporated by reference herein.

The BIOLASE, Inc. Code of Business Conduct and Ethics applies to all of our employees, officers, and directors, including our President and Chief Executive Officer. The Code of Business Conduct can be found on our website at the following address: media.corporate-ir.net/media_files/nsd/blti/corpgov/CodeofConductandEthics.pdf.

Item 11. ***Executive Compensation***

The information set forth under the captions "Executive Compensation" and "Director Compensation" to be included in the Proxy Statement is incorporated by reference herein.

Item 12. ***Security Ownership of Certain Beneficial Owners and Management and Related Stockholder Matters***

The information set forth under the caption "Security Ownership of Certain Beneficial Owners and Management" to be included in the Proxy Statement and the information set forth under the caption "Equity Compensation Plan Information" in Item 5 of this Form 10-K are incorporated by reference herein.

Equity Compensation Plan Information

At our annual meeting of stockholders held on May 9, 2018, the Company's stockholders approved the BIOLASE, Inc. 2018 Long-Term Incentive Plan (as amended on September 21, 2018, May 15, 2019, May 13, 2020, and June 11, 2021, the "2018 Plan"). The purposes of the 2018 Plan are (i) to align the interests of the Company's stockholders and recipients of awards under the 2018 Plan by increasing the proprietary interest of such recipients in the Company's growth and success; (ii) to advance the interests of the Company by attracting and retaining non-employee directors, officers, other employees, consultants, independent contractors and agents; and (iii) to motivate such persons to act in the long-term best interests of the Company and its stockholders. The 2018 Plan replaced the BIOLASE, Inc. 2002 Stock Incentive Plan, (as amended, the "2002 Plan"), with respect to future awards.

The 2018 Plan was amended in 2018, 2019, 2020, and 2021 to increase the shares available for issuance. Under the terms of the 2018 Plan, approximately 1,476,844 shares of BIOLASE common stock are available for issuance.

The 2002 Plan and the 2018 Plan are designed to attract and retain the services of individuals essential to the Company's long-term growth and success. The following table summarizes information as of December 31, 2022 with respect to the shares of our common stock that may be issued upon exercise of options, warrants or rights under the 2002 Plan and the 2018 Plan.

Plan Category	Number of Securities to be Issued Upon Exercise of Outstanding Options and Release of Restricted Stock Units	Weighted Average Exercise Price of Outstanding Options	Number of Securities Remaining Available for Future Issuance Under Equity Compensation Plans
Equity Compensation Plan Approved by Stockholders	994,000	$ 15.36	55,000
Equity Compensation Plan Not Approved by Stockholders	—	—	—
Total	994,000	$ 15.36	55,000

Item 13. ***Certain Relationships and Related Transactions, and Director Independence***

The information set forth under the captions "Election of Directors" and "Certain Relationships and Related Transactions" to be included in the Proxy Statement is incorporated by reference herein.

Item 14. ***Principal Accountant Fees and Services***

The information set forth under the caption "Principal Accountant Fees and Services" to be included in the Proxy Statement is incorporated by reference herein.

PART IV

Item 15. ***Exhibits, Financial Statement Schedules***

(a) The following documents are filed as part of this Annual Report on Form 10-K beginning on the pages referenced below:

(1) Financial Statements:

(2) Financial Statement Schedule:

All other schedules have been omitted as they are not applicable, not required or the information is included in the consolidated financial statements or the notes thereto.

(3) Exhibits:

The exhibits filed as a part of this Annual Report on Form 10-K are listed in the accompanying Exhibit Index on page 53.

Item 16. ***Form 10-K Summary***

None

Exhibit	Description	Filed Herewith	Incorporated by Reference			
			Form	Period Ending/Date of Report	Exhibit	Filing Date
2.1	Membership Interest Purchase Agreement, dated as of September 22, 2022, by and among BIOLASE, Inc., Med-Fiber LLC and Alexei Tchapyjnikov		10-Q	9/30/2022	2.1	11/20/2022
3.1.1	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		S-1, Amendment No. 1	12/23/2005	3.1	12/23/2005
3.1.2	Amendment to Restated Certificate of Incorporation		8-K	05/10/2012	3.1	05/16/2012
3.1.3	Second Amendment to Restated Certificate of Incorporation		8-A/A	11/04/2014	3.1.3	11/04/2014
3.1.4	Third Amendment to Restated Certificate of Incorporation		S-3	07/21/2017	3.4	07/21/2017
3.1.5	Fourth Amendment to Restated Certificate of Incorporation		8-K	05/10/2018	3.1	05/11/2018
3.1.6	Fifth Amendment to Restated Certificate of Incorporation		8-K	05.28/2020	3.1	06/01/2020
3.1.7	Sixth Amendment to Restated Certificate of Incorporation		8-K	04/28/2022	3.1	05/02/2022
3.1.8	Certificate of Designation of Series G Preferred Stock		8-A	03/03/2022	3.1	03/03/2022
3.1.9	Certificate of Elimination of Series D, Series E and Series F Preferred Stock of the Registrant		8-K	03/01/2022	3.3	03/03/2022
3.1.10	Certificate of Elimination of Series G Preferred Stock		8-K	06/08/2022	3.1	06/08/2022
3.2	Eighth Amended and Restated Bylaws of the Registrant, adopted on March 1, 2022		8-K	03/01/2022	3.1	03/03/2022
4.1	Description of Registrant's Securities Registered Pursuant to Section 12 of the Exchange Act	X				
4.2	Form of Warrant issued on July 15, 2020		8-K	07/15/2020	4.2	07/22/2020
4.3	Form of Warrant to Purchase Common Stock issued on June 30, 2022		8-K	06/27/2022	4.2	06/29/2022
4.4	Form of Warrant to Purchase Common Stock issued on January 11, 2023		S-1/A	01/03/2023	4.2	01/03/2023
10.1*	2002 Stock Incentive Plan, as amended		DEF14A	05/06/2016	A	04/07/2016

10.2*	Form of Stock Option Agreement under the 2002 Stock Incentive Plan (attached as Exhibit A to the Notice of Grant of Stock Option under the 2002 Stock Incentive Plan – Discretionary Option Grant Program)	10-K	12/31/2004	10.26	07/19/2005
10.3*	Form of Option Award Notice for California Employees under the 2002 Stock Incentive Plan	10-Q	09/30/2015	10.2	11/06/2015
10.4*	Form of Option Award Notice for Non-California Employees under the 2002 Stock Incentive Plan	10-Q	09/30/2015	10.3	11/06/2015
10.5*	Form of Option Award Notice for Non-Employee Directors under the 2002 Stock Incentive Plan	10-Q	09/30/2015	10.4	11/06/2015
10.6*	Form of Restricted Stock Unit Award Notice for Non-Employee Directors under the 2002 Stock Incentive Plan	10-Q	09/30/2015	10.5	11/06/2015
10.7*	2018 Long-Term Incentive Plan	DEF14A	05/09/2018	A	04/05/2018
10.8*	First Amendment to 2018 Long-Term Incentive Plan	DEF14A	09/21/2018	B	08/24/2018
10.9*	Second Amendment to 2018 Long-Term Incentive Plan	DEF14A	05/15/2019	A	04/10/2019
10.10*	Third Amendment to 2018 Long-Term Incentive Plan	DEF14A	05/13/2020	A	04/23/2020
10.11*	Fourth Amendment to 2018 Long-Term Incentive Plan	DEF14A	05/26/2021	A	04/19/2021
10.12*	Form of Restricted Stock Unit—Phantom Award Notice and Restricted Stock Unit Award Agreement for Employees	10-Q	09/30/2021	10.1	11/10/2021
10.13*	Form of Restricted Stock Unit—Phantom Award Notice and Restricted Stock Unit Award Agreement for Non-Employee Directors	10-Q	09/30/2021	10.2	11/10/2021
10.14*	Restricted Stock Unit—Phantom Award Notice and Restricted Stock Unit Award Agreement, dated July 21, 2021, by and between the Registrant and John R. Beaver	10-Q	09/30/2021	10.3	11/10/2021
10.15*	Form of Stock Appreciation Rights Award Notice and Stock Appreciation Rights Agreement for Non-Employee Directors	10-Q	09/30/2021	10.4	11/10/2021
10.16	Lease dated February 4, 2020 by and between the Registrant and Foothill Corporate I MT, LLC	10-K	12/31/2019	10.12	03/30/2020
10.17	Lease dated January 22, 2020 by and between the Registrant and Green River Properties, LLC	10-K	12/31/2019	10.13	03/30/2020
10.18*	Form of Indemnification Agreement between the Registrant and its officers and directors	10-Q	09/30/2005	10.1	11/09/2005
10.19*	Form of Stock Option Agreement for inducement grants made to John R. Beaver on September 30, 2017	8-K	09/30/2017	10.1	10/03/2017
10.20*	Letter Agreement Amending Employment with John Beaver, dated April 12, 2020	10-Q	03/31/2020	10.10	05/08/2020
10.21	Credit Agreement dated as of November 9, 2018, by and between the Registrant and SWK Funding LLC	10-Q	09/30/2018	10.6	11/14/2018

10.22	Tenth Amendment to Credit Agreement, dated as of December 30, 2022 by and between the Registrant and SWK LLC		8-K	01/05/2023	10.1	01/05/2023
10.23	Letter Agreement, dated as of August 20, 2019, by and between the Registrant and SWK Funding LLC		S-1	09/04/2019	10.28	09/05/2019
21.1	Subsidiaries of the Registrant	X				
23.1	Consent of Independent Registered Public Accounting Firm, BDO USA, LLP	X				
31.1	Certification of Chief Executive Officer pursuant to Rule 13a-14 and Rule 15d-14(a) of the Securities Exchange Act of 1934, as amended	X				
31.2	Certification of Chief Financial Officer pursuant to Rule 13a-14 and Rule 15d-14(a) of the Securities Exchange Act of 1934, as amended	X				
32.1	Certification of Chief Executive Officer pursuant to 18 U.S.C. 1350, as adopted pursuant to Section 906 of the Sarbanes-Oxley Act of 2002	**				
32.2	Certification of Chief Financial Officer pursuant to 18 U.S.C. 1350, as adopted pursuant to Section 906 of the Sarbanes-Oxley Act of 2002	**				
101.INS	Inline XBRL Instance Document – the instance document does not appear in the Interactive Data File because XBRL tags are embedded within the Inline XBRL document.					
101.SCH	Inline XBRL Taxonomy Extension Schema Document					
101.CAL	Inline XBRL Taxonomy Extension Calculation Linkbase Document					
101.DEF	Inline XBRL Taxonomy Extension Definition Linkbase Document					
101.LAB	Inline XBRL Taxonomy Extension Label Linkbase Document					
101.PRE	Inline XBRL Taxonomy Extension Presentation Linkbase Document					
104	Cover Page Interactive Data File (embedded within the Inline XBRL document)					

* Management contract or compensatory plan or arrangement.

** Furnished herewith.

SIGNATURES

Pursuant to the requirements of Section 13 or 15(d) of the Securities Exchange Act of 1934, the registrant has duly caused this report to be signed on its behalf by the undersigned, thereunto duly authorized.

BIOLASE, INC.,
a Delaware Corporation
(registrant)

Dated: March 28, 2023

By: /s/ JOHN R. BEAVER
John R. Beaver
President and Chief Executive Officer

Pursuant to the requirements of the Securities Exchange Act of 1934, this report has been signed below by the following persons on behalf of the registrant and in the capacities and on the dates indicated:

Signature	Title	Date
/s/ JOHN R. BEAVER **John R. Beaver**	Director, President and Chief Executive Officer (Principal Executive Officer)	March 28, 2023
/s/ JENNIFER BRIGHT **Jennifer Bright**	Chief Financial Officer (Principal Financial Officer and Principal Accounting Officer)	March 28, 2023
/s/ DR. JONATHAN T. LORD **Dr. Jonathan T. Lord**	Director	March 28, 2023
/s/ DR. KATHLEEN T. O'LOUGHLIN **Dr. Kathleen T. O'Loughlin**	Director	March 28, 2023
/s/ JESS ROPER **Jess Roper**	Director	March 28, 2023
/s/ DR. MARTHA SOMERMAN **Dr. Martha Somerman**	Director	March 28, 2023
/s/ DR. CAROL GOMEZ SUMMERHAYS **Dr. Carol Gomez Summerhays**	Director	March 28, 2023
/s/ DR. KENNETH P. YALE **Dr. Kenneth P. Yale**	Director	March 28, 2023

BIOLASE, INC.

Index to Consolidated Financial Statements and Schedule

All Schedules, except Schedule II, have been omitted as the required information is shown in the consolidated financial statements, or notes thereto, or the amounts involved are not significant or the schedules are not applicable.

Report of Independent Registered Public Accounting Firm

Shareholders and Board of Directors
BIOLASE, Inc.
Lake Forest, California

Opinion on the Consolidated Financial Statements

We have audited the accompanying consolidated balance sheets of BIOLASE, Inc. (the "Company") as of December 31, 2022 and 2021, the related consolidated statements of operations and comprehensive loss, redeemable preferred stock and stockholders' equity, cash flows for each of the three years in the period ended December 31, 2022, and the related notes and schedule listed in the index appearing under Item 15(a)(2) (collectively referred to as the "consolidated financial statements"). In our opinion, the consolidated financial statements present fairly, in all material respects, the financial position of the Company at December 31, 2022 and 2021, and the results of its operations and its cash flows for each of the three years in the period ended December 31, 2022, in conformity with accounting principles generally accepted in the United States of America.

Going Concern Uncertainty

The accompanying consolidated financial statements have been prepared assuming that the Company will continue as a going concern. As discussed in Note 1 to the consolidated financial statements, the Company has suffered recurring losses from operations and has had negative cash flows from operations for each of the three years ended December 31, 2022. These factors, among others, raise substantial doubt about its ability to continue as a going concern. Management's plans in regard to these matters are also described in Note 1. The consolidated financial statements do not include any adjustments that might result from the outcome of this uncertainty.

Basis for Opinion

These consolidated financial statements are the responsibility of the Company's management. Our responsibility is to express an opinion on the Company's consolidated financial statements based on our audits. We are a public accounting firm registered with the Public Company Accounting Oversight Board (United States) ("PCAOB") and are required to be independent with respect to the Company in accordance with the U.S. federal securities laws and the applicable rules and regulations of the Securities and Exchange Commission and the PCAOB.

We conducted our audits in accordance with the standards of the PCAOB. Those standards require that we plan and perform the audit to obtain reasonable assurance about whether the consolidated financial statements are free of material misstatement, whether due to error or fraud. The Company is not required to have, nor were we engaged to perform, an audit of its internal control over financial reporting. As part of our audits we are required to obtain an understanding of internal control over financial reporting but not for the purpose of expressing an opinion on the effectiveness of the Company's internal control over financial reporting. Accordingly, we express no such opinion.

Our audits included performing procedures to assess the risks of material misstatement of the consolidated financial statements, whether due to error or fraud, and performing procedures that respond to those risks. Such procedures included examining, on a test basis, evidence regarding the amounts and disclosures in the consolidated financial statements. Our audits also included evaluating the accounting principles used and significant estimates made by management, as well as evaluating the overall presentation of the consolidated financial statements. We believe that our audits provide a reasonable basis for our opinion.

Critical Audit Matter

The critical audit matters communicated below are matters arising from the current period audit of the consolidated financial statements that were communicated or required to be communicated to the audit committee and that: (1) relates to accounts or disclosures that are material to the consolidated financial statements and (2) involved our especially challenging, subjective, or complex judgments. The communication of the critical audit matters does not alter in any way our opinion on the consolidated financial statements, taken as a whole, and we are not, by communicating the critical audit matters below, providing separate opinions on the critical audit matters or on the accounts or disclosures to which they relate.

Revenue Recognition

As described in Note 2 – Summary of Significant Accounting Policies, revenue from sales of products and services through contracts with customers include delivery of laser systems, consumables, and ancillary services such as training and extended warranties. A majority of the Company's revenues are recognized at a point in time, which includes the sale of laser systems and consumables. Revenue from these contracts is recognized when the customer is able to direct the use of and obtain substantially all of the benefits from the product, which generally coincides with title transfer during the shipping process.

