

# SECURITIES & EXCHANGE COMMISSION EDGAR FILING

## LIGHTPATH TECHNOLOGIES INC

**Form: 10-K**

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Corporate Issuer CIK: 889971

UNITED STATES  
SECURITIES AND EXCHANGE COMMISSION  
Washington, D.C. 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 June 30, 2019

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 000-27548

LIGHTPATH TECHNOLOGIES, INC.  
(Exact name of registrant as specified in its charter)

DELAWARE  
(State or other jurisdiction of incorporation or organization)

86-0708398  
(I.R.S. Employer Identification No)

<http://www.lightpath.com>

2603 Challenger Tech Court, Suite 100  
Orlando, Florida 32826  
(Address of principal executive offices, including zip code)

(407) 382-4003  
(Registrant's telephone number, including area code)

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

Title of each class	Trading Symbol(s)	Name of each exchange on which registered
Class A Common Stock, par value \$0.01	LPTH	The Nasdaq Stock Market, LLC

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

Series D Participating Preferred Stock Purchase Rights  
(Title of Class)

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 and 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 if disclosure of delinquent filers pursuant to Item 405 of Regulation S-K (§ 229.405 of this chapter) is not contained herein, and will not be contained, to the best of registrant's knowledge, in definitive proxy or information statements incorporated by reference in Part III of this Form 10-K or any amendment to this Form 10-K.

Indicate by check mark whether the registrant is a large accelerated filer, an accelerated filer, non-accelerated filer, a smaller reporting company, or an emerging growth company. See the definitions of "large accelerated filer", "accelerated filer", "non-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 is a shell company, (as defined in Rule 12b-2 in the Exchange Act). YES  NO .

The aggregate market value of the registrant's voting stock held by non-affiliates (based on the closing sale price of the registrant's Class A Common Stock on

As of September 9, 2019, the number of shares of the registrant's Class A Common Stock outstanding was 25,827,265.

**DOCUMENTS INCORPORATED BY REFERENCE**

Portions of the Proxy Statement for the Fiscal 2020 Annual Meeting of Stockholders are incorporated by reference in Part II and Part III.

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**LightPath Technologies, Inc.**  
**Form 10-K**

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## CAUTIONARY NOTE CONCERNING FORWARD-LOOKING STATEMENTS

Certain statements and information in this Annual Report on Form 10-K may constitute “forward-looking statements” within the meaning of Section 27A of the Securities Act of 1933, as amended (the “Securities Act”), Section 21E of the Securities Exchange Act of 1934, as amended (the “Exchange Act”), and the Private Securities Litigation Reform Act of 1995. These forward-looking statements include, without limitation, statements concerning plans, objectives, goals, projections, strategies, future events, or performance, and underlying assumptions and other statements, which are not statements of historical facts. In some cases, you can identify forward-looking statements by terminology such as “may,” “will,” “should,” “expect,” “plan,” “anticipate,” “believe,” “estimate,” “predict,” “potential,” or “continue,” or other comparable terminology. These forward-looking statements are based on our current expectations and beliefs concerning future developments and their potential effect on us. While management believes that these forward-looking statements are reasonable as and when made, there can be no assurance that future developments affecting us will be those that we anticipate. Forward-looking statements involve known and unknown risks, uncertainties, and other factors that may cause our actual results, performance, or achievements to be materially different from any future results, performance or achievements expressed or implied by the forward-looking statements. Given these uncertainties, you should not place undue reliance on these forward-looking statements. Forward-looking statements represent management’s beliefs and assumptions only as of the date of this Annual Report on Form 10-K. You should read this Annual Report on Form 10-K completely and with the understanding that our actual future results may be materially different from what we expect. Except as required by law, we assume no obligation to update these forward-looking statements, or to update the reasons actual results could differ materially from those anticipated in these forward-looking statements, even if new information becomes available in the future.

### PART I

#### Item 1. Business.

##### General

##### Our Company

LightPath Technologies, Inc. (“LightPath”, the “Company”, “we”, “our”, or “us”) was incorporated under Delaware law in 1992 as the successor to LightPath Technologies Limited Partnership, a New Mexico limited partnership formed in 1989, and its predecessor, Integrated Solar Technologies Corporation, a New Mexico corporation formed in 1985. Today, LightPath is a global company with major facilities in the United States, the People’s Republic of China and the Republic of Latvia. Our capabilities include precision molded optics, thermal imaging optics and custom designed optics. These capabilities allow us to manufacture optical components and higher-level assemblies, including precision molded glass aspheric optics, molded and diamond-turned infrared aspheric lenses and other optical materials used to produce products that manipulate light. We design, develop, manufacture and distribute optical components and assemblies utilizing advanced optical manufacturing processes. We serve a wide and diverse number of industries including defense and security, optical systems and components, datacom/telecom, information technology, life sciences, machine vision and production technology. Our products are incorporated into a variety of applications by our broad and diverse customer base. These applications include defense products, medical devices, laser aided industrial tools, automotive safety applications, barcode scanners, optical data storage, hybrid fiber coax datacom, telecommunication optical networks, machine vision and sensors, among others. All the products we produce enable lasers and imaging devices to function more effectively. For example:

- *Molded glass aspheres and assemblies* are used in various high-performance optical applications primarily based on laser technology;
- *Infrared molded lenses, diamond turned, conventional and CNC ground and polished lenses and assemblies* using short (“SWIR”), mid (“MWIR”) and long (“LWIR”) wave transmitting materials are used in applications for firefighting, predictive maintenance, homeland security, surveillance, automotive, cell phone infrared cameras, pharmaceutical research & development and defense; and
- *Collimator assemblies* are used in applications involving light detection and ranging (“LIDAR”) technology for advanced driver assistance systems and autonomous vehicles, such as fork lifts and other automated warehouse equipment.

The Company has robust and innovative manufacturing technologies and is vertically integrated from optical design through testing. Manufacturing strengths include the ability to use multiple optical glasses (visible and infrared spectrums), multiple lens fabrication methods (precision molding, single point diamond turning, and both conventional and CNC grind and polish), anti-reflective coatings, wear resistant coatings (such as diamond-like carbon or “DLC”), assembly and test.

##### Subsidiaries

In November 2005, we formed LightPath Optical Instrumentation (Shanghai) Co., Ltd (“LPOI”), a wholly-owned subsidiary, located in Jiading, People’s Republic of China. The LPOI facility (the “Shanghai Facility”) is primarily used for sales and support functions.

In December 2013, we formed LightPath Optical Instrumentation (Zhenjiang) Co., Ltd. (“LPOIZ”), a wholly-owned subsidiary located in the New City district, of the Jiangsu province, of the People’s Republic of China. LPOIZ’s manufacturing facility (the “Zhenjiang Facility”) serves as our primary manufacturing facility in China and provides a lower cost structure for production of larger volumes of optical components and assemblies. Late in fiscal 2019, this facility was expanded from 39,000 to 55,000 square feet to add capacity for polishing to support our growing infrared business.

In December 2016, we acquired ISP Optics Corporation, a New York corporation (“ISP”), and its wholly-owned subsidiary, ISP Optics Latvia, SIA, a limited liability company founded in 1998 under the Laws of the Republic of Latvia (“ISP Latvia”). ISP is a vertically integrated manufacturer offering a full range of infrared products from custom infrared optical elements to catalog and high-performance lens assemblies. Historically, ISP’s Irvington, New York facility (the “Irvington Facility”) functioned as its global headquarters for operations, while also providing manufacturing capabilities, optical coatings, and optical and mechanical design, assembly, and testing. In June 2019, we completed the relocation of this manufacturing facility to our existing facilities in Orlando, Florida and Riga, Latvia. ISP Latvia is a manufacturer of high precision optics and offers a full range of infrared products, including catalog and custom infrared optics. ISP Latvia’s manufacturing facility is located in Riga, Latvia (the “Riga Facility”).

### **Recent Organizational and Strategic Initiatives**

To ensure we fully leverage the expanded capabilities and manage the broader product portfolio that we now have, we begun introducing organizational changes in July 2019. The position of Chief Operating Officer was created and filled. This position combines all operations, engineering, sales and marketing functions under one leader to ensure the closest possible ties between demand and supply of our products. We believe this will ensure the best coordination between technical and operational requirements. The position is responsible for managing annual plan objectives, *i.e.*, revenues, gross margin, controllable operating income and return on asset objectives. We have also implemented a product management function, with a product manager for each of our major product capabilities: molded optics, thermal imaging optics and custom designed optics. Product management is principally a portfolio management process that analyzes products within the product capability areas as defined above. This function will facilitate choosing investment priorities and ensuring successful product life cycle management. We have also defined, but not filled, the position of Senior Vice President, Strategic Business Assessment. This person will be responsible to strategically align LighPath’s competencies with strategic industry revenue opportunities, and will manage the product management function.

### **Product Groups and Markets**

#### **Overview**

In fiscal 2019, we reorganized our business into three product groups: precision molded optics (“PMO”), infrared products and specialty products. These product groups are supported by our major product capabilities: molded optics, thermal imaging optics, and custom designed optics.

Our PMO product group consists of visible precision molded optics with varying applications. Our infrared product group is comprised of infrared optics, both molded and diamond-turned, and thermal imaging assemblies. This product group also includes both conventional and CNC ground and polished lenses. Between these two product groups, we have the capability to manufacture lenses from very small (with diameters of sub-millimeter) to over 300 millimeters, and with focal lengths from approximately 0.4mm to over 2000mm. In addition, both product groups offer both catalog and custom designed optics.

Our specialty product group is comprised of value-added products, such as optical subsystems, assemblies, and collimators, and non-recurring engineering (“NRE”) products, consisting of those products we develop pursuant to product development agreements that we enter into with customers. Typically, customers approach us and request that we develop new products or applications for our existing products to fit their particular needs or specifications. The timing and extent of any such product development is outside of our control.