We identified the timing of revenue recognition as a critical audit matter due to the volume and magnitude of sales transactions at or near period end. Auditing the timing of revenue recognition at or near period end involved especially challenging auditor judgment due to the nature of audit procedures and extent of audit effort required.

The primary procedures we performed to address this critical audit matter included:

- Obtaining a sample of sales agreements and evaluating the key terms included in the agreements.
- Reconciling revenue recorded in the general ledger to sales transactions by agreeing invoices to shipping logs
- Testing fulfillment of performance obligations for a sample of sales transactions that occurred near the end of the period.
- Confirming with a sample of customers with accounts receivable the amounts owed to the Company as of December 31, 2022.
- Comparing the trend in shipping cost activities near the end of the period to the trend in sales activities for the corresponding period.

Accounting for 2022 Warrant Issuances

As described in Note 8 to the consolidated financial statements, in June 2022, the Company issued 726,660 shares of Pre-Funded Common Stock Warrants and 1,405,405 shares of Common Stock Warrants (collectively, the "June 2022 Warrants") in a private placement. Based on the terms of the warrant agreements, the Company determined that the June 2022 Warrants should be classified as equity.

We identified the assessment of the accounting and classification of the June 2022 Warrants as equity or liability as a critical audit matter due to the complexity in assessing the warrant features, which requires management to interpret complex terms of the agreements in applying the appropriate accounting guidance. Auditing management's application of the appropriate accounting guidance required challenging and complex auditor judgment due to the nature and extent of audit effort required, including the extent of specialized skills or knowledge needed.

The primary procedures we performed to address this critical audit matter included:

- Evaluating the terms and conditions of the warrant agreements and assessing the reasonableness of management's interpretation and application of the appropriate accounting guidance.
- Utilizing personnel with specialized skill and knowledge to assist in assessing the appropriateness of conclusions reached by management by i) evaluating the underlying terms of the warrant agreements and ii) assessing the appropriateness of management's application of the authoritative accounting guidance.

/s/ BDO USA, LLP

We have served as the Company's auditor since 2005.

Costa Mesa, California

March 28, 2023

BIOLASE, INC.
CONSOLIDATED BALANCE SHEETS
(in thousands, except per share data)

	December 31, 2022	December 31, 2021
ASSETS		
Current assets:		
Cash and cash equivalents	$ 4,181	$ 29,972
Restricted cash	—	203
Accounts receivable, less allowance of $2,164 and $2,154 as of December 31, 2022 and 2021, respectively	5,841	4,238
Inventory	15,884	12,929
Prepaid expenses and other current assets	3,053	2,012
Total current assets	28,959	49,354
Property, plant, and equipment, net	4,278	1,067
Goodwill	2,926	2,926
Right of use asset	1,768	1,717
Other assets	255	220
Total assets	$ 38,186	$ 55,284
LIABILITIES AND STOCKHOLDERS' EQUITY		
Current liabilities:		
Accounts payable	$ 5,786	$ 3,309
Accrued liabilities	9,210	8,276
Deferred revenue, current portion	2,111	2,259
Current portion of term loans, net of discount	700	—
Total current liabilities	17,807	13,844
Deferred revenue	418	329
Warranty accrual	360	521
Non current term loans, net of discount	13,091	13,603
Non current operating lease liability	1,259	1,449
Other liabilities	362	330
Total liabilities	33,297	30,076
Commitments and contingencies — Note 7		
Stockholders' equity:		
Series F Preferred stock, par value $0.001 per share; 18 shares authorized, 0 shares issued and outstanding as of December 31, 2022 and 2021, respectively	—	34
Common stock, par value $0.001 per share; 180,000 shares authorized, 7,723 and 6,149 shares issued and 7,721 and 6,147 shares outstanding as of December 31, 2022 and 2021, respectively	8	6
Additional paid-in capital	301,782	293,325
Accumulated other comprehensive loss	(733)	(623)
Accumulated deficit	(296,168)	(267,534)
Total stockholders' equity	4,889	25,208
Total liabilities and stockholders' equity	$ 38,186	$ 55,284

See accompanying notes to consolidated financial statements.

BIOLASE, INC.
CONSOLIDATED STATEMENTS OF OPERATIONS AND COMPREHENSIVE LOSS
(in thousands, except per share data)

	Years Ended December 31,		
	2022	2021	2020
Net revenue	$ 48,462	$ 39,188	$ 22,780
Cost of revenue	32,551	22,659	16,607
Gross profit	15,911	16,529	6,173
Operating expenses:			
Sales and marketing	21,675	15,339	11,242
General and administrative	12,309	11,258	9,772
Engineering and development	7,265	6,048	3,695
Loss on patent litigation settlement	—	315	—
Total operating expenses	41,249	32,960	24,709
Loss from operations	(25,338)	(16,431)	(18,536)
Loss on foreign currency transactions	(438)	(452)	(21)
Interest expense, net	(2,749)	(2,224)	(2,359)
Gain on debt forgiveness	—	3,014	—
Other income, net	—	—	4,215
Non-operating gain (loss), net	(3,187)	338	1,835
Loss before income tax provision	(28,525)	(16,093)	(16,701)
Income tax (provision) benefit	(109)	(65)	(128)
Net loss	(28,634)	(16,158)	(16,829)
Other comprehensive loss items:			
Foreign currency translation adjustments	(110)	(238)	316
Comprehensive loss	$ (28,744)	$ (16,396)	$ (16,513)
Net loss	$ (28,634)	$ (16,158)	$ (16,829)
Deemed dividend on convertible preferred stock	(217)	(546)	(17,378)
Net loss attributable to common stockholders	$ (28,851)	$ (16,704)	$ (34,207)
Net loss per share attributable to common stockholders:			
Basic and Diluted	$ (4.16)	$ (2.83)	$ (13.99)
Shares used in the calculation of net loss per share:			
Basic and Diluted	6,930	5,910	2,445

See accompanying notes to consolidated financial statements.

BIOLASE, INC.
CONSOLIDATED STATEMENTS OF REDEEMABLE PREFERRED STOCK AND STOCKHOLDERS' EQUITY
(in thousands)

	Mezzanine Equity				Stockholders' Equity							
	Series G Redeemable Preferred Stock		Series E Convertible Preferred Stock		Common Stock		Additional Paid-in Capital	Series F Convertible Preferred Stock		Accumulated Other Comprehensive Loss	Accumulated Deficit	Total Stockholders' Equity
	Shares	Amount	Shares	Amount	Shares	Amount	Amount	Shares	Amount			
Balance, December 31, 2019	—	$ —	70	$ 3,965	1,258	$ 1	$ 235,624	—	$ —	$ (701)	$ (234,547)	$ 377
Conversion of Series E Participating Convertible Preferred Stock	—	—	(70)	(3,965)	278	—	3,965	—	—	—	—	3,965
Sale of common stock, net	—	—	—	—	432	1	3,797	—	—	—	—	3,798
June 2020 Warrants	—	—	—	—	—	—	3,031	—	—	—	—	3,031
Reclassification of July 2020 Warrants	—	—	—	—	—	—	9,450	—	—	—	—	9,450
Stock offering costs	—	—	—	—	—	—	(856)	—	—	—	—	(856)
Warrant issued in connection with debt instruments	—	—	—	—	—	—	67	—	—	—	—	67
Issuance of Series F Convertible Preferred Stock in Rights Offering, net of offering costs	—	—	—	—	—	—	—	18	2,411	—	—	2,411
Beneficial conversion of Series F Convertible Preferred Stock	—	—	—	—	—	—	2,700	—	(2,700)	—	—	—
Deemed dividend on Series F Convertible Preferred Stock	—	—	—	—	—	—	(17,378)	—	17,378	—	—	—
Conversion of Series F Convertible Preferred Stock	—	—	—	—	1,712	2	16,969	(17)	(16,971)	—	—	—
Issuance of stock from RSUs, net	—	—	—	—	74	—	163	—	—	—	—	163
Stock-based compensation	—	—	—	—	—	—	2,591	—	—	—	—	2,591
Exercise of common stock warrants	—	—	—	—	154	—	1,544	—	—	—	—	1,544
Net loss	—	—	—	—	—	—	—	—	—	—	(16,829)	(16,829)
Foreign currency translation adjustment	—	—	—	—	—	—	—	—	—	316	—	316
Balance, December 31, 2020	—	—	—	—	3,908	4	261,667	1	118	(385)	(251,376)	10,028
Sale of common stock, net	—	—	—	—	560	1	13,290	—	—	—	—	13,291
Exercise of stock options, net	—	—	—	—	14	—	132	—	—	—	—	132
Issuance of common stock for settlement of liability	—	—	—	—	20	—	510	—	—	—	—	510
Issuance of restricted shares	—	—	—	—	10	—	164	—	—	—	—	164
Conversion of Series F Convertible Preferred Stock	—	—	—	—	63	—	630	(1)	(630)	—	—	—
Deemed dividend on Series F Convertible Preferred Stock	—	—	—	—	—	—	(546)	—	546	—	—	—
Issuance of stock from RSUs, net	—	—	—	—	145	—	—	—	—	—	—	—
Stock-based compensation	—	—	—	—	—	—	2,416	—	—	—	—	2,416
Exercise of common stock warrants	—	—	—	—	1,429	1	15,062	—	—	—	—	15,063
Net loss	—	—	—	—	—	—	—	—	—	—	(16,158)	(16,158)
Foreign currency translation adjustment	—	—	—	—	—	—	—	—	—	(238)	—	(238)
Balance, December 31, 2021	—	—	—	—	6,149	6	293,325	—	34	(623)	(267,534)	25,208
Sale of common stock, net	—	—	—	—	679	1	5,601	—	—	—	—	5,602
Issuance of restricted shares	—	—	—	—	20	—	109	—	—	—	—	109
Issuance of Series G Redeemable Preferred Stock	154	—	—	—	—	—	—	—	—	—	—	—
Redemption of Series G Redeemable Preferred Stock	(154)	—	—	—	—	—	—	—	—	—	—	—
Conversion of Series F Convertible Preferred Stock	—	—	—	—	25	—	251	—	(251)	—	—	—
Deemed dividend on Series F Convertible Preferred Stock	—	—	—	—	—	—	(217)	—	217	—	—	—
Issuance of stock from RSUs, net	—	—	—	—	123	—	—	—	—	—	—	—
Liability award reclass	—	—	—	—	—	—	596	—	—	—	—	596
Stock-based compensation	—	—	—	—	—	—	2,117	—	—	—	—	2,117
Exercise of common stock warrants	—	—	—	—	727	1	—	—	—	—	—	1
Net loss	—	—	—	—	—	—	—	—	—	—	(28,634)	(28,634)
Foreign currency translation adjustment	—	—	—	—	—	—	—	—	—	(110)	—	(110)
Balance, December 31, 2022	—	$ —	—	$ —	7,723	$ 8	$ 301,782	—	$ —	$ (733)	$ (296,168)	$ 4,889

See accompanying notes to consolidated financial statements.

BIOLASE, INC.
CONSOLIDATED STATEMENTS OF CASH FLOWS
(in thousands)

	Years Ended December 31,		
	2022	2021	2020
Cash Flows from Operating Activities:			
Net loss	$ (28,634)	$ (16,158)	$ (16,829)
Adjustments to reconcile net loss to net cash and cash equivalents used in operating activities:			
Depreciation and amortization	497	400	499
Provision for bad debts	40	(202)	1,328
Provision for sales returns	—	—	87
Provision for inventory excess and obsolescence	1,312	(275)	(591)
Inventory disposals and recoveries, net	1,486	(122)	1,300
Amortization of debt issuance costs	1,196	515	496
Patent litigation mark-to-market	—	315	—
Change in fair value of warrants	—	—	(5,850)
Issuance of restricted shares	109	164	—
Issuance costs for common stock warrants	—	—	1,641
Stock-based compensation	2,303	1,662	3,370
Gain on debt forgiveness	—	(3,014)	—
Changes in operating assets and liabilities:			
Accounts receivable	(1,643)	(978)	4,286
Inventory	(5,754)	(1,375)	(871)
Prepaid expenses and other current assets	(1,135)	285	825
Accounts payable and accrued liabilities	3,521	1,765	(2,107)
Deferred revenue	(59)	308	(379)
Net cash and cash equivalents used in operating activities	(26,761)	(16,710)	(12,795)
Cash Flows from Investing Activities:			
Purchases of property, plant, and equipment	(3,727)	(707)	(96)
Net cash and cash equivalents used in investing activities	(3,727)	(707)	(96)
Cash Flows from Financing Activities:			
Proceeds from the sale of common stock	5,602	14,420	6,912
Proceeds from the issuance of Series F Convertible Preferred Stock	—	—	2,700
Proceeds from the issuance of July 2020 Warrants	—	—	15,300
Payments of equity offering costs	—	(1,135)	(1,281)
Payment of July 2020 Warrant issuance costs	—	—	(1,640)
Borrowings on other long-term loans	—	—	3,140
Principal payment on term loan	(1,000)	—	(700)
Borrowings on credit facility	—	—	3,000
Payments of credit facility	—	—	(3,000)
Payments of debt issuance costs	—	(25)	(128)
Proceeds from the exercise of common stock warrants	1	16,562	46
Proceeds from exercise of stock options	—	132	—
Net cash and cash equivalents provided by financing activities	4,603	29,954	24,349
Effect of exchange rate changes	(109)	(238)	317
Increase (decrease) in cash and cash equivalents	(25,994)	12,299	11,775
Cash, cash equivalents and restricted cash, beginning of year	30,175	17,876	6,101
Cash, cash equivalents and restricted cash, end of year	$ 4,181	$ 30,175	$ 17,876
Supplemental cash flow disclosure:			
Cash paid for interest	$ 1,519	$ 1,771	$ 1,881
Cash received for interest	$ 26	$ 56	$ 11
Cash paid for income taxes	$ 59	$ 171	$ 22
Cash paid for operating leases	$ 254	$ 246	$ 489
Non-cash settlement of liability	$ —	$ 510	$ 151
Non-cash right-of-use assets obtained in exchange for lease obligations	$ 574	$ 150	$ 2,037
Equity financing costs in accounts payable	$ —	$ —	$ 74
Deemed dividend on preferred stock	$ 217	$ 546	$ 17,378
Forgiveness of debt	$ —	$ —	$ 10
Receivable from warrants exercised and included in prepaid and other current assets	$ —	$ (1,498)	$ 1,498
Warrants issued in connection with debt instruments	$ —	$ —	$ 67

See accompanying notes to consolidated financial statements.

NOTE 1 — BASIS OF PRESENTATION

The Company

BIOLASE, Inc. ("BIOLASE" and, together with its consolidated subsidiaries, the "Company") is a leading provider of advanced laser systems for the dental industry. The Company develops, manufactures, markets, and sells laser systems that provide significant benefits for dental practitioners and their patients. The Company's proprietary systems allow dentists, periodontists, endodontists, pediatric dentists, oral surgeons, and other dental specialists to perform a broad range of minimally invasive dental procedures, including cosmetic, restorative, and complex surgical applications. The Company's 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. Potential patient benefits include less pain, fewer shots, faster healing, decreased fear and anxiety, and fewer appointments. Potential practitioner benefits include improved patient care and the ability to perform a higher volume and wider variety of procedures and generate more patient referrals.

Use of Estimates

The preparation of these consolidated financial statements in conformity with generally accepted accounting principles in the United States of America ("GAAP") requires the Company to make estimates and assumptions that affect amounts reported in the consolidated financial statements and the accompanying notes. Significant estimates in these consolidated financial statements include allowances on accounts receivable, inventory, and deferred taxes, as well as estimates for accrued warranty expenses, goodwill and the ability of goodwill to be realized, revenue deferrals, effects of stock-based compensation and warrants, contingent liabilities, and the provision or benefit for income taxes. Due to the inherent uncertainty involved in making estimates, actual results reported in future periods may differ materially from those estimates.

Fair Value of Financial Instruments

Fair value is defined as the price that would be received to sell an asset or paid to transfer a liability in an orderly transaction between market participants in the principal market (or, if none exists, the most advantageous market) for the specific asset or liability at the measurement date (referred to as the "exit price"). The fair value is based on assumptions that market participants would use, including a consideration of non-performance risk. Under the accounting guidance for fair value hierarchy, there are three levels of measurement inputs. Level 1 inputs are quoted prices in active markets for identical assets or liabilities. Level 2 inputs are observable, either directly or indirectly. Level 3 inputs are unobservable due to little or no corroborating market data.

The Company's financial instruments, consisting of cash, cash equivalents, restricted cash, accounts receivable, accounts payable, accrued liabilities, and the SWK Loan (as defined below) as discussed in Note 6 – Debt – Term Loan, approximate fair value because of the relative short maturity of these items and the market interest rates the Company could currently obtain.

Concentration of Credit Risk, Interest Rate Risk and Foreign Currency Exchange Rate

Financial instruments which potentially expose the Company to a concentration of credit risk consist principally of cash and cash equivalents, restricted cash, and trade accounts receivable. The Company maintains its cash and cash equivalents and restricted cash with established commercial banks. At times, balances may exceed federally insured limits. To minimize the risk associated with trade accounts receivable, management performs ongoing credit evaluations of customers' financial condition and maintains relationships with the Company's customers that allow management to monitor current changes in business operations so the Company can respond as needed. The Company does not, generally, require customers to provide collateral before it sells them its products. However, the Company has required certain distributors to make prepayments for significant purchases of products.

Substantially all of the Company's revenue is denominated in U.S. dollars, including sales to international distributors. Only a small portion of its revenue and expenses is denominated in foreign currencies, principally the Euro and Indian Rupee. The Company's foreign currency expenditures primarily consist of the cost of maintaining offices, consulting services, and employee-related costs. During the years ended December 31, 2022, 2021, and 2020, the Company did not enter into any hedging contracts. Future fluctuations in the value of the U.S. dollar may affect the price competitiveness of the Company's products outside the U.S.

Liquidity and Management's Plans

The Company has reported losses from operations of $25.3 million, $16.4 million, and $18.5 million for the years ended December 31, 2022, 2021, and 2020, respectively, and has not generated positive net cash from operations for the same periods.

As of December 31, 2022, the Company had working capital of approximately $11.2 million. The Company's principal sources of liquidity consisted of approximately $4.2 million in cash and cash equivalents and $5.8 million of net accounts receivable. As of December 31, 2021, the Company had working capital of approximately $35.5 million, $30.0 million in cash and cash equivalents and $4.2 million of net accounts receivable. The decrease in cash and cash equivalents was primarily due to cash used in operating activities of $26.8 million, $3.7 million cash used in investing activities, and $1.0 million payment on the SWK Loan, partially offset by $5.6 million net proceeds from the June 2022 direct offering and private placement. See Note 8 – Redeemable Preferred Stock and Stockholders' Equity for additional information on these common stock issuances and warrant exercises.

The Company's recurring losses, level of cash used in operations, potential need for additional capital, and the uncertainties surrounding our ability to raise additional capital, raises substantial doubt about its ability to continue as a going concern. The financial statements do not include any adjustments that might be necessary if the Company is unable to continue as a going concern.

In order for the Company to continue operations beyond the next 12 months and be able to discharge its liabilities and commitments in the normal course of business, the Company must increase sales of its products, control or potentially reduce expenses and establish profitable operations in order to generate cash from operations or obtain additional funds when needed.

Although the Company received net proceeds of approximately $5.6 million from common stock issuance in June 2022, the Company may still have to raise additional capital in the future. Additional capital requirements may depend on many factors, including, among other things, the rate at which the Company's business grows, the COVID-19 pandemic and the actions taken to contain it, demands for working capital, manufacturing capacity, and any acquisitions that the Company may pursue. From time to time, the Company could be required, or may otherwise attempt, to raise capital through either equity or debt offerings. The Company cannot provide assurance that it will be able to successfully enter into any such equity or debt financings in the future or that the required capital would be available on acceptable terms, if at all, or that any such financing activity would not be dilutive to its' stockholders.

COVID-19 Risk and Uncertainties

The COVID-19 pandemic severely impacted global economic activity, and many countries and many states in the United States reacted to the outbreak by instituting quarantines, mandating business and school closures and restricting travel. These mandated business closures included dental office closures worldwide for all but emergency procedures. As these quarantines and restrictions began to be lifted in 2021, the Company's sales began to return to pre-pandemic levels. However, there are still uncertainties regarding the ongoing and future effects of COVID-19, and there is no assurance that the Company's sales will not be further impacted in 2023 or at any time thereafter.

Reverse Stock Split

At the 2022 annual meeting of BIOLASE stockholders (the "2022 Annual Meeting"), BIOLASE stockholders approved an amendment to BIOLASE's Restated Certificate of Incorporation, as amended (the "Certificate of Incorporation"), to effect a reverse stock split of BIOLASE common stock, at a ratio ranging from one-for-two (1:2) to one-for-twenty-five (1:25), with the final ratio to be determined by the Board. Immediately after the 2022 Annual Meeting, the Board approved a one-for-twenty-five (1:25) reverse stock split of the outstanding shares of BIOLASE common stock (the "Reverse Stock Split"). On April 28, 2022, BIOLASE filed an amendment to the Certificate of Incorporation with the Secretary of State of the State of Delaware to effect the Reverse Stock Split, which became effective on April 28, 2022. The amendment did not change the number of authorized shares of BIOLASE common stock. Except as the context otherwise requires, all common stock share numbers, share price amounts (including exercise prices, conversion prices, and closing market prices), and the common stock quantities issuable upon the exercise of warrants issued prior to April 28, 2022 contained in the consolidated financial statements and notes thereto reflect the one-for-twenty-five (1:25) reverse stock split

Membership Interest Purchase Agreement

On September 22, 2022, the Company entered into a Membership Interest Purchase Agreement (the "Purchase Agreement") with Med-Fiber LLC ("Med-Fiber") and Alexei Tchapyjnikov, pursuant to which the Company acquired all of the issued and outstanding membership interests of Med-Fiber on the terms and subject to the conditions set forth in the Purchase Agreement, for a purchase price equal to $1,320,000, plus, subject to the satisfaction of certain milestones, additional earn-out consideration in an aggregate amount of up to $880,000. Med-Fiber was engaged in the business of manufacturing and supplying infrared transmitting fiber optics for laser power delivery applications and activities related thereto. The purchase was accounted for as an asset acquisition as substantially all of the fair value of the gross assets acquired is concentrated in a group of similar assets. The $2,220,000 is included as a component of property, plant, and equipment in the consolidated balance sheet as of December 31, 2022.

Cyber Incident

In December 2021, the Company experienced a cybersecurity attack that caused a brief network disruption and impacted certain systems. Upon detection, the Company took immediate steps to address the incident, engaged third-party experts, and notified law enforcement. The Company has taken actions to strengthen its existing systems and implement additional prevention measures. This incident is expected to be immaterial both financially and operationally to the Company. The Company will continue to monitor and assess as needed. All liabilities were fully insured, and as of December 31, 2022 the Company recorded an accrued liability and an insurance receivable within prepaid expenses and other current assets of $0.4 million. In March 2022 the Company received the cash reimbursement from our insurance provider.

NOTE 2 — SUMMARY OF SIGNIFICANT ACCOUNTING POLICIES

Cash and Cash Equivalents

The Company considers all highly liquid investments with maturities of three months or less when purchased, as cash equivalents. Cash equivalents are carried at cost, which approximates fair market value.

Restricted Cash

There was no restricted cash as of December 31, 2022. As of December 31, 2021, the restricted cash balance was $0.2 million. Restricted cash represents a revolving 90-day certificate of deposit maintained by the Company as collateral in connection with corporate credit cards.

The following table provides a reconciliation of cash, cash equivalents, and restricted cash reported in the consolidated balance sheets to the same total reported in the consolidated statements of cash flows (in thousands):

	For the years ended December 31,	
	2022	2021
Cash and cash equivalents	$ 4,181	$ 29,972
Restricted cash	—	203
Total cash, cash equivalents, and restricted cash in the consolidated statement of cash flows	$ 4,181	$ 30,175

Inventory

The Company values inventory at the lower of cost or net realizable value, with cost determined using the first-in, first-out method. The carrying value of inventory is evaluated periodically for excess quantities and obsolescence. Management evaluates quantities on hand, physical condition, and technical functionality as these characteristics may be impacted by anticipated customer demand for current products and new product introductions. The allowance is adjusted based on such evaluation, with a corresponding provision included in cost of revenue. Abnormal amounts of idle facility expenses, freight, handling costs and wasted material are recognized as current period charges, and the Company’s allocation of fixed production overhead is based on the normal capacity of its production facilities.

Property, Plant, and Equipment

Property, plant, and equipment is stated at acquisition cost less accumulated depreciation. Maintenance and repairs are expensed as incurred. Upon sale or disposition of assets, any gain or loss is included in the consolidated statements of operations.

The cost of property, plant, and equipment is depreciated using the straight-line method over the following estimated useful lives of the respective assets, except for leasehold improvements, which are depreciated over the lesser of the estimated useful lives of the respective assets or the related lease terms.

Building	30 years
Leasehold improvements	3 to 5 years
Equipment and computers	3 to 5 years
Furniture and fixtures	5 years

Depreciation expense for the years ended December 31, 2022, 2021, and 2020 totaled $0.5 million, $0.4 million and $0.5 million, respectively.

Goodwill and Other Intangible Assets

Goodwill is not subject to amortization but is evaluated for impairment annually or whenever events or changes in circumstances indicate that the asset might be impaired. The Company operates in one reporting segment and reporting unit; therefore, goodwill is tested for impairment at the consolidated level against the fair value of the Company. The fair value of a reporting unit refers to the amount at which the unit as a whole could be bought or sold in a current transaction between willing parties. Quoted market prices in active markets are the best evidence of fair value and are used as the basis for measurement, if available. Management assesses potential impairment on an annual basis and compares the Company's market capitalization to its carrying amount, including goodwill. A significant decrease in the Company's stock price could indicate a material impairment of goodwill which, after further analysis, could result in a material charge to operations. Inherent in the Company's fair value determinations are certain judgments and estimates, including projections of future cash flows, the discount rate reflecting the inherent risk in future cash flows, the interpretation of current economic indicators and market valuations, and strategic plans with regard to operations. A change in these underlying assumptions could cause a change in the results of the tests, which could cause the fair value of the reporting unit to be less than its respective carrying amount.

Costs incurred to acquire and successfully defend patents, and costs incurred to acquire trademarks and trade names are capitalized. Costs related to the internal development of technologies that are ultimately patented are expensed as incurred. Intangible assets, except those determined to have an indefinite life, are amortized using the straight-line method or over management's best estimate of the pattern of economic benefit over the estimated useful life of the assets. Intangible assets are reviewed for impairment whenever events or changes in circumstances indicate that the carrying amount of the asset may not be recoverable.

Long-Lived Assets

The carrying values of long-lived assets are reviewed when indicators of impairment, such as reductions in demand or significant economic slowdowns, are present. Reviews are performed to determine whether carrying value of an asset is impaired based on comparisons to undiscounted expected future cash flows. If this comparison indicates that there is impairment, the impaired asset is written down to fair value, which is typically calculated using discounted expected future cash flows. Impairment is based on the excess of the carrying amount over the fair value of those assets.

Redeemable Preferred Stock

The Company classifies convertible preferred stock that is redeemable at the stockholder's discretion as mezzanine equity. In a private offering in 2019, the Company issued and sold 69,565 shares of its Series E Convertible Preferred Stock, par value $0.001 per share ("Series E Preferred Stock") to two stockholders who owned over 60% of the outstanding shares of common stock of the Company for a share price of $57.50 per share and a par value of $0.001 per share. Each share of the Series E Preferred Stock was convertible into 4 shares of BIOLASE common stock upon exercise. All 69,565 shares of Series E Preferred Stock were automatically converted into 278,240 shares of common stock upon receipt of the requisite approval at the Company's 2020 annual meeting of stockholders (the "2020 Annual Meeting"). Upon conversion based on its original terms, the Company recorded the exchange of Series E Preferred Stock of approximately $4.0 million for common stock, with no charge in retained earnings. As of December 31, 2022 and 2021, there were no shares of Series E Preferred Stock issued and outstanding. Additional details are discussed further in Note 8 to these consolidated financial statements.

Other Comprehensive (Loss) Income

Other comprehensive (loss) income encompasses the change in equity from transactions and other events and circumstances from non-owner sources and is included as a component of stockholders' equity but is excluded from net (loss) income. Accumulated other comprehensive (loss) income is comprised of foreign currency translation adjustments.

Foreign Currency Translation and Transactions

Transactions of the Company's German, Spanish, Australian, and Indian subsidiaries are denominated in their local currencies which have been determined to be their functional currencies. The results of operations and cash flows are translated at average exchange rates during the period, and assets and liabilities are translated at end-of-period exchange rates. Translation gains or losses are shown as a component of accumulated other comprehensive (loss) income in stockholders' equity. Income and losses resulting from foreign currency transactions which are denominated in a currency other than the entity's functional currency, are included in the consolidated statements of operations.

Revenue Recognition

Contracts with Customers

Revenue for sales of products and services is derived from contracts with customers. The products and services promised in customer contracts include delivery of laser systems, imaging systems, and consumables as well as certain ancillary services such as training and extended warranties. Contracts with each customer generally state the terms of the sale, including the description, quantity and price of each product or service. Payment terms are stated in the contract and vary according to the arrangement. Because the customer typically agrees to a stated rate and price in the contract that does not vary over the life of the contract, the Company's contracts do not contain variable consideration. The Company establishes a provision for estimated warranty expense.

Performance Obligations

At contract inception, the Company assesses the products and services promised in its contracts with customers. The Company then identifies performance obligations to transfer distinct products or services to the customers. In order to identify performance obligations, the Company considers all of the products or services promised in contracts regardless of whether they are explicitly stated or are implied by customary business practices.

Revenue from products and services transferred to customers at a single point in time accounted for 88%, 88%, and 81% of net revenue for the years ended December 31, 2022, 2021, and 2020, respectively. The majority of the Company's revenue recognized at a point in time is for the sale laser systems, imaging systems, and consumables. Revenue from these contracts is recognized when the customer is able to direct the use of and obtain substantially all of the benefits from the product which generally coincides with title transfer during the shipping process.

Revenue from services transferred to customers over time accounted for 12%, 12%, and 19% of net revenue for the years ended December 31, 2022, 2021, and 2020, respectively. The majority of our revenue that is recognized over time relates to product training and extended warranties. Deferred revenue attributable to undelivered elements, which primarily consists of product training, totaled $0.4 million and $0.8 million as of December 31, 2022 and 2021, respectively.

Transaction Price Allocation

The transaction price for a contract is allocated to each distinct performance obligation and recognized as revenue when, or as, each performance obligation is satisfied. For contracts with multiple performance obligations, the Company allocates the contract's transaction price to each performance obligation using the best estimate of the standalone selling price of each distinct good or service in a contract. The primary method used to estimate standalone selling price is the observable price when the good or service is sold separately in similar circumstances and to similar customers.

Significant Judgments

Revenue is recorded for extended warranties over time as the customer benefits from the warranty coverage. This revenue will be recognized equally throughout the contract period as the customer receives benefits from the Company's promise to provide such services. Revenue is recorded for product training as the customer attends a training program or upon the expiration of the obligation, which is generally after nine months.

The Company also has contracts that include both the product sales and product training as performance obligations. In those cases, the Company records revenue for product sales at the point in time when the product has been shipped. The customer obtains control of the product when it is shipped, as all shipments are made FOB shipping point, and after the customer selects its shipping method and pays all shipping costs and insurance. The Company has concluded that control is transferred to the customer upon shipment.

Accounts Receivable

Accounts receivable are stated at estimated net realizable value. The allowance for doubtful accounts is based on an analysis of customer accounts and the Company's historical experience with accounts receivable write-offs.