We have also aligned our marketing efforts by our capabilities (*i.e.*, molded optics, thermal imaging optics, and custom optics), and then by industry. We currently serve the following major markets: defense and security, optical systems and components, datacom/telecom, information technology, life sciences, machine vision and production technology. Customers in each of these markets may select the best optical technologies that suit their needs from our entire suite of products, availing us to cross-selling opportunities, particularly where we can leverage our knowledge base against our expanding design library. Within our product groups, we have various applications that serve our major markets. For example, our infrared products can be used for gas sensing devices, spectrometers, night vision systems, advanced driver-assistance systems (“ADAS”), thermal weapon gun sights, and infrared counter measure systems, among others.

The photonics market drives our growth and is comprised of eight application areas: information and communication technology, display, lighting, photovoltaic, production technology, life sciences, and measurement and automated vision. In 2018, the market size for these applications at the system level was \$556.4 billion. LightPath has product applications in six of the eight application areas, all except for displays and photovoltaic. According to the latest Markets and Markets survey, these six application areas had an estimated market value of \$401 billion and are growing at a 7% compound annual growth rate. Within the larger overall markets, we believe there is a market of approximately \$2.0 billion for our current products and capabilities. We continue to believe our products will provide significant growth opportunities over the next several years and, therefore, we will continue to target specific applications in each of these major markets. In addition to these major markets, a large percentage of our revenues are derived from sales to unaffiliated companies that purchase our products to fulfill their customers' orders, as well as unaffiliated companies that offer our products for sale in their catalogs. Our strategy is to leverage our technology, know-how, established low-cost manufacturing capability and partnerships to grow our business. Our product managers will focus on pursuing customer growth opportunities where our differential advantages coincide with key customer needs.

### **Product Groups**

The following further discusses the various products we offer and certain growth opportunities we anticipate for each such product.

**PMO Product Group.** Aspheric lenses are known for their optimal performance. Aspheric lenses simplify and shrink optical systems by replacing several conventional lenses. However, aspheric lenses can be difficult and costly to machine. Our glass molding technology enables the production of both low and high volumes of aspheric optics, while still maintaining the highest quality at an affordable price. Molding is the most consistent and economical way to produce aspheres and we have perfected this method to offer the most precise molded aspheric lenses available.

**Infrared Product Group.** Our infrared product group is comprised of both molded and turned infrared lenses and assemblies using a variety of infrared glass materials. Advances in chalcogenide materials have enabled compression molding for MWIR and LWIR optics in a process similar to precision molded lenses. Our molded infrared optics technology enables high performance, cost-effective infrared aspheric lenses that do not rely on traditional diamond turning or lengthy polishing methods. Utilizing precision molded aspheric optics significantly reduces the number of lenses required for typical thermal imaging systems and the cost to manufacture these lenses. Molding is an excellent alternative to traditional lens processing methods particularly where volume and repeatability is required.

Through ISP, our wholly-owned subsidiary, we also offer germanium, silicon or zinc selenide aspheres and spherical lenses, which are manufactured by diamond turning. This manufacturing technique allows us to offer larger lens sizes and the ability to use other optical materials that cannot be effectively molded. The capabilities we have from ISP give us the ability to meet complex optical challenges that demand more exotic optical substrate materials that are non-moldable, as well as larger size optics.

Near the end of fiscal 2018, we announced comprehensive production capabilities and global availability for a new line of infrared lenses made from chalcogenide glass. We developed this glass and melt it internally to produce our Black Diamond glass, which has been trademarked, and is marketed as BD6. Currently, the majority of our thermal imaging products are germanium-based, which is subject to market pricing and availability. BD6 offers a lower-cost alternative to germanium, which we expect will benefit the cost structure of some of our current infrared products and allow us to expand our product offerings in response to the markets' increasing requirement for low-cost infrared optics applications.

Overall, we anticipate growth for infrared optics and increased requirements for systems requiring aspheric optics. Infrared systems, which include thermal imaging cameras, gas sensing devices, spectrometers, night vision systems, automotive driver awareness systems, such as blind spot detection, thermal weapon sights, and infrared counter measure systems, represent a market that is growing rapidly and are applications into which we are selling. As infrared imaging systems become widely available, the cost of optical components needs to decrease before the market demand will increase. Our aspheric molding process is an enabling technology for the cost reduction and commercialization of infrared imaging systems utilizing smaller lenses because the aspheric shape of our lenses enables system designers to reduce the lens element in a system and provide similar performance at a lower cost. In addition, there is a trend toward utilizing smaller size sensors in these devices which require smaller size lenses and that fits well with our molding technology.

**Specialty Product Group.** We have a growing group of custom specialty optics products and assemblies that take advantage of our unique technologies and capabilities. These products include custom optical designs, mounted lenses, optical assemblies, and collimator assemblies. We expect growth from defense communications programs and commercial optical sub-assemblies.

We design, build, and sell optical assemblies into markets for test and measurement, medical devices, military, industrial, and communications based on our proprietary technologies. Many of our optical assemblies consist of several products that we manufacture.

## **Growth Strategy**

Our strategy is to leverage our technology, know-how, established low cost manufacturing capability and partnerships to grow our business. We plan to accomplish this growth through the implementation of the following objectives:

- **Leverage our Leadership to Drive Organic Growth.** We plan to continue to capitalize on our global operations network, distribution infrastructure, and technology to pursue global growth. We will focus our efforts on those geographic areas and end products that we believe offer the most attractive growth and long-term profit prospects.
- **Focus on Cash Flow Generation.** Our goal is to focus on cash flow generation and return on invested capital through the continuing optimization of our cost structure, improvement in working capital and supply chain efficiencies, a disciplined approach to capital expenditures, and profitable revenue growth. We have a proven track record of mitigating fixed cost inflation with cost saving actions and productivity improvements. We intend to continue to identify incremental cost saving opportunities based in large part on benchmarks of industry-leading performance and productivity improvements by utilizing our engineering and manufacturing technology expertise and partnerships with low cost producers. Our goal is to maintain a cost structure that positions us favorably to compete and grow. In particular, we view our BD6 material manufacturing capability as a key differential advantage to drive growth in our infrared product group. We intend to continue to upgrade our customer and product mix by adding products that move up the supply chain by offering assemblies that use our lenses, thereby increasing our sales of value-added, differentiated products, and achieving premium pricing to improve margins and enhance cash flow.
- **Increase Customer Base and Continue to Develop New Products.** A key component of our strategy is to produce innovative, high-performance products that offer enhanced value propositions to our customers at competitive prices. Our goal is to continually work closely with our customers to provide solutions and productions that optimize their products. This market-driven product development enables us to offer a high-quality product portfolio to our customers and provide our business with the ability to respond quickly and efficiently to changes in market demands.
- **Deepen Our Presence in Emerging Markets.** Emerging markets are a strategic priority for our business. We are well positioned not only to leverage our strong market positions in mature but highly sophisticated markets in North America and Europe, but also to participate in the expected growth of emerging markets in Asia and Eastern Europe. We believe that improving living standards and growth in GDP across emerging markets are combining to create increased demand for our products. We expect to capitalize on this growth opportunity by expanding our customer base and local capabilities in order to increase our market share across emerging markets, especially in China. To accelerate our penetration of these markets and maintain our competitive cost position, we may develop relationships with leading local partners, especially in businesses where participation in the fast-growing Chinese market is particularly important for long-term sustainable growth. For example, we are well positioned to leverage our strong production technology in the Chinese market as a result of an increasing percentage of aerospace, automotive, semiconductor, electronics, and telecommunications manufacturing transitioning to China.
- **Continue to Drive Operational Excellence and Asset Efficiency.** Operational excellence, which includes a commitment to safety, environmental stewardship, and improved reliability, is key to our future success. We continually evaluate our business to identify opportunities to increase operational efficiency throughout our production facilities, with a focus on maintaining operational excellence, reducing costs, and maximizing asset efficiency. We intend to continue focusing on increasing manufacturing efficiencies through selected capital projects, process improvements, and best practices in order to lower unit costs. We will also carefully manage our portfolio and take appropriate actions to address product lines that face challenging market conditions and do not generate returns on invested capital that we believe are sufficient to create long-term shareholder value.
- **Drive Organizational Alignment.** We believe that maintaining alignment of the efforts of our employees with our overall business strategy and operational excellence goals is critical to our success. We have outstanding people and assets and, with the commitment to values of safety, customer appreciation, simplicity, collective entrepreneurship, and integrity, we believe that we can maintain our competitiveness and help achieve our operational excellence and asset efficiency strategic objectives.

## Sales and Marketing

*Marketing.* Extensive product diversity and varying levels of product maturity characterize the optics industry. Product markets range from consumer (e.g., cameras and copiers) to industrial (e.g., lasers, data storage, and infrared imaging), from products where the lenses are the central feature (e.g., telescopes, microscopes, and lens systems) to products incorporating lens components (e.g., robotics and semiconductor production equipment) and communications (e.g., various optics are required for bandwidth expansion and improved data transfer for the optical network). As a result, we market our products across a wide variety of customer groups, including laser systems manufacturers, laser OEMs, infrared-imaging systems vendors, industrial laser tool manufacturers, telecommunications equipment manufacturers, medical and industrial measurement equipment manufacturers, government defense agencies, and research institutions worldwide.

*Technical Sales Model.* To align the organization for specific goals and accountability, we created the position of Chief Operating Officer with the responsibility for all operations, engineering, and sales and marketing. This organizational structure enables the close coordination of supply with demand. We have also created a product management function to manage the portfolio of products and define the best growth opportunities for LightPath. Our Sales and Marketing organization will be led by the Vice President of Global Sales and Marketing.

*Sales Team & Channel.* We have expanded our inside sales and application engineering organization to better support our regional sales forces that market and sell our products directly to customers in North America, Europe and China. We also have a master distributor in Europe. We have formalized relationships with 15 industrial, laser, and optoelectronics distributors and channel partners located in the United States ("U.S.") and various foreign countries to assist in the distribution of our products in highly specific target markets. We also have reseller arrangements with the top three product catalog companies in the optics and opto-electronics market. In addition, we also maintain our own product catalog and internet websites ([www.lightpath.com](http://www.lightpath.com) and [www.ispoptics.com](http://www.ispoptics.com)) as vehicles for broader promotion of our products. We make use of print media advertisements in various trade magazines and participate in appropriate domestic and foreign trade shows.

All of our partners work diligently to expand opportunities in emerging geographic markets and through alternate channels of distribution. We believe that we provide a high level of support in developing and maintaining our long-term relationships with our customers. Customer service and support are provided through our offices and those of our partners that are located throughout the world.

*Trade Shows.* We display our product line additions and enhancements at one or more trade shows each year. For example, we participated in several U.S.-based shows including Society of Photographic Instrumentation Engineers ("SPIE") Photonics West in February 2019 and SPIE Defense, Security and Sensing in April 2019. In addition, we exhibit at the Laser World of Photonics in Munich, Germany to maintain our European presence, and intend to exhibit at the China International Optoelectronic Expo ("CIOE") in September 2019. This strategy underscores our strategic directive of broadening our base of innovative optical components and assemblies. These trade shows also provide an opportunity to meet with and enhance existing business relationships, meet and develop potential customers, and to distribute information and samples regarding our products.

## Competition

The market for optical components generally is highly competitive and highly fragmented. We compete with manufacturers of conventional spherical lenses and optical components, providers of aspheric lenses and optical components, and producers of optical quality glass. To a lesser extent, we compete with developers of specialty optical components and assemblies, particularly as related to our custom products within the infrared product group. Many of these competitors have greater financial, manufacturing, marketing, and other resources than we do.

We believe our unique capabilities in optical design engineering, our low-cost structure and our substantial presence in Europe and Asia, provides us with a competitive edge and assists us in securing business. Additionally, we believe that we offer value to some customers as a primary or backup supply source in the U.S. should they be unwilling to commit to purchase their supply of a critical component from a foreign production source. We also have a broad product offering to satisfy a variety of applications and markets.

**PMO Product Group.** Our PMO products compete with conventional lenses and optical components manufactured by companies such as Asia Optical Co., Inc., Anteryon BV, Rochester Precision Optics, and Sunny Optical Technology (Group) Company Limited. Aspheric lens system manufacturers include Panasonic Corporation, Alps Electric Co., Ltd., Hoya Corporation, as well as newer competitors from China and Taiwan, such as E-Pin Optical Industry Co., Ltd., and Kinik Company.

Our aspheric lenses compete with lens systems comprised of multiple conventional lenses. Machined aspheric lenses compete with our molded glass aspheric lenses. The use of aspheric surfaces provides the optical designer with a powerful tool in correcting spherical aberrations and enhancing performance in state-of-the-art optical products. However, we believe that our optical design expertise and our flexibility in providing custom high-performance optical components at a low price are key competitive advantages for us over these competitors.



Plastic molded aspheres and hybrid plastic/glass aspheric optics, on the other hand, allow for high volume production, but primarily are limited to low cost consumer products that do not place a high demand on performance (such as plastic lenses in disposable or mobile phone cameras). Molded plastic aspheres appear in products that stress cost or weight as their measure of success over performance and durability. Our low-cost structure allows us to compete with these lenses based on higher performance and durability from our glass lenses at only a small premium in price.

**Infrared Product Group.** Our infrared aspheric optics compete with optical products produced by Janos Technology LLC, Ophir Optronics Solutions, Ernst Leitz Canada (ELCAN) Optical Technologies, Clear Align and a variety of Eastern European and Asian manufacturers. These traditional infrared lenses can either be polished spherical or are diamond turned aspherical. Our molded lenses compete with spherical lenses because like all aspheres they can replace doublets or triplets based on the higher performance of an aspheric lens. Our diamond turned aspheres from germanium are more expensive to produce in high volumes and time consuming to manufacture. We now also offer diamond-turned BD6 (chalcogenide) at lower cost giving us a competitive advantage. We believe our low cost, high volume lens business technology combined with our recently added traditional polishing and diamond turning capabilities enables us to compete with the other manufacturers of traditional infrared lens by offering the best technology fit at a competitive price.

Our molded infrared optics competes with products manufactured by Umicore N.V. ("Umicore"), Rochester Precision Optics, and Yunnan KIRP-CH Photonics Co., Ltd. We believe that our optical design expertise, our BD6-based product offerings, our diverse manufacturing flexibility, and our manufacturing facilities located in Asia, Europe and North America are key advantages over the products manufactured by these competitors.

## **Manufacturing**

**Facilities.** Our manufacturing is largely performed in our combined 38,000 square feet of production facilities in Orlando, Florida (the "Orlando Facility"), in LPOIZ's combined 55,000 square feet of production facilities in Zhenjiang, China, and in ISP Latvia's 23,000 square feet of production facilities in Riga, Latvia. LPOI sales and support functions occupy a 1,900 square foot facility in Shanghai. ISP previously had an approximately 13,000 square foot facility in Irvington, New York that functioned as its operations headquarters, providing manufacturing capabilities, optical coatings, optical and mechanical design, assembly and testing, as well as some engineering, administrative and sales functions. During fiscal 2019, we added manufacturing space near our existing Orlando Facility, and relocated the manufacturing operations of ISP's Irvington Facility to our existing Orlando Facility and Riga Facility, which is expected to result in substantial cost savings. Some of the manufacturing operations previously performed in the Irvington Facility were transitioned to our Zhenjiang Facility.

Our Orlando Facility and LPOIZ's Zhenjiang Facility feature areas for each step of the manufacturing process, including coating work areas, preform manufacturing and a clean room for precision glass molding and integrated assembly. The Orlando and Zhenjiang Facilities include new product development laboratories and space that includes development and metrology equipment. The Orlando and Zhenjiang Facilities have anti-reflective and infrared coating equipment to coat our lenses in-house. ISP Latvia's Riga Facility includes fully vertically integrated manufacturing processes to produce high precision infrared lenses and infrared lens assemblies, including crystal growth, CNC grinding, conventional polishing, diamond turning, multilayer coatings, assemblies and state of the art metrology.

We are routinely adding additional production equipment at our Orlando, Zhenjiang and Riga Facilities. During fiscal 2018, we added additional space in both our Zhenjiang and Riga Facilities. In fiscal 2019, we completed our expansion in Orlando and closed the Irvington Facility, moving the manufacturing operations to the Orlando Facility and the Riga Facility. We also completed an expansion to our Zhenjiang operation increasing our preform capacity. In addition to adding additional equipment or space at our manufacturing facilities, we add additional work shifts, as needed, to increase capacity and meet forecasted demand. We intend to monitor the capacity at our facilities, and will increase such space as needed. We believe our facilities are adequate to accommodate our needs over the next year.

**Production and Equipment.** Our Orlando Facility contains glass melting capability for BD6 chalcogenide glass, a manufacturing area for our molded glass aspheres, multiple anti-reflective and wear resistant coating chambers, diamond turning machines and accompanying metrology equipment offering full scale diamond turning lens capability, a tooling and machine shop to support new product development, commercial production requirements for our machined parts, the fabrication of proprietary precision glass molding machines and mold equipment, and a clean room for our molding and assembly workstations and related metrology equipment. LPOIZ's Zhenjiang Facility features precision glass molding manufacturing area, clean room, machine shop, dicing area, and thin film coating chambers for anti-reflective coatings on both visible and infrared optics and related metrology equipment.

ISP Latvia's Riga Facility consists of crystal growth, grinding, polishing, diamond turning, quality control departments and a mechanical shop to provide the departments with the necessary tooling. The crystal growth department is equipped with multiple furnaces to grow water soluble crystals. The grind and polish department has modern CNC equipment, lens centering and conventional equipment to perform spindle, double sided and continuous polishing operations. The diamond turning department has numerous diamond turning machines accompanied with the latest metrology tools. In connection with the relocation of the Irvington Facility, we have increased the diamond turning capacity in this facility. The quality control department contains numerous inspection stations with various equipment to perform optical testing of finished optics.

The Orlando, Zhenjiang, and Riga Facilities are ISO 9001:2015 certified. The Zhenjiang Facility is also ISO/TS 1649:2009 automotive certified for manufacturing of optical lenses and accessories. The Orlando Facility is International Traffic in Arms Regulations ("ITAR") compliant and registered with the U.S. Department of State. The Riga Facility has a DSP-5 ITAR license and Technical Assistance Agreement in place that allows this facility to manufacture items with ITAR requirements.

For more information regarding our facilities, please see *Item 2. Properties* in this Annual Report on Form 10-K.

**Subcontractors and Strategic Alliances.** We believe that low-cost manufacturing is crucial to our long-term success. In that regard, we generally use subcontractors in our production process to accomplish certain processing steps requiring specialized capabilities. For example, we presently use a number of qualified subcontractors for fabricating, polishing, and coating certain lenses, as necessary. We have taken steps to protect our proprietary methods of repeatable high-quality manufacturing by patent disclosures and internal trade secret controls.