Contract Liabilities

The Company performs its obligations under a contract with a customer by transferring products and/or services in exchange for consideration from the customer. The Company typically invoices its customers as soon as control of a good and/or service is transferred and a receivable for the Company is established. The Company, however, recognizes a contract liability when a customer prepays for goods and/or services and the Company has not transferred control of the goods and/or services. The opening and closing balances of the Company's contract liabilities are as follows (in thousands):

	December 31,	
	2022	2021
Undelivered elements (training, installation, product and support services)	$ 447	$ 835
Extended warranty contracts	2,082	1,753
Total deferred revenue	2,529	2,588
Less: long-term portion of deferred revenue	(418)	(329)
Deferred revenue – current	$ 2,111	$ 2,259

The balance of contract assets was immaterial as the Company did not have a significant amount of uninvoiced receivables as of December 31, 2022 and 2021.

The amount of revenue recognized during the years ended December 31, 2022 and 2021 that was included in the opening contract liability balance related to undelivered elements was $0.8 million and $0.6 million, respectively. The revenue recognized during the year related to the opening extended warranty contracts balance was $1.4 million and $1.1 million, for the years ended December 31, 2022 and 2021, respectively.

Disaggregation of Revenue

The Company disaggregates revenue from contracts with customers into geographical regions and by the timing of when goods and services are transferred. The Company determined that disaggregating revenue into these categories depicts how the nature, amount, timing and uncertainty of revenue and cash flows are affected by regional economic factors.

The Company's revenues related to the following geographic areas were as follows (in thousands):

	Years Ended December 31,		
	2022	2021	2020
United States	$ 33,876	$ 25,384	$ 16,195
International	14,586	13,804	6,585
Net Revenue	$ 48,462	$ 39,188	$ 22,780

Information regarding revenues disaggregated by the timing of when goods and services are transferred is as follows (in thousands):

	Years Ended December 31,		
	2022	2021	2020
Revenue recognized over time	$ 5,697	$ 4,709	$ 4,314
Revenue recognized at a point in time	42,765	34,479	18,466
Net Revenue	$ 48,462	$ 39,188	$ 22,780

The Company's sales by end market is as follows (in thousands):

	Years Ended December 31,		
	2022	2021	2020
End-customer	$ 33,876	$ 25,384	$ 16,195
Distributors	14,586	13,804	6,585
Net Revenue	$ 48,462	$ 39,188	$ 22,780

Shipping and Handling Costs and Revenues

Shipping and freight costs are treated as fulfillment costs. For shipments to end-customers, the customer bears the shipping and freight costs and has control of the product upon shipment. For shipments to distributors, the distributor bears the shipping and freight costs, including insurance, tariffs and other import/export costs.

Provision for Warranty Expense

The Company provides warranties against defects in materials and workmanship of its laser systems for specified periods of time. For the years ended December 31, 2022, 2021, and 2020, domestic sales of the Waterlase laser systems were covered by the warranty for a period of up to one year and diode systems were covered by the warranty for a period of up to two years from the date of sale by the Company or the distributor to the end-user. Laser systems sold internationally are covered by the warranty for a period of up to 24 months from the date of sale to the international distributor. Estimated warranty expenses are recorded as an accrued liability with a corresponding provision to cost of revenue. This estimate is recognized concurrent with the recognition of revenue on the sale to the distributor or end-user. Warranty expenses expected to be incurred after one year from the time of sale to the distributor are classified as a long-term warranty accrual. The Company's overall accrual is based on its historical experience and management's expectation of future conditions, taking into consideration the location and type of customer and the type of laser, which directly correlate to the materials and components under warranty, the duration of the warranty period, and the logistical costs to service the warranty. Additional factors that may impact the Company's warranty accrual include changes in the quality of materials, leadership and training of the production and services departments, knowledge of the lasers and workmanship, training of customers, and adherence to the warranty policies. Additionally, an increase in warranty claims or in the costs associated with servicing those claims would likely result in an increase in the accrual and a decrease in gross profit. All imaging products are initially covered by the manufacturer's warranties. However, the Company offers extended warranties on certain imaging products.

The current portion of the warranty accrual is included within accrued liabilities. Changes in the initial product warranty accrual and the expenses incurred under the Company's initial and extended warranties were as follows (in thousands):

	Years Ended December 31,		
	2022	2021	2020
Balance, beginning of period	$ 1,086	$ 1,132	$ 1,110
Provision for estimated warranty cost	3,639	1,747	1,047
Warranty expenditures	(3,072)	(1,793)	(1,025)
Balance, end of period	1,653	1,086	1,132
Less: long-term portion of warranty accrual	360	521	384
Current portion of warranty accrual	$ 1,293	$ 565	$ 748

Advertising Costs

Advertising costs are expensed as incurred and totaled $1.5 million, $1.4 million and $0.6 million for the years ended December 31, 2022, 2021, and 2020, respectively.

Engineering and Development

Engineering and development expenses are generally expensed as incurred and consist of engineering personnel salaries and benefits, prototype supplies, contract services, and consulting fees related to product development.

Stock-Based Compensation

During the years ended December 31, 2022, 2021, and 2020, the Company recognized compensation cost related to share-based payments of $2.3 million, $1.7 million, and $3.4 million, respectively, based on the grant-date fair value. As of December 31, 2022 approximately $0.2 million of the stock compensation cost related to performance-based awards was recognized as a liability, with none as of December 31, 2021. The following table summarizes the income statement classification of compensation expense associated with share-based payments (in thousands):

	Years Ended December 31,		
	2022	2021	2020
Cost of revenue	$ 154	$ 156	$ 297
Sales and marketing	576	367	789
General and administrative	1,368	820	2,042
Engineering and development	205	319	242
	$ 2,303	$ 1,662	$ 3,370

As of December 31, 2022 and 2021, the Company had $1.0 million and $0.8 million, respectively, of total unrecognized compensation cost, net of estimated forfeitures, related to unvested share-based compensation arrangements granted under its existing plans. The expense is expected to be recognized over a weighted-average period of 0.9 years as of December 31, 2022.

Stock-based compensation expense is estimated at the grant date of the award, is based on the fair value of the award and is recognized ratably over the requisite service period of the award. For restricted stock units ("RSUs") the Company estimates the fair value of the award based on the number of awards and the fair value of BIOLASE common stock on the grant date, and applies an estimated forfeiture rate. For stock options, the Company estimates the fair value of the option award using the Black-Scholes option pricing model. This option-pricing model requires the Company to make several assumptions regarding the key variables used to calculate the fair value of its stock options. The risk-free interest rate used is based on the U.S. Treasury yield curve in effect for the expected lives of the options at their grant dates. Since July 1, 2005, the Company has used a dividend yield of zero, as it does not intend to pay cash dividends on its common stock in the foreseeable future. The most critical assumptions used in calculating the fair value of stock options is the expected life of the option and the expected volatility of BIOLASE common stock. The expected life is calculated in accordance with the simplified method, whereby for service-based awards the expected life is calculated as a midpoint between the vesting date and expiration date. The Company uses the simplified method, as there is not a sufficient history of share option exercises. For performance-based awards, the expected life equals the life of the award. Management believes that the historic volatility of the BIOLASE common stock is a reliable indicator of future volatility, and accordingly, a stock volatility factor based on the historical volatility of the BIOLASE common stock over a lookback period of the expected life is used in approximating the estimated volatility of new stock options. Compensation expense is recognized using the straight-line method for all service-based employee awards and graded amortization for all performance-based awards. Compensation expense is recognized only for those options expected to vest, with forfeitures estimated at the date of grant based on historical experience and future expectations. Forfeitures are estimated at the time of the grant and revised in subsequent periods as actual forfeitures differ from those estimates. The Company applied forfeiture rates of 10.87%, 10.91%, 28.25% and 37.49% to awards granted during the year ended December 31, 2022 depending on the vesting terms and position of the grantee. The Company's forfeiture rates applied to awards granted during the year ended December 31, 2021 were 10.91%, 25.91%, 40.21% and 49.45% and during the year ended December 31, 2020, were 10.9% and 49.4%, respectively.

The stock option fair values were estimated using the Black-Scholes option-pricing model with the following weighted-average assumptions:

	Years Ended December 31,		
	2022	2021	2020
Expected term (years)	N/A	6.1	5.5
Volatility	N/A	111%	103%
Annual dividend per share	N/A	$ —	$ —
Risk-free interest rate	N/A	1.0%	0.4%

There were no stock options granted during the year ended December 31, 2022

Income Taxes

Based upon the Company's operating losses during 2022, 2021, and 2020 and the available evidence, management has determined that it is more likely than not that the deferred tax assets as of December 31, 2022 will not be realized in the near term. Consequently, we have established a valuation allowance against our net deferred tax asset totaling $31.2 million and $27.3 million as of December 31, 2022 and 2021, respectively. In this determination, we considered factors such as our earnings history, future projected earnings, and tax planning strategies. If sufficient evidence of our ability to generate sufficient future taxable income tax benefits becomes apparent, we may reduce our valuation allowance, resulting in tax benefits in our statement of operations and in additional paid-in-capital. Management evaluates the potential realization of our deferred tax assets and assesses the need for reducing the valuation allowance periodically.

The company has elected to treat interest any penalties associated with uncertain tax positions as a component of income tax expense.

Net Loss Per Share — Basic and Diluted

Basic net income (loss) per share is computed by dividing income (loss) available to common stockholders by the weighted-average number of common shares outstanding for the period. In computing diluted net income (loss) per share, the weighted average number of shares outstanding is adjusted to reflect the effect of potentially dilutive securities. Net income (loss) is adjusted for any deemed dividends to preferred stockholders to compute income available to common stockholders.

Outstanding stock options, restricted stock units and warrants to purchase approximately 2.7 million, 0.9 million, and 2.4 million shares were not included in the calculation of diluted loss per share amounts for the years ended December 31, 2022, 2021, and 2020, respectively, as their effect would have been anti-dilutive. Also excluded in the calculation of diluted loss per share amount

for the years ended December 31, 2021, are the 0.6 million shares of BIOLASE common stock that were issuable upon conversion of the 251 shares of Series F Convertible Preferred Stock, par value $0.001 per share ("Series F Preferred Stock"), discussed further in Note 8 – Redeemable Preferred Stock and Stockholders' Equity – Preferred Stock, as their effect would have been anti-dilutive.

Recent Accounting Pronouncements

Changes to GAAP are established by the Financial Accounting Standards Board ("FASB") in the form of accounting standards updates ("ASUs") to the FASB's Accounting Standards Codification ("ASC").

The Company considers the applicability and impact of all ASUs. ASUs not listed below were assessed and determined not to be applicable or are expected to have minimal impact on the Company's consolidated financial position and results of operations.

Accounting Standards Recently Adopted

In August 2020, the FASB issued ASU 2020-06, Debt – Debt with Conversion and Other Options (Subtopic 470-20) and Derivatives and Hedging – Contracts in Entity's Own Equity (Subtopic 815-40). This ASU reduces the number of accounting models for convertible debt instruments and convertible preferred stock and amends the guidance for the derivatives scope exception for contracts in an entity's own equity to reduce form-over-substance-based accounting conclusions. In addition, this ASU improves and amends the related earnings per share guidance. This standard became effective for the Company beginning on January 1, 2022. Adoption is either a modified retrospective method or a fully retrospective method of transition. The Company adopted this guidance effective January 1, 2022, and the adoption of this standard did not have a material impact on its consolidated financial statements.

In May 2021, the FASB issued ASU 2021-04, Earnings Per Share (Topic 260), Debt—Modifications and Extinguishments (Subtopic 470-50), Compensation—Stock Compensation (Topic 718), and Derivatives and Hedging—Contracts in Entity's Own Equity (Subtopic 815-40): Issuer's Accounting for Certain Modifications or Exchanges of Freestanding Equity-Classified Written Call Options. This ASU clarifies the accounting for modifications or exchanges of freestanding equity-classified written call options (i.e. warrants) so that the transaction should be treated as an exchange of the original instrument for a new instrument. This standard is effective for fiscal years beginning after December 15, 2021 on a prospective basis, with early adoption permitted. The Company adopted this guidance effective January 1, 2022, and the adoption of this standard did not have a material impact on its consolidated financial statements.

In December 2022, the FASB issued ASU 2022-06, *Reference Rate Reform (Topic 848): Deferral of the Sunset Date of Topic 848*. This ASU defers the sunset date of Topic 848, which provides relief to entities affected by reference rate reform. The ASU defers the sunset date of Topic 848 from December 31, 2022, to December 31, 2025. The standard is effective immediately and the Company adopted the standard in December 2022 with no financial impact. The Company is currently assessing the impact ASU 2020-04, for which this ASU 2022-06 relates, will have on its consolidated financial statements.

Accounting Standards Not Yet Adopted

In June 2016, the FASB issued ASU 2016-13, *Financial Instruments—Credit Losses (Topic 326): Measurement of Credit Losses on Financial Instruments*. The standard's main goal is to improve financial reporting by requiring earlier recognition of credit losses on financing receivables and other financial assets in scope and to replace the incurred loss impairment methodology under current GAAP with a methodology that reflects expected credit losses and requires consideration of a broader range of reasonable and supportable information to inform credit loss estimates. The Company will be required to use a forward-looking expected credit loss model for accounts receivables, loans, and other financial instruments. Credit losses relating to available-for-sale debt securities will also be recorded through an allowance for credit losses rather than as a reduction in the amortized cost basis of the securities. The standard will be effective for the Company beginning January 1, 2023, with early adoption permitted beginning January 1, 2019. We have evaluated the impact of the adoption of ASU 2016-13 and we do not expect it to have a significant impact on our financial position, results of operations, or cash flows.

In March 2020, the FASB issued ASU 2020-04, Reference Rate Reform (Topic 848): Facilitation of the Effects of Reference Rate Reform on Financial Reporting. The ASU provides practical expedients for contract modifications and hedge accounting to ease the accounting burden of transitioning to alternative reference rates for entities affected by reference rate reform. The adoption of this ASUs is relevant to the Company given that its term loan references LIBOR, which was expected to be discontinued by the end of 2021. This ASU has a sunset provision for adoption by December 31, 2022. However, in March 2021 the LIBOR discontinuation date was extended to June 2023. As a result, the FASB issued ASU 2022-06 to defer the sunset period to December 31, 2025. The Company is currently assessing the impact the new guidance will have on its consolidated financial statements

NOTE 3 — SUPPLEMENTARY BALANCE SHEET INFORMATION

Accounts Receivable, net:

Accounts receivable is net of allowances for doubtful accounts of $2.2 million and net of sales returns of $0.3 million as of December 31, 2022 and 2021.

Inventory:

	December 31,	
(in thousands):	**2022**	**2021**
Raw materials	$ 6,697	$ 4,444
Work-in-process	1,871	1,726
Finished goods	7,316	6,759
Inventory	$ 15,884	$ 12,929

Inventory includes write-downs for excess and obsolete inventory totaling $2.2 million and $1.0 million as of December 31, 2022 and 2021, respectively. Write-downs for excess and obsolete inventory resulted in expense of $2.8 million, $0.3 million and $1.3 million during the years ended December 31, 2022, 2021, and 2020, respectively.

Prepaid expenses and other current assets:

	December 31,	
(in thousands):	**2022**	**2021**
Prepaid inventory	$ 1,225	$ 578
Prepaid insurance	662	680
Other	1,166	754
Prepaid expenses and other current assets	$ 3,053	$ 2,012

Property, Plant, and Equipment, net:

	December 31,	
(in thousands):	**2022**	**2021**
Building	$ 199	$ 211
Leasehold improvements	464	89
Equipment and computers	8,566	8,150
Furniture and fixtures	475	471
Construction in progress	2,957	31
Total property, plant, and equipment before depreciation and land	12,661	8,952
Less: accumulated depreciation	(8,538)	(8,049)
Total property, plant, and equipment, net before land	4,123	903
Land	155	164
Property, plant, and equipment, net	$ 4,278	$ 1,067

The Company did not recognize any impairments on property, plant, and equipment during the years ended December 31, 2022, 2021 and 2020.

Accrued Liabilities:

(in thousands):	December 31, 2022	December 31, 2021
Payroll and benefits	$ 4,674	$ 3,969
Warranty accrual, current portion	1,293	565
Lease liability	638	405
Accrued professional services	591	275
Accrued insurance premium	490	600
Taxes	432	558
Settlement accrual	—	805
Other	1,092	1,099
Accrued liabilities	$ 9,210	$ 8,276

The CARES Act allows employers to defer the deposit and payment of the employer's share of Social Security taxes through December 31, 2020. Under the CARES Act, the Company deferred $0.2 million as of December 31, 2021. The deferred liability is included in accrued payroll and benefits.

As of December 31, 2021, a settlement accrual liability of $0.8 million related to the Settlement Agreement (as defined in Note 7 to these consolidated financial statements) was included in current accrued liabilities. Refer to *Note 7 - Commitments and Contingencies* for additional information.

NOTE 4 — INTANGIBLE ASSETS AND GOODWILL

The Company conducted its annual impairment test of goodwill as of September 30 and determined that there was no impairment. The Company also tests its intangible assets subject to amortization and goodwill between the annual impairment test if events occur or circumstances change that would more likely than not reduce the fair value of the Company or its assets below their carrying amounts. For intangible assets, the Company performs its impairment test when indicators, such as reductions in demand or significant economic slowdowns, are present. During the fourth quarter ended December 31, 2022, due to the sustained decrease in the stock price of BIOLASE common stock decreasing the implied fair value of the business, the Company performed a quantitative assessment of impairment over goodwill and determined that there was no impairment to our goodwill. Goodwill was valued using an equally weighted income approach and market approach. The unobservable inputs utilized in determining the fair value of the goodwill, which is categorized as a Level 3 instrument, are the discount rate of 15.7% and various revenue growth rates utilized in the financial forecast of future cash flows. There were no events that triggered further impairment testing of the Company’s intangible assets and goodwill during the years ended December 31, 2021 and 2020.

As of December 31, 2022 and 2021, the Company had goodwill (indefinite life) of $2.9 million. As of December 31, 2022 and 2021, all intangible assets subject to amortization have been fully amortized and there was no amortization expense for the respective years.

The following table presents the details of the Company’s intangible assets, related accumulated amortization and goodwill (in thousands):

	As of December 31, 2022 and 2021			
	Gross	Accumulated Amortization	Impairment	Carrying Value
Patents (4-10 years)	$ 1,914	$ (1,914)	$ —	$ —
Trademarks (6 years)	69	(69)	—	—
Other (4 to 6 years)	817	(817)	—	—
Total	$ 2,800	$ (2,800)	$ —	$ —
Goodwill (indefinite life)	$ 2,926			$ 2,926

NOTE 5 — INCOME TAXES

The Company accounts for income taxes under the asset and liability method, whereby deferred tax assets and liabilities are recognized for the future tax consequences attributable to differences between the financial statement carrying amounts of existing assets and liabilities and their respective tax bases. Deferred tax assets and liabilities are measured using enacted tax rates expected to apply in the years in which those temporary differences are expected to be recovered or settled. The effect on deferred tax assets and liabilities of a change in tax rates is recognized in income in the period that includes the enactment date. Management evaluates the need to establish a valuation allowance for deferred tax assets based upon the amount of existing temporary differences, the period in which they are expected to be recovered, and expected levels of taxable income. A valuation allowance to reduce deferred tax assets is established when it is "more likely than not" that some or all of the deferred tax assets will not be realized. Management has determined that a full valuation allowance against the Company's net deferred tax assets is appropriate.

The following table presents the current and deferred provision for income taxes for the years ended December 31 (in thousands):

	2022	2021	2020
Current:			
Federal	$ —	$ —	$ —
State	40	17	26
Foreign	70	47	101
	110	64	127
Deferred:			
Federal	—	—	—
State	—	—	—
Foreign	(1)	1	1
	(1)	1	1
	$ 109	$ 65	$ 128

The provision for income taxes differs from the amount that would result from applying the federal statutory rate as follows for the years ended December 31:

	2022	2021	2020
Statutory regular federal income tax rate	(21.0) %	(21.0) %	(21.0) %
Change in valuation allowance	(92.8) %	34.2 %	(6.8) %
State tax benefit (net of federal benefit)	(3.9) %	(4.8) %	(4.8) %
Research credits	— %	(0.6) %	0.6 %
Foreign amounts with no tax benefit	0.1 %	— %	(0.1) %
Non-deductible expenses	0.6 %	(4.2) %	(4.1) %
Effect of change in rate	4.5 %	— %	9.7 %
Expired net operating loss carryforwards	— %	— %	3.7 %
Net operating loss 382 write-offs	113.4 %	— %	— %
Effect of prior year true-ups	(1.2) %	(4.3) %	22.8 %
Other	0.6 %	1.1 %	0.7 %
Total	0.3 %	0.4 %	0.7 %

The components of the deferred income tax assets and liabilities as of December 31 (in thousands):

	2022	2021
Capitalized intangible assets for tax purposes	$ (38)	$ (38)
Reserves not currently deductible	2,409	1,903
Deferred revenue	106	640
Stock options	1,500	903
State taxes	6	5
Income tax credits	1,496	3,429
Inventory	1,024	771
Property and equipment	186	192
Unrealized gain on foreign currency	113	105
Disallowed Interest	2,167	1,757
Lease liability	475	462
Capitalized research or experimental expenses	1,456	—
Net operating losses	21,665	18,425
Total deferred tax assets	32,565	28,554
Valuation allowance	(31,235)	(27,261)
Net deferred tax assets	1,330	1,293
Capitalized intangible assets	(664)	(664)
Right of use asset	(442)	(428)
Other	(190)	(144)
Total deferred tax liabilities	(1,296)	(1,236)
Net deferred tax assets	$ 34	$ 57

Based upon the Company's operating losses incurred for each of the years ended December 31, 2022, 2021, and 2020 and the available evidence, the Company has established a valuation allowance against its net deferred tax assets in the amount of $31.2 million as of December 31, 2022. Management considered factors such as the Company's earnings history, future projected earnings, and tax planning strategies. If sufficient evidence of the Company's ability to generate sufficient future taxable income tax benefits becomes apparent, the valuation allowance may be reduced, thereby resulting in tax benefits in the statement of operations and additional paid-in-capital. Management evaluates the potential realization of the Company's deferred tax assets and assesses the need for reducing the valuation allowance periodically.

As of December 31, 2022, the Company had net operating loss ("NOL") carryforwards for federal and state purposes of approximately $87.6 million and $50.3 million, respectively. For NOLs generated before December 31, 2018, the carryforward period is 20 years while NOLs generated after December 31, 2018 can be carried forward indefinitely. All NOLs generated before December 31, 2018 will expire by 2038. The Company's ability to utilize its net operating loss carryforwards, tax credits, and built-in items of deduction, including capitalized start-up costs and research and development costs, has been, and may continue to be substantially limited due to ownership changes. These ownership changes limit the amount of net operating loss carryforwards, credits and built-in items of deduction that can be utilized annually to offset future taxable income. In general, an ownership change, as defined in IRC Section 382, results from a transaction or series of transactions over a three-year period resulting in an ownership change of more than 50% of the outstanding stock of a company by certain stockholders or public groups. IRC Section 382 generally imposes an annual limitation on the amount of NOL carryforwards that may be used to offset taxable income where a corporation has undergone significant changes in stock ownership.

Pursuant to the Internal Revenue Code of 1986, as amended (the "Code") Sections 382 and 383, annual use of a company's NOL and research and development credit carryforwards may be limited if there is a cumulative change in ownership of greater than 50% within a three-year period. The amount of the annual limitation is determined based on the value of the Company immediately prior to the ownership change. Subsequent ownership changes may further affect the limitation in future years. If limited, the related tax asset would be removed from the deferred tax asset schedule with a corresponding reduction in the valuation allowance. The Company has established a valuation allowance as the realization of such deferred tax assets has not met the more likely than not threshold requirement. Due to the existence of the valuation allowance, further changes in the Company's unrecognized tax benefits will not impact the Company's effective tax rate.

During 2022, the Company completed an assessment of the available net operating loss and tax credit carryforwards under Section 382 and 383 and determined that the Company underwent three ownership changes during the period from 2000 to 2022 on (i) August 8, 2016, (ii) June 8, 2020 and (iii) January 20, 2021. As a result, net operating loss and tax credit carryforwards attributable to

the pre-ownership changes are subject to substantial annual limitations under Section 382 and 383 of Code due to the ownership changes. The Company has adjusted their previously reported net operating loss and tax credit carryforwards to address the impact of the ownership changes. This resulted in a reduction of available gross federal and state net operating loss carryforwards of approximately $123 million and $72.6 million, respectively. This also resulted in a reduction of federal tax R&D credit carryforwards of approximately $2 million related to the years ended December 31, 2021 and prior. Accordingly, the net operating loss presented above for the year ending December 31, 2021 was reduced by $30.4 million with a corresponding reduction to the valuation allowance of $30.4 million. As of December 31, 2022, the Company had research and development tax credit carryforwards for state purposes of approximately $2.1 million which will carry forward indefinitely for state purposes.

The following table summarizes the activity related to the Company's unrecognized tax benefits (in thousands):

Balance at January 1, 2020	$ 509
Additions for tax positions related to the prior year	—
Lapse of statute of limitations	—
Balance at January 1, 2021	509
Additions for tax positions related to the prior year	—
Lapse of statute of limitations	(159)
Balance at January 1, 2022	350
Additions for tax positions related to the prior year	—
Lapse of statute of limitations	—
Reduction due to section 382 limitation	(131)
Balance at December 31, 2022	$ 219

The Company expects resolution of unrecognized tax benefits, if created, would occur while the full valuation allowance of deferred tax assets is maintained. The Company does not expect to have any unrecognized tax benefits that, if recognized, would affect the effective tax rate. As of December 31, 2022 and 2021, the Company does not have liability for potential penalties or interest. The Company does not expect its unrecognized tax benefits to change significantly over the next 12 months.

The Company files U.S., state and foreign income tax returns in jurisdictions with varying statutes of limitations. The 2019 through 2022 tax years generally remain subject to examination by federal and most state tax authorities. In foreign jurisdictions, the 2019 through 2022 tax years remain subject to examination by their respective tax authorities.

The 2017 Act subjects a U.S, stockholder to current tax on global intangible low-taxed income (GILTI) earned by certain foreign subsidiaries. The FASB Staff Q&A, Topic 740 No. 5, Accounting for Global Intangible Low-Taxed Income, states that an entity can make an accounting policy election to either recognize deferred taxes for temporary differences expected to reverse as GILTI in future years or provide for the tax expense related to GILTI in the year the tax is incurred. We have elected to recognize the tax on GILTI as a period expense in the period the tax is incurred. There is no inclusion of income related to GILTI in 2022.

The Inflation Reduction Act (IRA) was enacted on August 16, 2022 and includes a new corporate alternative minimum tax based on book income, an excise tax on stock buybacks, and other items such as tax incentives for energy and climate initiatives. There is no impact to the Company at this time, however this may change depending on each year's differing facts and activities. The Company will continue to monitor this over time.

NOTE 6 — DEBT

The following table presents the details of the principal outstanding and unamortized discount (in thousands):

	December 31,	
	2022	2021
SWK Loan	$ 14,650	$ 14,300
EIDL Loan	150	150
Discount and debt issuance costs on SWK Loan	(1,009)	(847)
Total	13,791	13,603
Current term loans, net of discount	700	—
Non current term loans, net of discount	$ 13,091	$ 13,603

EIDL Loan

On May 22, 2020, the Company executed the standard loan documents required for securing a loan (the "EIDL Loan") from the Small Business Administration (the "SBA") under its Economic Injury Disaster Loan assistance program in light of the impact of the COVID-19 pandemic on the Company's business. The principal amount of the EIDL Loan is $150,000, with proceeds to be used for working capital purposes. Interest on the EIDL Loan accrues at the rate of 3.75% per annum and installment payments, including principal and interest, are due monthly beginning in July 2021 and are payable through July 2050. In April 2021, the SBA announced that it was extending the first payment due date for all loans until 2022, or 24 months from the loan execution date. In March 2022, the SBA announced that it was extending the first payment due date for all loans an additional six months, or 30 months from the loan execution date. The Company began making payments on this EIDL Loan starting in November 2022. Fixed payments are first applied to any accrued interest.

Term Loan

On November 9, 2018, the Company entered into a five-year secured Credit Agreement (as amended, restated, and supplemented from time to time, the "Credit Agreement") with SWK Funding, LLC ("SWK"), pursuant to which the Company has borrowed $14.35 million ("SWK Loan"). The Company's obligations under the Credit Agreement are secured by substantially all of the Company's assets. Under the terms of the Credit Agreement, repayment of the loan is interest-only for the first two years, paid quarterly with the option to extend the interest-only period. Principal repayments were to begin in the first quarter of 2021 and were approximately $0.7 million quarterly until the loan matures in the fourth quarter of 2023. The loan bears interest at the London Interbank Offered Rate ("LIBOR") plus 10% or another index that approximates LIBOR as close as possible if and when LIBOR no longer exists. Approximately $0.9 million of the proceeds from the SWK Loan were used to pay off all amounts owed to Western Alliance Bank under a previous Business Financing Agreement. The Company used the remaining proceeds to provide additional working capital to fund its growth initiatives.

The Credit Agreement contains financial and non-financial covenants requiring the Company to, among other things, (i) maintain unencumbered liquid assets of (A) no less than $1.5 million or (B) the sum of aggregate cash flow from operations less capital expenditures, (ii) achieve certain revenue and EBITDA levels during the first two years of the loan, (iii) limit future borrowing, investments and dividends, and (iv) submit monthly and quarterly financial reporting.

In connection with the SWK Loan, the Company paid approximately $1.0 million in debt issuance costs, for the year ended December, 31, 2018. These costs were recognized as a discount on the SWK Loan and are being amortized on a straight-line basis over the loan term which approximates the effective-interest method.

As of March 31, 2019, the Company was not in compliance with certain covenants in the Credit Agreement and in May 2019, SWK granted the Company a waiver of such covenants. On May 7, 2019, the Company and SWK agreed to amend the Credit Agreement (the "First Amendment") to increase the total commitment from $12.5 million to $15.0 million, and to revise the financial covenants to (i) adjust minimum revenue and EBITDA levels, (ii) require the Company to have a shelf registration statement declared effective by the Securities and Exchange Commission before September 30, 2019, with a proposed maximum aggregate offering price of at least $10.0 million if the Company does not reach set minimum revenue levels for the three-month period ended September 30, 2019, and (iii) require minimum liquidity of $1.5 million at all times. The First Amendment provided that if aggregate minimum revenue and EBITDA levels were not achieved by September 30, 2019, the minimum liquidity requirement would be increased to $3.0 million, until the Company has obtained additional equity or debt funding of no less than $5.0 million. The Company borrowed the additional $2.5 million during the year ended December 31, 2019.

In connection with the amendment, the Company paid to SWK loan origination and other fees of approximately $0.1 million payable in cash and approximately $0.2 million in additional SWK Warrants (as defined below) to purchase the BIOLASE common stock. The Company paid an additional finder's fee to Deal Partners Group ("DPG") of approximately $0.1 million in cash and $0.1 million in additional DPG Warrants (the "DPG Warrants") to purchase BIOLASE common stock. The Company accounted for the First Amendment as a modification to existing debt and as a result, recognized the amounts paid to SWK in cash and warrants as additional debt issuance costs. Amounts paid to DPG in cash and warrants relating to the First Amendment were expensed as incurred in the Company's consolidated statement of operations for the year ended December 31, 2019.

On September 30, 2019, the Company entered into the Second Amendment to the Credit Agreement with SWK (the “Second Amendment”), in connection with that certain Credit Agreement, by and among the Company, SWK, and the lender parties thereto. The Second Amendment amends the Credit Agreement to provide for a permitted inventory and accounts receivable revolving loan facility, secured by a first lien security interest in the Company’s inventory and accounts receivable, with a maximum principal amount of $5 million and with such other material terms and conditions acceptable to SWK in its commercially reasonable discretion. In addition, SWK agreed to waive the effect of the Company’s non-compliance with certain unencumbered liquid assets financial operating covenants as set forth in the Credit Agreement, and SWK agreed to forbear from exercising rights and remedies otherwise available to it in the event of such non-compliance through October 31, 2019, or earlier in the event that an additional equity or subordinated debt financing was consummated with gross proceeds of not less than $5 million, or in the event of a default under the Credit Agreement.