**Suppliers.** We utilize a number of glass compositions in manufacturing our molded glass aspheres and lens array products. These glasses or equivalents are available from a large number of suppliers, including CDGM Glass Company Ltd., Ohara Corporation, and Sumita Optical Glass, Inc. Base optical materials, used in both infrared glass and collimator products, are manufactured and supplied by a number of optical and glass manufacturers. ISP utilizes major infrared material suppliers located around the globe for a broad spectrum of infrared crystal and glass. The development of our manufacturing capability for BD6 glass provides a low-cost internal source for infrared glass. We believe that a satisfactory supply of such production materials will continue to be available, at reasonable or, in some cases, increased prices, although there can be no assurance in this regard.

We also rely on local and regional vendors for component materials and services such as housings, fixtures, chemicals and inert gases, specialty ceramics, UV and AR coatings, and other specialty coatings. In addition, certain products require external processing, such as anodizing and metallization. To date, we are not dependent on any of these manufacturers and have found a suitable number of qualified vendors and suppliers for these materials and services.

We currently purchase a few key materials from single or limited sources. We believe that a satisfactory supply of production materials will continue to be available at competitive prices, although there can be no assurance in this regard.

### **Intellectual Property**

Our policy is to protect our technology by, among other things, patents, trade secret protection, trademarks, and copyrights. We primarily rely upon trade secrets and unpatented proprietary know-how to protect certain process inventions, lens designs, and innovations. We have taken security measures to protect our trade secrets and proprietary know-how, to the extent that is reasonable.

In addition to trade secrets and proprietary know-how, we have three remaining patents that relate to the fusing of certain of our lenses that are part of our specialty products group. These patents expire at various times through 2023. We also are in the process of applying for multiple new patents.

Our means of protecting our proprietary rights may not be adequate and our competitors may independently develop technology or products that are similar to ours or that compete with ours. Patent, trademark, and trade secret laws afford only limited protection for our technology and products. The laws of many countries do not protect our proprietary rights to as great an extent as do the laws of the U.S. Despite our efforts to protect our proprietary rights, unauthorized parties may attempt to obtain and use information that we regard as proprietary. Third parties may also design around our proprietary rights, which may render our protected technology and products less valuable, if the design around is favorably received in the marketplace. In addition, if any of our products or technology is covered by third-party patents or other intellectual property rights, we could be subject to various legal actions. We cannot assure you that our technology platform and products do not infringe patents held by others or that they will not in the future. Litigation may be necessary to enforce our intellectual property rights, to protect our trade secrets, to determine the validity and scope of the proprietary rights of others, or to defend against claims of infringement, invalidity, misappropriation, or other claims.

We own several registered and unregistered service marks and trademarks that are used in the marketing and sale of our products. The following table sets forth our registered and unregistered service marks and trademarks, if registered, the country in which the mark is filed, and the renewal date for such mark.

<u>Mark</u>	<u>Type</u>	<u>Registered</u>	<u>Country</u>	<u>Renewal Date</u>
LightPath®	Service mark	Yes	United States	October 22, 2022
GRADIUM™	Trademark	Yes	United States	April 29, 2027
Circulight	Trademark	No	-	-
BLACK DIAMOND	Trademark	No	-	-
GelTech	Trademark	No	-	-
Oasis	Trademark	No	-	-
LightPath®	Service mark	Yes	People's Republic of China	September 13, 2025
ISP Optics®	Trademark	Yes	United States	August 12, 2020

### **Environmental and Governmental Regulation**

Currently, emissions and waste from our manufacturing processes are at such low levels that no special environmental permits or licenses are required. In the future, we may need to obtain special permits for disposal of increased waste by-products. The glass materials we utilize contain some toxic elements in a stabilized molecular form. However, the high temperature diffusion process results in low-level emissions of such elements in gaseous form. If production reaches a certain level, we believe that we will be able to efficiently recycle certain of our raw material waste, thereby reducing disposal levels. We believe that we are presently in compliance with all material federal, state, and local laws and regulations governing our operations and have obtained all material licenses and permits necessary for the operation of our business.

We also utilize certain chemicals, solvents, and adhesives in our manufacturing process. We believe we maintain all necessary permits and are in full compliance with all applicable regulations.

To our knowledge, there are currently no U.S. federal, state, or local regulations that restrict the manufacturing and distribution of our products. Certain end-user applications require government approval of the complete optical system, such as U.S. Food and Drug Administration approval for use in endoscopy. In these cases, we will generally be involved on a secondary level and our OEM customer will be responsible for the license and approval process.

The Dodd-Frank Wall Street Reform and Consumer Protection Act imposes disclosure requirements regarding the use of "conflict minerals" mined from the Democratic Republic of Congo and adjoining countries in products, whether or not these products are manufactured by third parties. The conflict minerals include tin, tantalum, tungsten, and gold, and their derivatives. Pursuant to these requirements, we are required to report on Form SD the procedures we employ to determine the sourcing of such minerals and metals produced from those minerals. There are costs associated with complying with these disclosure requirements, including for diligence in regards to the sources of any conflict minerals used in our products, in addition to the cost of remediation and other changes to products, processes, or sources of supply as a consequence of such verification activities. In addition, the implementation of these rules could adversely affect the sourcing, supply, and pricing of materials used in our products. We strive to only use suppliers that source from conflict-free smelters and refiners; however, in the future, we may face difficulties in gathering information regarding our suppliers and the source of any such conflict minerals.

### **New Product Development**

In recent years, our new product development efforts have been focused on the development of our capabilities in molded aspheric lenses and infrared lenses. We incurred expenditures for new product development during fiscal 2019 and 2018 of approximately \$2.0 million and \$1.6 million, respectively. In fiscal 2019 and 2018, our efforts were concentrated on expanding our product capabilities for molded optics and thermal imaging optics, to continue increasing our product offerings, and lower costs within our PMO and infrared product groups.

In fiscal 2020, we anticipate focusing our new product development efforts on infrared optics products for imaging and sensing, fiber lasers, spectrophotometry, defense, medical devices, industrial, optical data storage, machine vision, sensors, and environmental monitoring. We currently plan to expend approximately between 5% and 6% of revenue for new product development during fiscal 2020, which could vary depending upon revenue levels, customer requirements, and perceived market opportunities.

For more difficult or customized products, we typically bill our customers for engineering services as a non-recurring engineering fee.

## Concentration of Customer Risk

In fiscal 2019, we had sales to three customers that comprised an aggregate of approximately 32% of our annual revenue with one customer at 17% of our sales, another customer at 8% of our sales, and the third customer at 7% of our sales. In fiscal 2018, we had sales to three customers that comprised an aggregate of approximately 28% of our annual revenue, with one customer at 16% of our sales, another customer at 7% of our sales, and the third customer at 5% of our sales. The loss of any of these customers, or a significant reduction in sales to any such customer, would adversely affect our revenues and profits. We continue to diversify our business in order to minimize our sales concentration risk.

In fiscal 2019, 62% of our net revenue was derived from sales outside of the U.S., with 94% of our foreign sales derived from customers in Europe and Asia. In fiscal 2018, 58% of our net revenue was derived from sales outside of the U.S., with 84% of our foreign sales derived from customers in Europe and Asia.

## Employees

As of June 30, 2019, we had 350 employees, of which 339 were full-time equivalent employees, with 97 in the U.S., including 93 located in Orlando, Florida and 4 working remotely from various locations, 98 located in Riga, Latvia, and 144 located in Jiading and Zhenjiang, China. Of our 339 full-time equivalent employees, we have 40 employees engaged in management, administrative, and clerical functions, 29 employees in new product development, 17 employees in sales and marketing, and 253 employees in production and quality control functions. Any employee additions or terminations over the next twelve months will be dependent upon the actual sales levels realized during fiscal 2020. We have used and will continue utilizing part-time help, including interns, temporary employment agencies, and outside consultants, where appropriate, to qualify prospective employees and to ramp up production as required from time to time. None of our employees are represented by a labor union.

## Item 1A. Risk Factors.

The following is a discussion of the primary factors that may affect the operations and/or financial performance of our business. Refer to the section entitled *Item 7. Management's Discussion and Analysis of Financial Condition and Results of Operations* of this Annual Report on Form 10-K for an additional discussion of these and other related factors that affect our operations and/or financial performance.

### Risks Related to Our Business and Financial Results

**We have a history of losses.** We incurred a net loss of \$2.7 million for fiscal 2019 and although we reported net income of \$1.1 million and \$7.7 million for fiscal 2018 and 2017, respectively, we have a history of losses prior to fiscal 2016. As of June 30, 2019, we had an accumulated deficit of approximately \$197.9 million. We may incur losses in the future if we do not achieve sufficient revenue to return to profitability, or if we continue to incur unusual costs. We expect revenue to grow by generating additional sales through promotion of our infrared products and cost reduction efforts for our precision molded products, and we expect to achieve significant cost savings as a result of closing the Irvington Facility, but we cannot guarantee such improvement or growth.

Factors which could adversely affect our future profitability, include, but are not limited to, a decline in revenue either due to lower sales unit volumes or decreasing selling prices, or both, our ability to order supplies from vendors, which, in turn, affects our ability to manufacture our products, and slow payments from our customers on accounts receivable.

Any failure to maintain profitability would have a materially adverse effect on our ability to implement our business plan, our results and operations, and our financial condition, and could cause the value of our Class A common stock to decline.

**We are dependent on a few key customers, and the loss of any key customer could cause a significant decline in our revenues.** In fiscal 2019, we had sales to three customers that comprised an aggregate of approximately 32% of our annual revenue, with one customer at 17% of our sales, another customer at 8% of our sales, and the third customer at 7% of our sales. In fiscal 2018, we had sales to three customers that comprised an aggregate of approximately 28% of our annual revenue, with one customer at 16% of our sales, another customer at 7% of our sales, and the third customer at 5% of our sales. In both fiscal 2019 and 2018, these top three customers include a distributor, which actually represents sales to numerous customers. Our current strategy is to leverage our broader portfolio of products to expand our customer base using the capabilities gained as a result of the ISP acquisition. However, we continue to diversify our business in order to minimize our sales concentration risk. The loss of any of these customers, or a significant reduction in sales to any such customer, would adversely affect our revenues.