On November 6, 2019, the Company agreed to further amend the Credit Agreement (the “Third Amendment”). Pursuant to the Third Amendment, SWK granted the Company a waiver of the Company’s non-compliance with certain financial covenants in the Credit Agreement. Also pursuant to the Third Amendment, the Company and SWK agreed to (i) revise financial covenants to adjust minimum revenue and EBITDA levels and (ii) remove the automatic increase of the minimum liquidity requirement based on certain aggregate minimum revenue and EBITDA levels as of September 30, 2019 (which was added pursuant to the First Amendment). In connection with the Third Amendment, the Company consolidated the SWK Warrants issued to SWK on November 9, 2018 and May 7, 2019. The price was adjusted to $1.00, the impact of this was immaterial.

As of December 31, 2019, the Company was not in compliance with debt covenants, and in March 2020, the Company obtained a waiver as part of a Fourth Amendment to the Credit Agreement (the “Fourth Amendment”).

On May 15, 2020, the Company entered into a Fifth Amendment to the Credit Agreement (the “Fifth Amendment”). The Fifth Amendment modified the Credit Agreement by providing for minimum consolidated unencumbered liquid assets of $1.5 million prior to June 30, 2020 and $3.0 million on or after June 30, 2020; providing for a minimum aggregate revenue target of $41.0 million for the 12-month period ending June 30, 2020, a related waiver of such minimum revenue target in the event that the Company raised equity capital or issued subordinated debt of not less than $10.0 million on or prior to June 30, 2020, and quarterly revenue targets; and providing for a minimum EBITDA target of ($7.0 million) for the 12-month period ending June 30, 2020, a related waiver of such minimum EBIDTA target in the event that the Company raised equity capital or issued subordinated debt of not less than $10.0 million on or prior to June 30, 2020, and quarterly EBITDA targets.

On August 12, 2020, the Company entered into a Sixth Amendment (the “Sixth Amendment”) to the Credit Agreement. Under the Sixth Amendment, the interest only period on the SWK Loan was extended through May 2022, the loan maturity date was extended to May 9, 2024, the financial covenants were amended and restated to exclude the remainder of 2020, and a $0.7 million repayment of the principal amount was required upon execution of the Sixth Amendment.

In light of the Company's increase in working capital from the Equity Offering (as defined in Note 8 – Redeemable Preferred Stock and Stockholders’ Equity) and cash received from warrants exercised, the Company entered into the Seventh Amendment to the Credit Agreement (the “Seventh Amendment”) with SWK on February 24, 2021, which provided for adjusted minimum aggregate revenue and EBITDA requirements at the end of certain periods, to the extent that the Company's liquid assets are less than $15 million. While the Company's liquid assets are at or above $15 million, no financial maintenance covenants are applicable.

On November 18, 2021, the Company entered into the Eighth Amendment to the Credit Agreement (the “Eighth Amendment”) with SWK. The Eighth Amendment amended the Credit Agreement by providing for a new maturity date of May 31, 2025, extending the interest-only period to May 2023, reducing the effective interest rate by 200 basis points, deleting the definitions of "Key Person" and "Key Person Event", and modifying the minimum aggregate revenue and EBITDA requirements at the end of certain periods, to the extent that liquid assets are less than $7.5 million.

On June 30, 2022, the Company entered into the Ninth Amendment to the Credit Agreement (the "Ninth Amendment") with SWK, which extended the interest-only period by two quarters from May 2023 to November 2023 and lowered the required minimum unencumbered liquid assets. In connection with the Ninth Amendment, the Company prepaid $1.0 million of the outstanding loan balance.

On December 30, 2022, the Company entered into the Tenth Amendment to the Credit Agreement (the "Tenth Amendment") with SWK, which lowered the required minimum unencumbered liquid assets.

In connection with amendments One through Seven to the Credit Agreement, the Company paid certain amendment fees per amendment payable up-front. These fees are being amortized over the remaining life of the SWK Loan as of the date of each amendment.

As of December 31, 2022, the Company was in compliance with debt covenants of the Credit Agreement.

The Company recognized approximately $2.8 million, $1.7 million, and $1.8 million in interest expense related to outstanding loans for the years ended December 31, 2022, 2021 and 2020, respectively. The interest expense for the year ended December 31, 2022 includes an immaterial out of period adjusted related to certain exit fees on the term loan. The weighted-average interest rate for the year ended December 31, 2022 was approximately 11.6%.

The future principal and interest payments as of December 31, 2022, are as follows (in thousands):

	Principal	Interest [1]
2023	$ 700	$ 1,863
2024	2,800	1,623
2025	11,150	712
2026	—	9
2027 and thereafter	150	89
Total future payments	$ 14,800	$ 4,296

(1) Estimated using LIBOR rates as at December 31, 2022

Out of Period Adjustment

During the year ended December 31, 2022 an out of period adjustment related to our Credit Agreement with SWK was discovered. Pursuant to the Credit Agreement, we are required to pay certain exit fees totaling $1.4 million upon loan termination. However, on the loan origination date of November 9, 2018, these exit fees were not properly recorded as a debt premium increasing the face value of the loan and an offsetting increase in debt issuance costs to be amortized to interest expense over the life of the loan.

Adjustments were made during the year ended December 31, 2022, resulting in interest expense related to prior periods of $0.8 million. Of this adjustment, $0.2 million relates to the year ended December 31, 2021 and $0.3 million relates to the year ended December 31, 2020. We have evaluated the impact of this out of period adjustment on our financial statements and concluded that it was not material enough to warrant a restatement of historical financials. Nevertheless, we believe it is significant enough to present our historical financials on an "as adjusted" basis.

Warrants

In connection with the Credit Agreement, on November 9, 2018, the Company issued to SWK 372,023 warrants (the “SWK Warrants”), exercisable to 14,881 shares of BIOLASE common stock. In connection with the SWK Loan, the Company paid a finder’s fee to DPG of $0.5 million cash and issued the to DPG 279,851 DPG warrants, exercisable to 11,194 shares of BIOLASE common stock on November 14, 2018, and on May 7, 2019 34,552 warrants, exercisable to 1,382 shares of BIOLASE common stock.

Refer to *Note 8 - Redeemable Preferred Stock and Stockholders' Equity* for further information on the warrants.

NOTE 7 — COMMITMENTS AND CONTINGENCIES

Leases

The Company enters into operating leases primarily for real estate, office equipment, and fleet vehicles. Lease terms generally range from one to five years, and often include options to renew for one year. The Company leases its corporate headquarters pursuant to a lease that expires on December 31, 2025 and leases a manufacturing facility located in Corona, California, which expires on June 30, 2025. The Company also leases additional office space and certain office equipment under various operating lease arrangements.

Because the rate implicit in each lease is not readily determinable, the Company uses its incremental borrowing rate (“IBR”) to determine the present value of the lease payments.

On January 22, 2020, the Company entered into a five-year real property lease agreement for an approximately 11,000 square foot facility in Corona, California for its manufacturing operations. The lease commenced on July 1, 2020. On December 10, 2021, the Company entered a lease for an additional 15,000 square feet at this facility. This additional lease commenced on February 1, 2022 and ends on June 30, 2025.

On February 4, 2020, the Company also entered into a 66-month real property lease agreement for office space of approximately 12,000 square feet of office space in Lake Forest, California. The lease commenced on July 1, 2020. On May 26, 2022, the Company entered into an additional lease at this location to expand the leased space by an additional 8,000 square feet for an additional training facility and model dental office. The additional lease commenced on March 9, 2023.

Information related to the Company's right-of-use assets and related liabilities were as follows (in thousands):

	December 31,	
	2022	2021
Cash paid for operating lease liabilities	$ 254	$ 246
Right-of-use assets obtained in exchange for new operating lease obligations	$ 574	$ 150
Weighted-average remaining lease term	2.7	3.7
Weighted-average discount rate	12.3%	12.3%

Lease expense consists of payments for real property, office copiers, and IT equipment. The Company recognizes payments for non-lease components such as common area maintenance in the period incurred. As of December 31, 2022, the only lease that had not commenced was for the additional training facility and model dental office lease in Foothill Ranch, California.

Future minimum rental commitments under lease agreements, as of December 31, 2022, with non-cancelable terms greater than one year for each of the years ending December 31 are as follows (in thousands):

	December 31,
2023	$ 833
2024	822
2025	584
2026	—
2027 and thereafter	—
	2,239
Less imputed interest	(342)
Total lease liabilities	$ 1,897

	December 31,	
	2022	2021
Current operating lease liabilities, included in accrued liabilities	$ 638	$ 405
Non current lease liabilities	1,259	1,449
Total lease liabilities	$ 1,897	$ 1,854

Rent expense totaled $1.0 million, $0.9 million and $0.7 million for the years ended December 31, 2022, 2021, and 2020, respectively.

Employee Arrangements and Other Compensation

Certain members of management are entitled to severance benefits payable upon termination following a change in control, which would approximate $2.8 million and $2.3 million at December 31, 2022 and 2021, respectively. The Company also has agreements with certain employees to pay bonuses based on targeted performance criteria. As of December 31, 2022 and 2021, $1.4 million and $0.4 million was accrued for performance bonuses, which is included in accrued liabilities in the consolidated balance sheets. See Note 8 – Redeemable Preferred Stock and Stockholders' Equity for additional information relating to specific stock-based compensation awards.

Purchase Commitments

The Company generally purchases components and subassemblies for its products from a limited group of third-party suppliers through purchase orders. The Company had $28.2 million of purchase commitments as of December 31, 2022, for which the Company has not received the goods or services and which is expected to be purchased primarily within one year. These purchase commitments were made to secure better pricing and to ensure the Company will have the necessary parts to meet anticipated near term demand. Although open purchase orders are considered enforceable and legally binding, the Company may be able to cancel, reschedule, or adjust requirements prior to supplier fulfillment.

Litigation

The Company discloses material loss contingencies deemed to be reasonably possible and accrues for loss contingencies when, in consultation with its legal advisors, management concludes that a loss is probable and reasonably estimable. The ability to predict the ultimate outcome of such matters involves judgments, estimates, and inherent uncertainties. The actual outcome of such matters could differ materially from management's estimates.

Patent Litigation

On January 4, 2023, Plaintiff PIPStek, LLC (a wholly-owned subsidiary of Sonendo, Inc.) filed a lawsuit against BIOLASE, Inc. in the Federal District Court for the District of Delaware, alleging that BIOLASE's Waterlase dental laser product infringes two PIPStek patents. The Complaint seeks unspecified damages and injunctive relief, as well as costs and attorneys' fees against BIOLASE. BIOLASE intends to fully defend itself against PIPStek's claims, and is currently required to answer or otherwise respond to the Complaint by April 27, 2023.

Intellectual Property Litigation

On April 24, 2012, CAO Group, Inc. ("CAO") filed a lawsuit against BIOLASE in the District of Utah alleging that BIOLASE's ezlase dental laser infringes on U.S. Patent No. 7,485,116 (the "116 Patent"). On September 9, 2012, CAO amended its complaint, adding claims for (1) business disparagement/injurious falsehood under common law and (2) unfair competition under 15 U.S.C. Section 1125(a). The additional claims stemmed from a press release that BIOLASE issued on April 30, 2012, which CAO claimed contained false statements that were disparaging to CAO and its diode product. The amended complaint sought injunctive relief, treble damages, attorneys' fees, punitive damages, and interest. Until January 24, 2018, this lawsuit was stayed in connection with United States Patent and Trademark Office proceedings relating to the 116 Patent, which proceedings ultimately culminated in a January 27, 2017 decision by the United States Court of Appeals for the Federal Circuit, affirming the findings of the Patent Trial and Appeal Board, which were generally favorable to the Company. On January 25, 2018, CAO moved for leave to file a second amended complaint to add certain claims, which filing the Company did not oppose.

On January 23, 2018, CAO filed a lawsuit against BIOLASE in the Central District of California alleging that BIOLASE's diode lasers infringe on U.S. Patent Nos. 8,337,097, 8,834,497, 8,961,040 and 8,967,883. The complaint sought injunctive relief, treble damages, attorneys' fees, punitive damages, and interest.

On January 25, 2019 (the “Effective Date”), BIOLASE entered into a settlement agreement (the “Settlement Agreement”) with CAO. Pursuant to the Settlement Agreement, CAO agreed to dismiss with prejudice the lawsuits filed by CAO against the Company in April 2012 and January 2018. In addition, CAO granted to the Company and its affiliates a non-exclusive, non-transferable (except as provided in the Settlement Agreement), royalty-free, fully-paid, worldwide license to the licensed patents for use in the licensed products and agreed not to sue the Company, its affiliates or any of its manufacturers, distributors, suppliers or customers for use of the licensed patents in the licensed products, and the parties agreed to a mutual release of claims. The Company agreed (i) to pay to CAO, within five days of the Effective Date, $500,000 in cash, (ii) to issue to CAO, within 30 days of the Effective Date, 500,000 restricted shares of BIOLASE common stock (the “Stock Consideration”), and (iii) to pay to CAO, within 30 days of December 31, 2021, an amount in cash equal to the difference (if positive) between $1,000,000 and the value of the Stock Consideration as of December 31, 2021. The Stock Consideration vests on December 31, 2021, the measurement date, and is payable in January 2021, subject to the terms of a restricted stock agreement to be entered into between the parties. The Company recognized a $1.5 million contingent loss on patent litigation settlement in its statement of operations for the year ended December 31, 2018. In January 2019, the Company paid CAO $500,000 in cash. On January 31, 2019, the case was dismissed with prejudice. During the three-month period ended March 31, 2019, the Company recorded an additional loss on patent litigation of $0.2 million which represented the change in fair value of the restricted stock to be issued to CAO at March 31, 2019. Subsequent to March 31, 2019, the Company reversed the additional loss commensurate with the fluctuations in the Company’s share price. In August 2020, the Company signed a Letter Agreement to terminate the Manufacturing Agreement and purchase from CAO raw materials and other inventory held by CAO as part of the original Settlement Agreement. During the year ended December 31, 2021, the Company recorded an additional loss on patent litigation of $0.3 million which represented the change in fair value of the liability to be paid to CAO.

In February 2021, the Company issued 20,000 restricted shares of common stock in satisfaction of its obligation to issue the Stock Consideration to CAO under the Settlement Agreement and reduced the accrued liability to $0.6 million. As of December 31, 2021, the remaining accrued liability related to the Settlement Agreement was included in current accrued liabilities in the amount of $0.8 million. In January 2022, the Company paid all amounts due to CAO and removed the liability.

NOTE 8 —REDEEMABLE PREFERRED STOCK AND STOCKHOLDERS’ EQUITY

BIOLASE's board of directors (the "Board"), without further stockholder authorization, may authorize the issuance from time to time of up to 1,000,000 shares of the Company’s preferred stock.

Common Stock

At the Company's 2020 annual meeting of stockholders, the Company’s stockholders approved a proposal to amend the Company’s Restated Certificate of Incorporation to increase the number of authorized shares of BIOLASE common stock from 40,000,000 shares to 180,000,000 shares. On May 28, 2020, the Company filed the amendment with the Secretary of State of the State of Delaware to effect such increase.

At December 31, 2022, 7,722,717 shares of BIOLASE common stock were issued and 7,720,914 were outstanding.