**We may be affected by political and other risks as a result of our sales to international customers and/or our sourcing of materials from international suppliers.** In fiscal 2019, 62% of our net revenue was derived from sales outside of the U.S., with 94% of our foreign sales derived from customers in Europe and Asia. In fiscal 2018, 58% of our net revenue was derived from sales outside of the U.S., with 84% of our foreign sales derived from customers in Europe and Asia. Our international sales will be limited, and may even decline, if we cannot establish relationships with new international distributors, maintain relationships with our existing international distributors, maintain and expand our foreign operations, expand international sales, and develop relationships with international service providers. Additionally, our international sales may be adversely affected if international economies weaken. We are subject to the following risks, among others:

- greater difficulty in accounts receivable collection and longer collection periods;
- potentially different pricing environments and longer sales cycles;
- the impact of recessions in economies outside the U.S.;
- unexpected changes in foreign regulatory requirements;
- the burdens of complying with a wide variety of foreign laws and different legal standards;
- certification requirements;
- reduced protection for intellectual property rights in some countries;
- difficulties in managing the staffing of international operations, including labor unrest and current and changing regulatory environments;
- potentially adverse tax consequences, including the complexities of foreign value-added tax systems, restrictions on the repatriation of earnings, and changes in tax rates;
- price controls and exchange controls;
- government embargoes or foreign trade restrictions;
- imposition of duties and tariffs and other trade barriers;
- import and export controls;
- transportation delays and interruptions;
- terrorist attacks and security concerns in general; and
- political, social, economic instability and disruptions.

**As a U.S. corporation with international operations, we are subject to the U.S. Foreign Corrupt Practices Act and other similar foreign anti-corruption laws, as well as other laws governing our operations. If we fail to comply with these laws, we could be subject to civil or criminal penalties, other remedial measures, and legal expenses, which could adversely affect our business, financial condition, and results of operations.** Our operations are subject to anti-corruption laws, including the U.S. Foreign Corrupt Practices Act (“FCPA”), and other foreign anti-corruption laws that apply in countries where we do business. The FCPA and these other laws generally prohibit us and our employees and intermediaries from offering, promising, authorizing or making payments to government officials or other persons to obtain or retain business or gain some other business advantage. In addition, we cannot predict the nature, scope, or effect of future regulatory requirements to which our international operations might be subject or the manner in which existing laws might be administered or interpreted. Operations outside of the U.S. may be affected by changes in trade production laws, policies, and measures, and other regulatory requirements affecting trade and investment.

We are also subject to other laws and regulations governing our international operations, including regulations administered by the U.S. Department of Commerce’s Bureau of Industry and Security, the U.S. Department of Treasury’s Office of Foreign Asset Control, and various non-U.S. government entities, including applicable export control regulations, economic sanctions on countries and persons, customs, requirements, currency exchange regulations, and transfer pricing regulations (collectively, the “Trade Control Laws”).

Despite our compliance programs, there can be no assurance that we will be completely effective in ensuring our compliance with all applicable anti-corruption laws, including the FCPA or other legal requirements, or Trade Control Laws. If we are not in compliance with the FCPA and other foreign anti-corruption laws or Trade Control Laws, we may be subject to criminal and civil penalties, disgorgement, and other sanctions and remedial measures, and legal expenses, which could have an adverse impact on our business, financial condition, results of operations and liquidity. Likewise, any investigation of any potential violations of the FCPA, other anti-corruption laws, or Trade Control Laws by the U.S. or foreign authorities could also have an adverse impact on our reputation, business, financial condition, and results of operations.

**International tariffs, including tariffs applied to goods traded between the U.S. and China, could materially and adversely affect our business and results of operations.** The U.S. government has made statements and taken certain actions that have led to, and may lead to, further changes to U.S. and international trade policies, including recently imposed tariffs affecting certain products exported by a number of U.S. trading partners, including China. The institution of trade tariffs both globally and between the U.S. and China specifically carries the risk of negatively impacting China’s overall economic condition, which could have negative repercussions for us. Furthermore, imposition of tariffs could cause a decrease in the sales of our products to customers located in China or other customers selling to Chinese end users, which would directly impact our business.

The current U.S. President, members of his Administration, and other public officials, including members of the current United States Congress, continue to signal that the U.S. may further alter its trade policy, including taking certain actions that may further impact U.S. trade policy, including new or increased tariffs on certain goods imported into the U.S. Further, changes in U.S. trade policy could trigger retaliatory actions by affected countries, which could impose restrictions on our ability to do business in or with affected countries or prohibit, reduce, or discourage purchases of our products by foreign customers, leading to increased costs of products that contain our components, increased costs of manufacturing our products, and higher prices of our products in foreign markets. Changes in, and responses to, U.S. trade policy could reduce the competitiveness of our products and cause our sales and revenues to drop, which could materially and adversely impact our business and results of operations.

Tariffs have already begun to have a negative impact on our cost of sales late in fiscal 2019. We are evaluating and implementing a number of strategies to mitigate the current and future impact of tariffs. However, given the uncertainty regarding the scope and duration of the effective and proposed tariffs, as well as the potential for additional trade actions by the U.S. or other countries, the continued impact on our operations and financial results is uncertain and could be more significant than we experienced in fiscal 2019. We can provide no assurance that any strategies we implement to mitigate the impact of such tariffs or other trade actions will be successful. To the extent that our supply chain, costs, sales, or profitability are negatively affected by the tariffs or other trade actions, our business, financial condition, and results of operations may be materially adversely affected.

***Our future growth is partially dependent on our market penetration efforts.*** Our future growth is partially dependent on our market penetration efforts, which include diversifying our sales to high-volume, low-cost optical applications and other new market and product opportunities in multiple industries. While we believe our existing products are commercially viable, we anticipate the need to educate the optical components markets in order to generate market demand and market feedback may require us to further refine these products. Expansion of our product lines and sales into new markets will require significant investment in equipment, facilities, and materials. There can be no assurance that any proposed products will be successfully developed, demonstrate desirable optical performance, be capable of being produced in commercial quantities at reasonable costs, or be successfully marketed.

***We rely, in large part, on key business and sales relationships for the successful commercialization of our products, which, if not developed or maintained, will have an adverse impact on achieving market awareness and acceptance and will result in a loss of business opportunities.*** To achieve wide market awareness and acceptance of our products and technologies, as part of our business strategy, we will attempt to enter into a variety of business relationships with other companies that will incorporate our technologies into their products and/or market products based on our technologies. The successful commercialization of our products and technologies will depend in part on our ability to meet obligations under contracts with respect to the products and related development requirements. The failure of these business relationships will limit the commercialization of our products and technologies, which will have an adverse impact on our business development and our ability to generate revenues.

***If we do not expand our sales and marketing organization, our revenues may not increase.*** The sale of our products requires prolonged sales and marketing efforts targeted at several key departments within our prospective customers' organizations and often involves our executives, personnel, and specialized systems and applications engineers working together. Currently, our direct sales and marketing organization is somewhat limited. We believe we will need to continue to strengthen our sales and marketing organization in order to increase market awareness and sales of our products. There is significant competition for qualified personnel, and we might not be able to hire the kind and number of sales and marketing personnel and applications engineers we need. If we are unable to expand our sales operations, particularly in China, we may not be able to increase market awareness or sales of our products, which would adversely affect our revenues, results of operations, and financial condition.

***If we are unable to develop and successfully introduce new and enhanced products that meet the needs of our customers, our business may not be successful.*** Our future success depends, in part, on our ability to anticipate our customers' needs and develop products that address those needs. Introduction of new products and product enhancements will require that we effectively transfer production processes from research and development to manufacturing, and coordinate our efforts with the efforts of our suppliers to rapidly achieve efficient volume production. If we fail to effectively transfer production processes, develop product enhancements, or introduce new products that meet the needs of our customers as scheduled, our net revenues may decline, which would adversely affect our results of operations and financial condition.

***If we are unable to effectively compete, our business and operating results could be negatively affected.*** We face substantial competition in the optical markets in which we operate. Many of our competitors are large public and private companies that have longer operating histories and significantly greater financial, technical, marketing, and other resources than we have. As a result, these competitors are able to devote greater resources than we can to the development, promotion, sale, and support of their products. In addition, the market capitalization and cash reserves of several of our competitors are much larger than ours, and, as a result, these competitors are better positioned than we are to exploit markets, develop new technologies, and acquire other companies in order to gain new technologies or products. We also compete with manufacturers of conventional spherical lens products and aspherical lens products, producers of optical quality glass, and other developers of gradient lens technology, as well as telecommunications product manufacturers. In both the optical lens and communications markets, we are competing against, among others, established international companies, especially in Asia. Many of these companies also are primary customers for optical and communication components, and, therefore, have significant control over certain markets for our products. There can be no assurance that existing or new competitors will not develop technologies that are superior to or more commercially acceptable than our existing and planned technologies and products or that competition in our industry will not lead to reduced prices for our products. If we are unable to successfully compete with existing companies and new entrants to the markets we compete in, our business, results of operations, and financial condition could be adversely affected.

**We anticipate further reductions in the average selling prices of some of our products over time, and, therefore, must increase our sales volumes, reduce our costs, and/or introduce higher margin products to reach and maintain consistent profitable results.** We have experienced decreases in the average selling prices of some of our products over the last ten years, including most of our passive component products. We anticipate that as certain products in the optical component and module market become more commodity-like, the average selling prices of our products will decrease in response to competitive pricing pressures, new product introductions by us or our competitors, or other factors. We attempt to offset anticipated decreases in our average selling prices by increasing our sales volumes and/or changing our product mix. If we are unable to offset anticipated future decreases in our average selling prices by increasing our sales volumes or changing our product mix, our net revenues and gross margins will decline, increasing the projected cash needed to fund operations. To address these pricing pressures, we must develop and introduce new products and product enhancements that will generate higher margins, continue to reduce costs, and/or change our product mix in order to generate higher margins. If we cannot maintain or improve our gross margins, our financial position, and results of operations may be harmed.

**Because of our limited product offerings, our ability to generate additional revenues may be limited without additional growth.** We organized our business based on three product groups: PMOs, infrared products, and specialty products. In fiscal 2019, sales of infrared products represented approximately 51% of our net revenues. In the future, we expect a larger percentage of our revenues to be generated from sales of our infrared products. Continued and expanding market acceptance of these products is critical to our future success. There can be no assurance that our current or new products will achieve market acceptance at the rate at which we expect, or at all, which could adversely affect our results of operations and financial condition.

**We may need additional capital to sustain our operations in the future, and may need to seek further financing, which we may not be able to obtain on acceptable terms or at all, which could affect our ability to implement our business strategies.** We have limited capital resources. Our operations have historically been largely funded from the proceeds of equity financings with some level of debt financing as well as cash flow from operations. In recent years we have generated sufficient capital to fund our operations and necessary investments. Accordingly, in future years, we anticipate only requiring additional capital to support acquisitions that would further expand our business and product lines. We may not be able to obtain additional financing when we need it on terms acceptable to us, or at all.

Our future capital needs will depend on numerous factors including: (i) profitability; (ii) the release of competitive products by our competition; (iii) the level of our investment in research and development; and (iv) the amount of our capital expenditures, including equipment and acquisitions. We cannot assure you that we will be able to obtain capital in the future to meet our needs. If we are unable to raise capital when needed, our business, financial condition, and results of operations would be materially adversely affected, and we could be forced to reduce or discontinue our operations.

**Litigation may adversely affect our business, financial condition, and results of operations.** From time to time in the normal course of business operations, we may become subject to litigation that may result in liability material to our financial statements as a whole or may negatively affect our operating results if changes to our business operations are required. The cost to defend such litigation may be significant and is subject to inherent uncertainties. Insurance may not be available at all or in sufficient amounts to cover any liabilities with respect to these or other matters. There also may be adverse publicity with litigation that could negatively affect customer perception of our business, regardless of whether the allegations are valid or whether we are ultimately found liable. An adverse result in any such matter could adversely impact our operating results or financial condition. Additionally, any litigation to which we are subject could also require significant involvement of our senior management and may divert management's attention from our business and operations.

**We are exposed to fluctuations in currency exchange rates that could negatively impact our financial results and cash flows.** We execute all foreign sales from our U.S.-based facilities and inter-company transactions in U.S. dollars in order to partially mitigate the impact of foreign currency fluctuations. However, a portion of our international revenues and expenses are denominated in foreign currencies. Accordingly, we experience the risks of fluctuating currencies and corresponding exchange rates. In fiscal years 2019 and 2018, we recognized a net loss of approximately \$436,000 and a net gain of \$141,000 on foreign currency transactions, respectively. Any such fluctuations that result in a less favorable exchange rate could adversely affect a portion of our revenues and expenses, which could negatively impact our results of operations and financial condition.

We also source certain raw materials from outside the U.S. Some of those materials, priced in non-dollar currencies, fluctuate in price due to the value of the U.S. dollar against non-dollar-pegged currencies, especially the Euro and Renminbi. As the dollar strengthens, this increases our margins and helps with our ability to reach positive cash flow and profitability. If the strength of the U.S. dollar decreases, the cost of foreign sourced materials could increase, which would adversely affect our financial condition and results of operations.

**A significant portion of our cash is generated and held outside of the U.S. The risks of maintaining significant cash abroad could adversely affect our cash flows and financial results.** During fiscal 2019, greater than 50% of our cash was held abroad. We generally consider unremitted earnings of our subsidiaries operating outside of the U.S. to be indefinitely reinvested and it is not our current intent to change this position. Cash held outside of the U.S. is primarily used for the ongoing operations of the business in the locations in which the cash is held. Certain countries, such as China, have monetary laws that limit our ability to utilize cash resources in China for operations in other countries. Before any funds can be repatriated, the retained earnings in China must equal at least 150% of the registered capital. As of June 30, 2019, we had retained earnings in China of \$3.3 million and we need to have retained earnings of \$11.3 million before repatriation will be allowed. This limitation may affect our ability to fully utilize our cash resources for needs in the U.S. or other countries and may adversely affect our liquidity. Further, since repatriation of such cash is subject to limitations and may be subject to significant taxation, we cannot be certain that we will be able to repatriate such cash on favorable terms or in a timely manner. If we incur operating losses and/or require cash that is held in international accounts for use in our operations based in the U.S., a failure to repatriate such cash in a timely and cost-effective manner could adversely affect our business and financial results.

**Our business may be materially affected by changes to fiscal and tax policies. Potentially negative or unexpected tax consequences of these policies, or the uncertainty surrounding their potential effects, could adversely affect our results of operations and the price of our Class A common stock.** The U.S. Tax Cuts and Jobs Act of 2017 (the "TCJA") was approved by the U.S. Congress on December 20, 2017 and signed into law on December 22, 2017. This legislation makes significant changes to the U.S. Internal Revenue Code of 1986, as amended (the "IRC"). Such changes include a reduction in the corporate tax rate from 35% to 21%, limitation on the deductibility of interest expense and performance based incentive compensation, and implementation of a modified territorial tax system, including a provision that requires companies to include their global intangible low-taxed income (GILTI) and its effect on our U.S. taxable income (effectively, non-U.S. income in excess of a deemed return on tangible assets of non-U.S. corporations), among other changes.

In addition, the TCJA requires complex computations to be performed that were not previously required in U.S. tax law, significant judgments to be made in interpretation of the provisions of the TCJA and significant estimates in calculations, and the preparation and analysis of information not previously relevant or regularly produced. Implementation of the TCJA required us to calculate a one-time transition tax on certain foreign earnings and profits ("foreign E&P") that had not been previously repatriated. During fiscal 2018, we provisionally determined our foreign E&P inclusion, and anticipated that we would not owe any one-time transition tax due to the utilization of U.S. net operating loss ("NOL") carryforward benefits against these earnings. During fiscal 2019, we completed our analysis of the TCJA, and although we did not owe any one-time transition tax, the deferred tax asset related to our NOL carryforwards was impacted by approximately \$202,000. This amount is offset by our valuation allowance for a net impact of zero to our income tax provision.

The TCJA may also impact our repatriation strategies in the future. Foreign governments may enact tax laws in response to the TCJA that could result in further changes to global taxation and materially affect our financial position and results of operations. The uncertainty surrounding the effect of the reforms on our financial results and business could also weaken confidence among investors in our financial condition. This could, in turn, have a materially adverse effect on the price of our Class A common stock.

Further, our worldwide operations subject us to the jurisdiction of a number of taxing authorities. The income earned in these various jurisdictions is taxed on differing basis, including net income actually earned, net income deemed earned, and revenue-based tax withholding. The final determination of our income tax liabilities involves the interpretation of local tax laws, tax treaties, and related authorities in each jurisdiction, as well as the use of estimates and assumptions regarding the scope of future operations and results achieved and the timing and nature of income earned and expenditures incurred. Changes in or interpretations of tax law and currency/repatriation control could impact the determination of our income tax liabilities for a tax year, which, in turn, could have a materially adverse effect on our financial condition and results of operations.

**Our future success depends on our key executive officers and our ability to attract, retain, and motivate qualified personnel.** Our future success largely depends upon the continued services of our key executive officers, management team, and other engineering, sales, marketing, manufacturing, and support personnel. If one or more of our key employees are unable or unwilling to continue in their present positions, we may not be able to replace them readily, if at all. Additionally, we may incur additional expenses to recruit and retain new key employees. If any of our key employees joins a competitor or forms a competing company, we may lose some or a significant portion of our customers. Because of these factors, the loss of the services of any of these key employees could adversely affect our business, financial condition, and results of operations.

Our continuing ability to attract and retain highly qualified personnel will also be critical to our success because we will need to hire and retain additional personnel to support our business strategy. We expect to continue to hire selectively in the manufacturing, engineering, sales and marketing, and administrative functions to the extent consistent with our business levels and to further our business strategy. We face significant competition for skilled personnel in our industry. This competition may make it more difficult and expensive to attract, hire, and retain qualified managers and employees. Because of these factors, we may not be able to effectively manage or grow our business, which could adversely affect our financial condition or business.



**We depend on single or limited source suppliers for some of the key materials or process steps in our products, making us susceptible to supply shortages, poor performance, or price fluctuations.** We currently purchase several key materials, or have outside vendors perform process steps, such as lens coatings, used in or during the manufacture of our products from single or limited source suppliers. We may fail to obtain required materials or services in a timely manner in the future, or could experience delays as a result of evaluating and testing the products or services of potential alternative suppliers. The decline in demand in the telecommunications equipment industry may have adversely impacted the financial condition of certain of our suppliers, some of whom have limited financial resources. We have in the past, and may in the future, be required to provide advance payments in order to secure key materials from financially limited suppliers. Financial or other difficulties faced by these suppliers could limit the availability of key components or materials. For example, increasing labor costs in China has increased the risk of bankruptcy for suppliers with operations in China, and has led to higher manufacturing costs for us and the need to identify alternate suppliers. Additionally, financial difficulties could impair our ability to recover advances made to these suppliers. Any interruption or delay in the supply of any of these materials or services, or the inability to obtain these materials or services from alternate sources at acceptable prices and within a reasonable amount of time, would impair our ability to meet scheduled product deliveries to our customers and could cause customers to cancel orders, thereby negatively affecting our business, financial condition, and results of operation.