2022 Direct Offering and Private Placement

On June 27, 2022, BIOLASE entered into a Securities Purchase Agreement with certain accredited institutional investors, pursuant to which BIOLASE agreed to issue, (i) in a registered direct offering, 678,745 shares of BIOLASE common stock, par value $0.001 per share, and pre-funded warrants to purchase 726,660 shares of BIOLASE common stock with an exercise price of $0.001 per share, and (ii) in a concurrent private placement, warrants to purchase 1,405,405 shares of BIOLASE common stock. The combined purchase price for one share of common stock and one Common Warrant was determined to be $4.625, and the combined purchase price for one Pre-Funded Warrant and one Common Warrant was determined to be $4.624. BIOLASE received aggregate gross proceeds from the transactions of approximately $6.5 million, before deducting fees to the placement agent and other transaction expenses payable by BIOLASE. The 678,745 shares of BIOLASE's common stock, the Pre-Funded Warrants and the shares of BIOLASE common stock issuable upon exercise of the Pre-Funded Warrants were offered by BIOLASE pursuant to a shelf registration statement on Form S-3, which was declared effective on August 23, 2019.

2021 Equity Offering

On February 10, 2021, BIOLASE issued and sold in an underwritten offering an aggregate of 560,000 shares of common stock at a price of $25.75 per share less underwriting discounts and commissions. The Company received gross proceeds of approximately $14.4 million before deducting underwriting discounts and commissions and estimated offering expenses of $1.1 million.

2020 Registered Direct Offering

On June 10, 2020, the Company consummated a registered direct offering of 432,000 shares of BIOLASE common stock to certain accredited institutional investors and a concurrent private placement of 10,800,000 warrants to purchase 432,000 shares of BIOLASE common stock with an exercise price of $12.875 per share (the “June 2020 Warrants”), for a total gross proceeds of $6.9 million. Based on the relative fair value of the common stock, the Company allocated approximately $3.9 million to the common stock.

Dividends

There were no cash dividends paid or declared in 2022, 2021 or 2020.

Preferred Stock

Series G Preferred Stock

On March 1, 2022, the Board declared a dividend of one one-thousandth of a share of Series G Preferred Stock, par value $0.001 per share ("Series G Preferred Stock"), of BIOLASE common stock outstanding as of March 25, 2022 (as calculated on a pre-Reverse Stock Split basis). The certificate of designation for the Series G Preferred Stock provided that all shares of Series G Preferred Stock not present in person or by proxy at the 2022 Annual Meeting immediately prior to the opening of the polls at the 2022 Annual Meeting would be automatically redeemed (the “Initial Redemption”) and that any outstanding shares of Series G Preferred Stock that have not been redeemed pursuant to the Initial Redemption would be redeemed in whole, but not in part, (i) if and when ordered by the Board or (ii) automatically upon the effectiveness of the amendment to the Certificate of Incorporation effecting the Reverse Stock Split that was subject to the vote at the 2022 Annual Meeting (the “Subsequent Redemption”). On April 28, 2022, both the Initial Redemption and the Subsequent Redemption occurred. As a result, no shares of Series G Preferred Stock remain outstanding. On June 6, 2022, the Series G Preferred Stock was eliminated.

Series F Convertible Preferred Stock

On July 23, 2020, the Company consummated the sale of an aggregate of 18,000 shares of Series F Preferred Stock, par value $0.001 per share ("Series F Preferred Stock"), and 45,000,000 warrants (the “July 2020 Warrants”), exercisable to 1,800,000 shares of BIOLASE common stock, through a registered rights offering the Company completed on July 22, 2020 (the “Rights Offering”). Each share of Series F Preferred Stock was convertible at the Company’s option at any time on or after July 22, 2021 or at the option of the holder at any time, into the number of shares of BIOLASE common stock determined by dividing the $1,000 stated value per share of the Series F Preferred Stock by a conversion price of $10.00 per share. Each share of Series F Preferred Stock was convertible into 100 shares of common stock, and each July 2020 Warrant entitles the holder thereof to purchase one twenty-fifth of a share of BIOLASE common stock at a conversion price of $10.00 per share.

The gross proceeds from the sale of Series F Preferred Stock and July 2020 Warrants were $18.0 million, before broker fees and related expenses of approximately $1.9 million.

In accordance with applicable accounting standards, the $18.0 million gross proceeds from the Rights Offering were allocated to the Series F Preferred Stock and the July 2020 Warrants in the amount of $2.7 million and $15.3 million, respectively. The allocation was based on the fair value of the July 2020 Warrants of $15.3 million as of the commitment date, with the residual proceeds of $2.7 million allocated to the Series F Preferred Stock.

The Series F Preferred Stock contained a beneficial conversion feature which resulted in a deemed dividend to preferred stockholders of approximately $2.7 million, upon immediate accretion. Additionally, the July 2020 Warrants were recognized as a discount to the Series F Preferred Stock, and upon conversion of approximately 1,000 and 17,000 Series F Preferred Stock to common stock for the years ended December 31, 2021 and 2020, respectively. Upon conversion, this discount was accreted and also recognized as a deemed dividend to preferred stockholders in the amount of $0.2 million, $0.5 million and $14.7 million for the years ended December 31, 2022, 2021, and 2020 respectively.

The remaining shares of Series F Preferred Stock were converted into shares of BIOLASE common stock during 2022 with none outstanding as of December 31, 2022. Approximately 251 and 882 Series F Preferred Stock remained outstanding as of December 31, 2021 and 2020, respectively. On March 3, 2022, the Series F Preferred Stock was eliminated.

Series E Redeemable Preferred Stock

In 2019, the Company sold 69,565 shares of Series E Preferred Stock in a private offering. All 69,565 shares of Series E Preferred Stock were automatically converted into 278,260 shares of BIOLASE common stock upon receipt of the requisite approval at the Company's 2020 annual meeting of stockholders. Upon conversion based on its original terms, the Company recorded the exchange of Series E Preferred Stock of approximately $4.0 million for common stock, with no charge in retained earnings. As of December 31, 2022 and 2021 there were no shares of Series E preferred Stock issued and outstanding.

The shares of Series E Preferred Stock were offered in reliance upon exemptions from registration under the Securities Act of 1933, as amended, afforded by Regulation D and corresponding provisions of state securities laws. The Company subsequently filed a registration statement with the SEC to register the resale of the shares of BIOLASE common stock underlying the Series E Preferred Stock. On March 3, 2022, the Series E Preferred Stock was eliminated.

Warrants

The Company issues warrants for the sale of its common stock as approved by the Board.

June 2022 Direct Offering and Private Placement

On June 27, 2022, the Company entered into a Securities Purchase Agreement with certain accredited institutional investors, pursuant to which the Company agreed to issue to the Purchasers (as defined therein), (i) in a registered direct offering, 678,745 shares of BIOLASE common stock, and pre-funded warrants to purchase 726,660 shares of BIOLASE common stock (the “June 2022 Pre-Funded Warrants”) with an exercise price of $0.001 per share, and (ii) in a concurrent private placement, warrants to purchase 1,405,405 shares of BIOLASE common stock (each a "Common Warrant" and together with the June 2022 Pre-Funded Warrants, the “June 2022 Warrants”). The combined purchase price for one share of BIOLASE common stock and one Common Warrant was $4.625, and the combined purchase price for one June 2022 Pre-Funded Warrant and one Common Warrant was $4.624. In the offering and concurrent private placement, the Company received aggregate gross proceeds of approximately $6.5 million before deducting fees to the placement agent and other transaction expenses.

Based on the terms and conditions of the June 2022 Warrants, the Company determined that equity classification was appropriate and recognized the net proceeds in excess of par of $5.6 million in Additional Paid-In Capital.

July 2020 Rights Offering

On July 23, 2020, the Company consummated the Rights Offering issuing (i) 18,000 shares of Series F Preferred Stock and (ii) 45,000,000 July 2020 Warrants, exercisable to 1,800,000 shares of BIOLASE Common Stock, with an exercise price of $10.00 per share of BIOLASE common stock. The initial fair value of the July 2020 Warrants was estimated to be at $8.50 per share of BIOLASE common stock using the Black-Scholes pricing model with an expected term of 5 years, market price of $11.00 per share, which was the last closing price of BIOLASE common stock prior to the transaction date, volatility of 109.8%, a risk free rate of 0.27% and an expected dividend yield of 0. Based on the terms and conditions of the July 2020 Warrants, the Company initially determined that liability classification was appropriate and recognized the fair value of the July 2020 Warrants as a liability. Based on the fair value of the July 2020 Warrants, the Company allocated approximately $2.7 million to the Series F Preferred Stock and $15.3 million to the July 2020 Warrants before issuance costs. Issuance costs of $1.6 million relating to the July 2020 Warrants were recognized as an expense and were recorded in Other (income) expense, net in the consolidated statement of operations for the year ended December 31, 2020.

On September 28, 2020, the warrant agreement with respect to the July 2020 Warrants was amended. The amended terms of the July 2020 Warrants meet the requirements for the July 2020 Warrants' classification as equity. The fair value upon the amendment was estimated to be $5.25 per share of BIOLASE common stock using the Black-Scholes pricing model with an expected term of 5 years, a market price of $7.00 per share of BIOLASE common stock, which was the last closing price of BIOLASE common stock prior to the amendment date, volatility of 109.5%, a risk free rate of 0.26% and an expected dividend yield of 0. On the effective date of the amendment to the warrant agreement, the Company remeasured the fair value of the July 2020 Warrants as described above, reclassified the value of $9.5 million to equity, and recognized the change in fair value as a gain of approximately $5.8 million in the consolidated statement of operations in Other (income) expense, net for the year ended December 31, 2020.

None of the July 2020 warrants were exercised during the year ended December 31, 2022. During the years ended December 31, 2021 and 2020, 28.1 million and 3.9 million of the July 2020 warrants were exercised, which converted to 1,122,500 and 154,480 shares of BIOLASE Common Stock, respectively. Each warrant is exercisable for one twenty-fifth of a share of BIOLASE common stock

2020 Registered Direct Offering and Concurrent Private Placement

On June 8, 2020, the Company entered into a Securities Purchase Agreement with certain accredited institutional investors, pursuant to which the Company agreed to issue to the Purchasers in a registered direct offering and concurrent private placement, 432,000 shares of BIOLASE common stock, and 10,800,000 Warrants (the "June 2020 Warrants"), exercisable to 432,000 shares of BIOLASE common stock, with an exercise price of $12.88 per share. The June 2020 Warrants are exercisable commencing on the date of their issuance and will expire on June 10, 2025. The combined purchase price for one share of common stock and one June 2020 Warrant in the offering was $16.00 per share. The Company received aggregate gross proceeds of approximately $6.9 million in the concurrent offerings, before deducting fees to the placement agents and other offering expenses of approximately $0.7 million.

Based on the terms and conditions of the June 2020 Warrants, the Company determined that equity classification was appropriate and recognized the values of the common stock and June 2020 Warrants in excess of par in Additional Paid-In Capital. The Company allocated the net proceeds of $6.2 million to the common stock and June 2020 Warrants based on their relative fair values. The fair value of the June 2020 Warrants was estimated to be at $10.50 per share using the Black-Scholes pricing model with an expected term of 5 years, market price of $13.50 which is the last closing price of our common stock prior to the transaction date, volatility of 109.8% and a risk free rate of 0.45% and an expected dividend yield of 0. Based on the relative fair value of the common stock and the June 2020 Warrants, the Company allocated approximately $3.9 million to the common stock and $3.0 million to the June 2020 Warrants before issuance costs.

During the years ended December 31, 2021, 7.5 million of the June 2020 warrants were exercised, which converted to 298,000 shares to BIOLASE common stock. No warrants were exercised in 2022 and 2021. Each warrant is exercisable for one twenty-fifth of a share of BIOLASE common stock.

Western Alliance Warrants

On March 6, 2018, in connection with the execution of a business financing agreement with Western Alliance Bank ("Western Alliance"), the Company issued to Western Alliance warrants (the "Original Western Alliance Warrants") to purchase up to the number of shares of BIOLASE common stock equal to $120,000 divided by the applicable exercise price at the time such warrants are exercised. The Original Western Alliance Warrants are fully vested and exercisable. The Original Western Alliance Warrants may be exercised with a cash payment from Western Alliance, or, in lieu of a cash payment, Western Alliance may convert the warrants into a number of shares, in whole or in part. The initial exercise price of the warrants was $58.75 per share. On September 27, 2018, the Company entered into the Second Modification Agreement to amend the Original Business Financing Agreement. In connection with the Second Modification Agreement, the Original Western Alliance Warrants were terminated, and the Company issued new warrants (the "Western Alliance Warrants") to purchase up to the number of shares of BIOLASE common stock equal to $120,000 divided by the exercise price of $53.25, which was the closing price of BIOLASE common stock on September 27, 2018 (as adjusted for the Reverse Stock Split). The Western Alliance Warrants were immediately exercisable and expire on September 27, 2028. These warrants contain down-round features that require the Company to adjust the exercise price proportionately should the Company issue shares at a price per share less than the exercise price. The sale of common stock in the second quarter of 2020 triggered an adjustment to the exercise price to approximately $15.00 per share. The impact of the adjustment to the exercise price was not material. These warrants are recognized in equity in the consolidated balance sheets as of December 31, 2022 and 2021. Each warrant is exercisable for one twenty-fifth of a share of BIOLASE common stock

SWK Warrants

On November 9, 2018, in connection with the Credit Agreement, BIOLASE issued to SWK, LLC or its assignees (collectively with SWK, the “Holder”) 372,023 warrants to purchase shares of common stock (the "SWK Warrants"), exercisable to 14,881 shares of BIOLASE common stock. The initial exercise price of the SWK Warrants was $33.50 per share, which was the average closing price of common stock for the ten trading days immediately preceding November 9, 2018. The SWK Warrants were immediately exercisable, expire on November 9, 2026 and contain a “cashless exercise feature.” Subject to certain limitations, the Holder has certain piggyback registration rights with respect to the shares that are issued upon exercise of the SWK Warrants. These warrants contain down-round features that require the Company to adjust the exercise price proportionately should the Company issue shares at a price per share less than the exercise price. The fair value of the SWK Warrants was estimated using the Black-Scholes option-pricing model with the following assumptions: expected term of 8 years; volatility of 81.79%; annual dividend per share of $0.00; and risk-free interest rate of 3.13%; and resulted in an estimated fair value of $0.4 million. These warrants are recognized in equity in the consolidated balance sheets as of December 31, 2022 and 2021.

In November 2019, the SWK Warrants were consolidated, and the exercise price was adjusted to $25.00 as part of the Fourth Amendment to the Credit Agreement; and in March 2020, the exercise price was adjusted a second time to $12.25. The impact of both reprice events was de minimis to the consolidated financial statements. In connection with the Fifth Amendment, the Company entered into a Third Amendment to the SWK Warrant Agreement. Under this amendment, the Company granted to SWK 63,779 additional common stock warrants, exercisable to 2,551 shares of BIOLASE common stock, at an exercise price of approximately $9.75. All other terms and conditions to the additional warrants were the same as those previously granted. The Company also revised the exercise price of the 487,198 common stock warrants held by SWK, which are exercisable to 19,488 shares of BIOLASE common stock, to $9.75. The Company measured the fair value of the 63,779 warrants granted using the Black-Scholes option-pricing model. The fair value of the additional warrants and the aggregate impact of the exercise price adjustments in previous amendments to the Warrant Agreement were less than $0.1 million and not material to the consolidated financial statements. Due to the repricing that occurred in the second quarter of 2020, the down round features of these warrants was not triggered by the Company’s June 2020 sale of common stock. Each warrant is exercisable for one twenty-fifth of a share of BIOLASE common stock.

DPG Warrants

On November 14, 2018, in connection with the SWK Loan, the Company paid a finder's fee to DPG of $0.4 million cash and issued DPG 279,851 warrants, exercisable to 11,194 shares of BIOLASE common stock. The DPG Warrants were exercisable immediately and expire on November 9, 2026. The initial exercise price of the DPG Warrants was $33.50 per share, which was the average closing price of common stock for the ten trading days immediately preceding November 9, 2018. The DPG Warrants were immediately exercisable, expire on November 9, 2026 and contain a “cashless exercise feature.” Subject to certain limitations, the Holder has certain piggyback registration rights with respect to the shares that are issued upon exercise of the DPG Warrants. These warrants contain down-round features that require the Company to adjust the exercise price proportionately should the Company issue shares at a price per share less than the exercise price. The fair value of the DPG Warrants of $0.3 million was estimated using the Black-Scholes option pricing model with the following assumptions: expected term of 8 years; volatility of 81.79%; annual dividend per share of $0.00; and risk-free interest rate of 3.13%. In 2019 the Company issued 149,727 warrants to purchase common, exercisable to 5,989 shares of BIOLASE common stock at a weighted average exercise price of $54.25 to SWK and DPG. These warrants are recognized in equity in the consolidated balance sheet as of December 31, 2022 and 2021.

In November 2019, the exercise price of the DPG Warrants issued on November 14, 2018 was adjusted from $33.50 per share to $22.00 per share and the exercise price of the DPG Warrants issued on May 7, 2019 was adjusted from $54.25 per share to $35.50 per share. The June 2020 sale of common stock triggered the down round features of these warrants, and in August 2020, the Company adjusted the exercise price of these warrants to $15.50 and $9.50 per share respectively. Each warrant is exercisable for one twenty-fifth of a share of BIOLASE common stock.

The repricing did not have a material impact on the Company’s consolidated financial statements for the years ended December 31, 2022, 2021 and 2020.

The following table summarizes the activity in shares of BIOLASE common stock that warrants are exercisable to (in thousands, except per share data):

	Shares		Weighted-Average Exercise Price Per Share
Warrants outstanding at January 1, 2020	83	$	157.50
Granted or Issued	2,240	$	10.50
Exercised	(154)	$	10.00
Forfeited, cancelled, or expired	(1)	$	500.00
Warrants outstanding at December 31, 2020	2,168	$	15.50
Granted or Issued	—	$	—
Exercised	(1,432)	$	10.75
Forfeited, cancelled, or expired	(16)	$	250.00
Warrants outstanding at December 31, 2021	720	$	19.98
Granted or Issued	2,132	$	3.05
Exercised	(727)	$	—
Forfeited, cancelled, or expired	(31)	$	225.00
Warrants outstanding at December 31, 2022	2,094	$	10.17
Warrants exercisable at December 31, 2022	2,094	$	10.17
Vested warrants expired during the 12 months ended December 31, 2022	(31)	$	225.00

Stock-Based Compensation

Stock Options

2002 Stock Incentive Plan

The 2002 Stock Incentive Plan (as amended effective as of May 26, 2004, November 15, 2005, May 16, 2007, May 5, 2011, June 6, 2013, October 30, 2014, April 27, 2015, and May 6, 2017, the “2002 Plan”) was replaced by the 2018 Plan (as defined below) with respect to future equity awards. Persons eligible to receive awards under the 2002 Plan included officers, employees, and directors of the Company, as well as consultants. As of December 31, 2022, a total of 124,400 shares have been authorized for issuance under the 2002 Plan, of which approximately 41,000 shares of common stock have been issued pursuant to options that were exercised and restricted stock units ("RSUs") that were vested, approximately 23,000 shares of common stock have been reserved for options that are outstanding, and no shares of common stock remain available for future grants.

2018 Stock Incentive Plan

At the 2018 annual meeting of stockholders, the Company’s stockholders approved the 2018 Long-Term Incentive Plan (as amended effective as of September 21, 2018, May 15, 2019, May 13, 2020, and June 11, 2021, the “2018 Plan”). The purposes of the 2018 Plan are (i) to align the interests of the Company’s stockholders and recipients of awards under the 2018 Plan by increasing the proprietary interest of such recipients in the Company’s growth and success; (ii) to advance the interests of the Company by attracting and retaining non-employee directors, officers, other employees, consultants, independent contractors and agents; and (iii) to motivate such persons to act in the long-term best interests of the Company and its stockholders.

Under the terms of the 2018 Plan, approximately 0.1 million shares of BIOLASE common stock are available for issuance as of December 31, 2022. As of December 31, 2022, a total of 1.5 million shares of common stock have been authorized for issuance under the 2018 Plan, of which approximately 1.0 million shares of the Company’s common stock have been reserved for issuance upon the exercise of outstanding options or stock appreciation rights ("SARs"), and/or settlement of unvested RSUs or phantom awards under the 2018 Plan.

Stock options may be granted as incentive or non-qualified options; however, no incentive stock options have been granted to date. The exercise price of options is at least equal to the market price of the stock as of the date of grant. Options may vest over various periods but typically vest on a quarterly basis over four years. Options expire after five years, ten years, or within a specified time from termination of employment, if earlier. The Company issues new shares of common stock upon the exercise of stock options. The following table summarizes option activity under the 2002 Plan and the 2018 Plan (in thousands, except per share data):

	Shares	Weighted-Average Exercise Price Per Share	Weighted-Average Remaining Contractual Term (Years)	Aggregate Intrinsic Value(1)
Options outstanding at January 1, 2020	52	$ 144.25		
Granted at fair market value	50	$ 9.50		
Exercised	—	$ —		
Forfeited, cancelled, or expired	(6)	$ 171.75		
Options outstanding at December 31, 2020	96	$ 74.00	7.2	$ 53
Granted at fair market value	3	$ 20.00		
Exercised	(14)	$ 9.50		
Forfeited, cancelled, or expired	(15)	$ 179.25		
Options outstanding at December 31, 2021	70	$ 62.01	7.1	$ 15
Granted at fair market value	—	$ —		
Exercised	—	$ —		
Forfeited, cancelled, or expired	(18)	$ 22.82		
Options outstanding at December 31, 2022	52	$ 74.95	5.8	$ —
Options exercisable at December 31, 2022	50	$ 77.11	5.7	$ —
Vested options expired during the twelve months ended December 31, 2022	—	$ —		

(1) The intrinsic value calculation does not include negative values. This can occur when the fair market value on the reporting date is less than the exercise price of a grant.

The following table summarizes additional information for those options that are outstanding and exercisable as of December 31, 2022 (in thousands, except per share data):

	Options Outstanding			Exercisable	
Range of Exercise Prices	Number of Shares	Weighted-Average Exercise Price Per Share	Weighted-Average Remaining Life (Years)	Number of Shares	Weighted-Average Exercise Price Per Share
$7.25 - $8.31	1	$ 7.25	8.0	—	$ 7.25
$8.32 - $11.94	21	$ 9.38	7.4	21	$ 9.38
$11.95 - $52.00	7	$ 28.93	6.7	6	$ 30.96
$52.01 - $129.38	12	$ 59.08	5.0	12	$ 59.12
$129.39 - $330.00	11	$ 240.41	2.9	11	$ 240.41
Total	52	$ 74.95	5.8	50	$ 77.11

Cash proceeds, along with fair value disclosures related to grants, exercises, and vesting options, are as follows for the years ended December 31 (in thousands, except per share amounts):

	Years Ended December 31,		
	2022	2021	2020
Proceeds from stock options exercised	$ —	$ 132	$ —
Tax benefit related to stock options exercised(1)	N/A	N/A	N/A
Intrinsic value of stock options exercised(2)	$ —	$ 82	$ —
Weighted-average fair value of options granted per share	$ —	$ 0.66	$ 0.29
Total fair value of shares vested during the year	$ 42	$ 404	$ 227

(1) Excess tax benefits received related to stock option exercises are presented as operating cash inflows. For the periods presented, the Company did not receive a tax benefit related to the exercise of stock options due to its net operating losses.

(2) The intrinsic value of stock options exercised is the amount by which the market price of the stock on the date of exercise exceeded the exercise price of the stock on the date of grant.

Stock Option Activity

There were no option grants in 2022, approximately 3,000 option grants in 2021, and approximately 50,000 option grants in 2020.

Restricted Stock Units

2022 Restricted Stock Units Activity

- Under the 2018 Plan, the Company granted approximately 217,000 RSUs to certain employees of the Company as part of the Company's bonus programs. Substantially all of these RSUs are subject to time-based vesting and were valued at the closing share price on the date of grant. The remaining awards vest based on certain Company performance criteria.

- In 2022, the Compensation Committee of the Board granted approximately 265,000 RSUs to Board members.

- Additional RSUs were granted for promotions during 2022, none of which were material individually.

2021 Restricted Stock Units Activity

- Under the 2018 Plan, the Company granted approximately 121,000 RSUs to certain employees of the Company as part of the Company's bonus programs. Substantially all of these RSUs are subject to time-based vesting and were valued at the closing share price on the date of grant. The remaining awards vest based on certain Company performance criteria.

- Additional RSUs were granted to certain new hires during 2021, none of which was individually material.

2020 Restricted Stock Units Activity

- Under the 2018 Plan, the Company granted approximately 104,000 RSUs to certain employees of the Company as part of the Company's 2020 bonus programs. 14,000 of these RSUs are subject to time-based vesting and were valued at the closing share price on the date of grant. The remaining 28,000 awards vest based on certain Company performance criteria. Additionally, the Company issued approximately 62,000 RSUs to certain employees as part of the quarter bonus program. The fair value of these awards varied and were based on closing market share price on the date of grant.

- In 2020, the Compensation Committee of the Board granted 48,000 RSUs to Board members.

- Additional RSUs were granted to certain new hires during 2020, none of which was individually material.

The following table summarize RSU activity under the 2002 and 2018 Plans (in thousands):

	Shares
Unvested RSUs at January 1, 2020	143
Granted	125
Vested	(109)
Forfeited or cancelled	(12)
Unvested RSUs at December 31, 2020	147
Granted	124
Vested	(153)
Forfeited or cancelled	(24)
Unvested RSUs at December 31, 2021	94
Granted	517
Vested	(166)
Forfeited or cancelled	(5)
Unvested RSUs at December 31, 2022	440

Phantom Awards and Stock Appreciation Rights

During the year ended December 31, 2022, the Company issued approximately 31,000 phantom RSUs in lieu of stock-settled RSUs historically granted for leadership bonuses and non-employee director service. During the year ended December 31, 2021, the Company issued approximately 402,000 phantom RSUs. The phantom RSUs have either time-based or performance-based vesting conditions and will be settled in cash in 2024 with the Company's option to settle the award in BIOLASE common stock at the sole discretion of the Board. At inception, these phantom RSUs were included as a component of long-term liability on the consolidated balance sheet and were not considered stock-based compensation due to the cash-settlement feature of the award and current limitation on the number of remaining shares authorized for issuance. In 2022, as a result of the Reverse Stock Split, the phantom awards were reclassed to equity and included as a component of additional paid-in-capital in the amount of $0.1 million, with a portion remaining as a component of long-term liability on the consolidated balance sheet, and the expense subsequent to the remeasurement date considered stock-based compensation. The expense recognized during the year ended December 31, 2022 was $0.2 million. As of December 31, 2022 $0.1 million was included in additional paid-in-capital and $0.3 million was included in long-term liabilities on the consolidated balance sheet. The balance included in long-term liabilities as of December 31, 2021, was $0.3 million.

During the year ended December 31, 2021, the Company issued approximately 39,000 SARs in lieu of stock-settled RSUs historically granted for non-employee director service. Upon exercise, the SARs could be settled in cash with the Company's option to settle in BIOLASE common stock at the sole discretion of the Board. These SARS were included in accrued liabilities on the consolidated balance sheet and not considered stock-based compensation due to the cash-settlement feature of the award and limitation on the number of remaining shares authorized for issuance. In 2022, as a result of the Reverse Stock Split, the SARs were reclassed to equity and included as a component of additional paid-in-capital on the consolidated balance sheet in the amount of $0.5 million. The expense recognized during the year ended December 31, 2022 was $0.3 million and is included in additional paid-in-capital on the consolidated balance sheet as of December 31, 2022. The expense included in accrued liabilities on the consolidated balance sheet as of December 31, 2021 was $0.3 million.

Inducement Stock-Based Awards

Inducement Activity

There were no new grants relating to inducements for the year ended December 31, 2022 and 2021. During the years ended December 31, 2022 there were no options cancelled and during the year ended December 31, 2021, approximately 7,000 options were canceled. As of December 31, 2022 and 2021, 3,500 options remain outstanding.

Deferred Compensation Plan

In July 2019, the Company introduced a Deferred Compensation Plan pursuant to the IRC Section 409A. The purpose of the plan is to provide income deferral opportunities to certain eligible employees. As of December 31, 2022, the Company had seven individuals enrolled. For individuals enrolled for the year ended December 31, 2022, all of the RSUs that vested in 2022 were eligible for this program. As of December 31, 2022, there were approximately 86,000 vested and releasable RSUs and approximately 170,000 unvested and outstanding RSUs.

NOTE 9 — SEGMENT INFORMATION

The Company currently operates in a single business segment. Management uses one measurement of profitability and does not segregate its business for internal reporting. Sales to customers located in the United States accounted for approximately 70%, 65%, and 71% of net revenue and international sales accounted for approximately 30%, 35%, and 29% of net revenue for the years ended December 31, 2022, 2021, and 2020, respectively. The Company’s basis for attributing revenues to external customers is based on the customer’s location. No individual international country outside the United States represented more than 10% of net revenue during the years ended December 31, 2022, 2021, and 2020.

Long-lived assets by geographic location were as follows (in thousands):

	Years Ended December 31,		
	2022	2021	2020
United States	$ 4,032	$ 797	$ 486
International	246	270	296
	$ 4,278	$ 1,067	$ 782

NOTE 10 — CONCENTRATIONS

Revenue from the Company's products are as follows ($ in thousands):

	Years Ended December 31,					
	2022		2021		2020	
Laser systems	$ 31,443	64.8%	$ 25,023	63.9%	$ 12,342	54.2%
Consumables and other	11,322	23.4%	9,456	24.1%	6,124	26.9%
Services	5,697	11.8%	4,709	12.0%	4,314	18.9%
Total revenue	$ 48,462	100.0%	$ 39,188	100.0%	$ 22,780	100.0%

The Company maintains its cash and cash equivalent accounts with established commercial banks. Such cash deposits periodically exceed the Federal Deposit Insurance Corporation insured limit.

For the years ended December 31, 2022, 2021, and 2020, sales to our largest distributor worldwide accounted for approximately 4%, 5%, and 5%, respectively, of our net revenue. As of December 31, 2022 accounts receivable from one customer totaled approximately 12% of total gross accounts receivable. The entire balance is either current or outstanding for less than 30 days. No individual customer represented more than 10% of the Company's accounts receivable at December 31, 2021.

The Company currently purchases certain key components of its products from single suppliers. Although there are a limited number of manufacturers of these key components, management believes that other suppliers could provide similar key components on comparable terms. A change in suppliers, however, could cause delays in manufacturing and a possible loss of sales, which could adversely affect the Company's business, results of operations and financial condition.

NOTE 11 — SUBSEQUENT EVENTS

Equity Raise

On January 9, 2023, BIOLASE completed a public offering, pursuant to which BIOLASE agreed to issue, (i) in a registered direct offering, 17,167,855 shares of BIOLASE common stock, par value $0.001 per share, and pre-funded warrants to purchase 11,403,571 shares of BIOLASE common stock with an exercise price of $0.001 per share. The combined purchase price for one share of common stock was determined to be $0.35, and the combined purchase price for one Pre-Funded Warrant and one Common Warrant was determined to be $0.34. BIOLASE received aggregate gross proceeds from the transactions of approximately $9.9 million, before deducting fees to the placement agent and other transaction expenses payable by BIOLASE.

BIOLASE, INC.

Schedule II — Consolidated Valuation and Qualifying Accounts and Reserves
For the Years Ended December 31, 2022, 2021, and 2020
(in thousands)

	Balance at Beginning of Year	Charges (Reversals) to Cost or Expenses	Deductions	Balance at End of Year
Year Ended December 31, 2022:				
Allowance for doubtful accounts	$ 2,154	$ (12)	$ 22	$ 2,164
Allowance for sales returns	262	—	—	262
Allowance for tax valuation	27,261	(4)	3,978	31,235
Year Ended December 31, 2021:				
Allowance for doubtful accounts	$ 4,017	$ (202)	$ (1,661)	$ 2,154
Allowance for sales returns	262	—	—	262
Allowance for tax valuation	21,743	5,518	—	27,261
Year Ended December 31, 2020:				
Allowance for doubtful accounts	$ 2,531	$ 1,488	$ (2)	$ 4,017
Allowance for sales returns	210	87	(35)	262
Allowance for tax valuation	22,804	(1,061)	—	21,743