**We face product liability risks, which could adversely affect our business.** The sale of our optical products involves the inherent risk of product liability claims by others. We do not currently maintain product liability insurance coverage. Product liability insurance is expensive, subject to various coverage exclusions, and may not be obtainable on terms acceptable to us if we decide to procure such insurance in the future. Moreover, the amount and scope of any coverage may be inadequate to protect us in the event that a product liability claim is successfully asserted. If a claim is asserted and successfully litigated by an adverse party, our financial position and results of operations could be adversely affected.

**Business interruptions could adversely affect our business.** We manufacture our products at manufacturing facilities located in Orlando, Florida, Riga, Latvia, and Zhenjiang, China. Our revenues are dependent upon the continued operation of these facilities. The Orlando Facility is subject to two leases, one that expires in April 2022 and the other in November 2022. The Riga Facility is subject to a lease that expires in December 2022, and the Zhenjiang Facility is subject to three leases that expire in December 2021, March 2022, and June 2022. Our operations are vulnerable to interruption by fire, hurricane winds and rain, earthquakes, electric power loss, telecommunications failure, and other events beyond our control. We do not have detailed disaster recovery plans for our facilities and we do not have a backup facility, other than our other facilities, or contractual arrangements with any other manufacturers in the event of a casualty to or destruction of any facility or if any facility ceases to be available to us for any other reason. If we are required to rebuild or relocate either of our manufacturing facilities, a substantial investment in improvements and equipment would be necessary. We carry only a limited amount of business interruption insurance, which may not sufficiently compensate us for losses that may occur.

Our facilities may be subject to electrical blackouts as a consequence of a shortage of available electrical power. We currently do not have backup generators or alternate sources of power in the event of a blackout. If blackouts interrupt our power supply, we would be temporarily unable to continue operations at such facility.

Any losses or damages incurred by us as a result of blackouts, rebuilding, relocation, or other business interruptions, could result in a significant delay or reduction in manufacturing and production capabilities, impair our reputation, harm our ability to retain existing customers and to obtain new customers, and could result in reduced sales, lost revenue, increased costs and/or loss of market share, any of which could substantially harm our business and our results of operations.

**Our failure to accurately forecast material requirements could cause us to incur additional costs, have excess inventories, or have insufficient materials to manufacture our products.** Our material requirements forecasts are based on actual or anticipated product orders. It is very important that we accurately predict both the demand for our products and the lead times required to obtain the necessary materials. Lead times for materials that we order vary significantly and depend on factors, such as specific supplier requirements, the size of the order, contract terms, and the market demand for the materials at any given time. If we overestimate our material requirements, we may have excess inventory, which would increase our costs. If we underestimate our material requirements, we may have inadequate inventory, which could interrupt our manufacturing and delay delivery of our products to our customers. Any of these occurrences would negatively impact our results of operations. Additionally, in order to avoid excess material inventories, we may incur cancellation charges associated with modifying existing purchase orders with our vendors, which, depending on the magnitude of such cancellation charges, may adversely affect our results of operations.

**If we do not achieve acceptable manufacturing yields our operating results could suffer.** The manufacture of our products involves complex and precise processes. Our manufacturing costs for several products are relatively fixed, and, thus, manufacturing yields are critical to the success of our business and our results of operations. Changes in our manufacturing processes or those of our suppliers could significantly reduce our manufacturing yields. In addition, we may experience manufacturing delays and reduced manufacturing yields upon introducing new products to our manufacturing lines. The occurrence of unacceptable manufacturing yields or product yields could adversely affect our financial condition and results of operations.

***If our customers do not qualify our manufacturing lines for volume shipments, our operating results could suffer.*** Our manufacturing lines have passed our qualification standards, as well as our technical standards. However, our customers may also require that our manufacturing lines pass their specific qualification standards, and that we be registered under international quality standards, beyond our ISO 9001:2015 certification. This customer qualification process determines whether our manufacturing lines meet the customers' quality, performance, and reliability standards. Generally, customers do not purchase our products, other than limited numbers of evaluation units, prior to qualification of the manufacturing line for volume production. We may be unable to obtain customer qualification of our manufacturing lines or we may experience delays in obtaining customer qualification of our manufacturing lines. If there are delays in the qualification of our products or manufacturing lines, our customers may drop the product from a long-term supply program, which would result in significant lost revenue opportunity over the term of each such customer's supply program, or our customers may purchase from other manufacturers. The inability to obtain customer qualification of our manufacturing lines, or the delay in obtaining such qualification, could adversely affect our financial condition and results of operations.

***Our business could suffer as a result of the United Kingdom's decision to end its membership in the European Union.*** The decision of the United Kingdom to exit from the European Union (generally referred to as "BREXIT") could cause disruptions to and create uncertainty surrounding our business, including affecting our relationships with existing and potential customers, suppliers, and employees. The effects of BREXIT will depend on any agreements the United Kingdom makes to retain access to European Union markets either during a transitional period or more permanently. The measures could potentially disrupt some of our target markets and jurisdictions in which we operate, and adversely change tax benefits or liabilities in these or other jurisdictions. In addition, BREXIT could lead to legal uncertainty and potentially divergent national laws and regulations as the United Kingdom determines which European Union laws to replace or replicate. BREXIT also may create global economic uncertainty, which may cause our customers and potential customers to monitor their costs and reduce their budgets for either our products or other products that incorporate our products. Any of these effects of BREXIT, among others, could materially adversely affect our business, business opportunities, results of operations, financial condition, and cash flows.

***If we fail to meet all applicable Nasdaq Capital Market ("NCM") requirements and the Nasdaq Stock Market, LLC ("Nasdaq") determines to delist our Class A common stock, the delisting could adversely affect the market liquidity of our Class A common stock, and, impair the value of your investment.*** Our Class A common stock is listed on the NCM. In order to maintain that listing, we must satisfy minimum financial and other requirements. On July 15, 2019, we received a notice from the Listing Qualifications Department of Nasdaq stating that, for the last 30 consecutive business days, the closing bid price for our Class A common stock had been below the minimum \$1.00 per share requirement for continued listing on the NCM as set forth in Nasdaq Listing Rule 5550(a)(2). In accordance with Nasdaq Listing Rule 5810(c)(3)(A), we have been provided 180 calendar days, or until January 13, 2020, to regain compliance with the minimum bid price requirement. The July 15, 2019 notification letter has no effect at this time on the listing of our common stock on the NCM or trading of our Class A common stock. We may achieve compliance during this additional 180-day period if the closing bid price of our Class A common stock is at least \$1.00 per share for a minimum of 10 consecutive business days by January 13, 2020. If we fail to regain compliance on or prior to January 13, 2020, our Class A common stock will be subject to delisting by Nasdaq if Nasdaq does not approve an additional 180-day compliance period, during which time we may have to effect a reverse stock split.

If we fail to meet all applicable NCM requirements in the future and Nasdaq determines to delist our Class A common stock, the delisting could adversely affect the market liquidity of our Class A common stock and adversely affect our ability to obtain financing for the continuation of our operations. This delisting could also impair the value of your investment.

#### **Risks Related To Our Intellectual Property**

***If we are unable to protect and enforce our intellectual property rights, we may be unable to compete effectively.*** We believe that our intellectual property rights are important to our success and our competitive position, and we rely on a combination of patent, copyright, trademark, and trade secret laws and restrictions on disclosure to protect our intellectual property rights. Although we have devoted substantial resources to the establishment and protection of our intellectual property rights, the actions taken by us may be inadequate to prevent imitation or improper use of our products by others or to prevent others from claiming violations of their intellectual property rights by us.

In addition, we cannot assure that, in the future, our patent applications will be approved, that any patents that may be issued will protect our intellectual property, or that third parties will not challenge any issued patents. Other parties may independently develop similar or competing technology or design around any patents that may be issued to us. We also rely on confidentiality procedures and contractual provisions with our employees, consultants, and corporate partners to protect our proprietary rights, but we cannot assure the compliance by such parties with their confidentiality obligations, which could be very time consuming, expensive, and difficult to enforce.

It may be necessary to litigate to enforce our patents, copyrights, and other intellectual property rights, to protect our trade secrets, to determine the validity of and scope of the proprietary rights of others, or to defend against claims of infringement or invalidity. Such litigation can be time consuming, distracting to management, expensive, and difficult to predict. Our failure to protect or enforce our intellectual property could have an adverse effect on our business, financial condition, prospects, and results of operation.

**We do not have patent protection for our formulas and processes, and a loss of ownership of any of our formulas and processes would negatively impact our business.** We believe that we own our formulas and processes. However, we have not sought, and do not intend to seek, patent protection for all of our formulas and processes. Instead, we rely on the complexity of our formulas and processes, trade secrecy laws, and employee confidentiality agreements. However, we cannot assure you that other companies will not acquire our confidential information or trade secrets or will not independently develop equivalent or superior products or technology and obtain patent or similar rights. Although we believe that our formulas and processes have been independently developed and do not infringe the patents or rights of others, a variety of components of our processes could infringe existing or future patents, in which event we may be required to modify our processes or obtain a license. We cannot assure you that we will be able to do so in a timely manner or upon acceptable terms and conditions and the failure to do either of the foregoing would negatively affect our business, results of operations, financial condition, and cash flows.

**We may become involved in intellectual property disputes and litigation, which could adversely affect our business.** We anticipate, based on the size and sophistication of our competitors and the history of rapid technological advances in our industry that several competitors may have patent applications in progress in the U.S. or in foreign countries that, if issued, could relate to products similar to ours. If such patents were to be issued, the patent holders or licensees may assert infringement claims against us or claim that we have violated other intellectual property rights. These claims and any resulting lawsuits, if successful, could subject us to significant liability for damages and invalidate our proprietary rights. The lawsuits, regardless of their merits, could be time-consuming and expensive to resolve and would divert management time and attention. Any potential intellectual property litigation could also force us to do one or more of the following, any of which could harm our business and adversely affect our financial condition and results of operations:

- stop selling, incorporating or using our products that use the disputed intellectual property;
- obtain from third parties a license to sell or use the disputed technology, which license may not be available on reasonable terms, or at all; or
- redesign our products that use the disputed intellectual property.

**Item 2. Properties.**

Our properties consist primarily of leased office and manufacturing facilities. Our corporate headquarters are located in Orlando, Florida and our manufacturing facilities are primarily located in Zhenjiang, China and Riga, Latvia. The following schedule presents the approximate square footage of our facilities as of June 30, 2019:

Location	Square Feet	Commitment and Use
Orlando, Florida	38,000	Leased; 3 suites used for corporate headquarters offices, manufacturing, and research and development
Irvington, New York	13,000	Leased; ceased use as of June 30, 2019
Zhenjiang, China	55,000	Leased; 1 building used for manufacturing, and 1 floor of 1 building used for manufacturing
Shanghai, China	1,900	Leased; 1 suite used for sales, marketing and administrative offices
Riga, Latvia	23,000	Leased; 2 suites used for administrative offices, manufacturing and crystal growing

Our territorial sales personnel maintain an office from their homes to serve their geographical territories. For additional information regarding our facilities, please see *Item 1. Business* in this Annual Report on Form 10-K. For additional information regarding leases, see Note 13, Lease Commitments, to the Notes to the Consolidated Financial Statements to this Annual Report on Form 10-K.

**Item 3. Legal Proceedings.**

From time to time, we are involved in various legal actions arising in the normal course of business. We currently have no legal proceeding to which we are a party to or to which our property is subject to and, to the best of our knowledge, no adverse legal activity is anticipated or threatened.

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

Our Class A common stock is traded on the NCM under the symbol "LPTH".

**Holders**

As of August 1, 2019, we estimate there were approximately 202 holders of record and approximately 9,459 street name holders of our Class A common stock.

**Dividends**

We have never declared or paid any cash dividends on our Class A common stock and do not intend to pay any cash dividends in the foreseeable future. We currently intend to retain all future earnings in order to finance the operation and expansion of our business. In addition, the payment of dividends, if any, in the future, will depend on our earnings, capital requirements, financial conditions, and other relevant factors.

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

*You should read the following discussion and analysis by our management of our financial condition and results of operations in conjunction with our consolidated financial statements and the accompanying notes.*

*The following discussion contains forward-looking statements that involve risks and uncertainties, such as statements of our plans, objectives, expectations and intentions. Our actual results could differ materially from those discussed in the forward-looking statements. Please also see the cautionary language at the beginning of this Annual Report on Form 10-K regarding forward-looking statements.*

*The following discussions also include use of the non-GAAP term "gross margin," as well as other non-GAAP measures discussed in more detail under the heading "Non-GAAP Financial Measures." Gross margin is determined by deducting the cost of sales from operating revenue. Cost of sales includes manufacturing direct and indirect labor, materials, services, fixed costs for rent, utilities and depreciation, and variable overhead. Gross margin should not be considered an alternative to operating income or net income, both of which are determined in accordance with GAAP. We believe that gross margin, although a non-GAAP financial measure, is useful and meaningful to investors as a basis for making investment decisions. It provides investors with information that demonstrates our cost structure and provides funds for our total costs and expenses. We use gross margin in measuring the performance of our business and have historically analyzed and reported gross margin information publicly. Other companies may calculate gross margin in a different manner.*

**Results of Operations**Operating Results for Fiscal Year Ended June 30, 2019 compared to the Fiscal Year Ended June 30, 2018:*Revenues:*

Revenue for fiscal 2019 totaled approximately \$33.7 million, an increase of \$1.2 million, or 4%, as compared to approximately \$32.5 million for fiscal 2018. Revenue generated by PMO products was approximately \$14.1 million, an increase of approximately \$576,000, or 4%, as compared to \$13.5 million in fiscal 2018. The increase is primarily due to increased sales to customers in the telecommunications market, partially offset by a decrease in sales to customers in the commercial market. Revenue generated by infrared products was approximately \$17.3 million for fiscal 2019, an increase of approximately \$1.3 million, or 8%, as compared to approximately \$16.0 million in fiscal 2018. This increase was primarily driven by our new line of BD6 molded infrared products, including thermal imaging assemblies. The increased demand for our infrared products continues to be led by industrial applications, firefighting cameras and other public safety applications. We have entered into several new supply agreements with new customers for these types of products, and we expect this business to continue to grow. Revenue generated by our specialty products was \$2.4 million for fiscal 2019, a decrease of \$644,000, or 21%, as compared to \$3.0 million for fiscal 2018. This decrease is due to timing of orders from customers in the defense industry, as well as some customer development projects related to LIDAR applications that did not continue in fiscal 2019.

*Cost of Sales and Gross Margin:*

Gross margin was approximately \$12.5 million for both fiscal 2019 and 2018. Total cost of sales was approximately \$21.2 million for fiscal 2019, compared to \$20.0 million for the prior fiscal year. Gross margin as a percentage of revenue for fiscal 2019 was 37%, compared to 39% in fiscal 2018. The increase in cost of sales, and associated decrease in gross margin as a percentage of revenue, is primarily the result of certain cost increases, such as the elevated, non-recurring costs associated with the relocation of the Irvington Facility, and higher duties and freight charges resulting from newly effective tariffs, which primarily impact our PMO product group. In addition, gross margin for fiscal 2019 was lower as a result of the decrease in specialty products revenue, due to the absence of higher margin orders and projects, which benefited gross margin in the prior year. With respect to infrared products, we began to see some benefit from our margin improvement efforts in the second half of fiscal 2019 with respect to both existing products and our new BD6-based products. With respect to material costs, the standard material for the majority of our infrared products continues to be germanium, which has inherent pricing volatility. As we convert many of these products to our BD6 material, we expect our infrared margins to improve over time. Sales of infrared products made with this material more than doubled in fiscal 2019, as compared to the prior fiscal year. However, these products still represent less than 20% of our infrared revenue and, therefore, have not yet had a significant impact on our gross margin. We expect them to represent the majority of our infrared sales in the future. With respect to the relocation of the Irvington Facility, we expected to have higher costs associated with the relocation of the Irvington Facility for fiscal 2019, and we expect costs to improve beginning in fiscal 2020, as the facility relocation was complete as of June 30, 2019.

*Selling, General and Administrative Expenses:*

Selling, general and administrative (“SG&A”) costs for fiscal 2019 were approximately \$10.5 million, an increase of approximately \$1.3 million, as compared to approximately \$9.2 million in the prior fiscal year. SG&A for fiscal 2019 included approximately \$1.2 million of non-recurring expenses related to the relocation of the Irvington Facility to our existing Orlando Facility and Riga Facility. SG&A costs for fiscal 2019 were partially offset by a business interruption insurance settlement of approximately \$306,000, associated with an incident that occurred in the Irvington Facility, unrelated to the facility relocation. This settlement is included in other receivables as of June 30, 2019, and was collected in August 2019. In addition to these non-recurring items, the following impacted SG&A costs for fiscal 2019, as compared to fiscal 2018: (i) advertising expenses increased by approximately \$52,000, (ii) commission expenses increased approximately \$40,000, driven by increased sales, and (iii) personnel costs increased by approximately \$490,000, primarily due to newly created or restructured executive positions in fiscal 2019. We expected SG&A costs to be elevated in fiscal 2019, due to the Irvington Facility relocation and positions added, however, on a long-term basis, we expect the consolidation of our manufacturing facilities to reduce our operating and overhead costs, which should improve our SG&A expenses.

*New Product Development:*

New product development costs were approximately \$2.0 million in fiscal 2019, an increase of approximately \$397,000, or 25%, as compared to the prior fiscal year. This increase was primarily due to increased wages for additional engineering employees to support the demand for product development, particularly as related to our new line of BD6-based infrared products.

*Interest Expense:*

In fiscal 2019, interest expense was approximately \$697,000, compared to approximately \$187,000 in the prior fiscal year. In fiscal 2019, interest expense was impacted by the write-off of debt costs of approximately \$94,000 associated with the termination of that certain Amended and Restated Loan and Security Agreement, as subsequently amended, entered into initially on December 21, 2016, by and between Avidbank Corporate Finance, a division of Avidbank (“Avidbank”), in the original principal amount of \$7.3 million (the “Term II Loan”). The termination occurred on February 26, 2019 and, on the same date, we refinanced the Term II Loan by entering into a Loan Agreement (the “Loan Agreement”) with BankUnited, N.A. (“BankUnited”) for (i) a revolving line of credit up to a maximum amount of \$2 million (the “Bank United Revolving Line”), (ii) a term loan in the amount of approximately \$5.8 million (“BankUnited Term Loan”), and (iii) a non-revolving guidance line of credit up to a maximum amount of \$10 million (the “Guidance Line” and, together with the BankUnited Revolving Line and BankUnited Term Loan, the “BankUnited Loans”). In fiscal 2018, net interest expense was reduced by a gain of approximately \$467,000 associated with the satisfaction of the note payable to the sellers of ISP (the “Sellers Note”), in full, and the reversal of the related fair value adjustment liability. Excluding these discrete items, interest expense decreased by approximately \$50,000 for fiscal 2019, as compared to fiscal 2018, due to the more favorable terms associated with the BankUnited Term Loan entered into during the third quarter of fiscal 2019. For additional information regarding the Term II Loan, the BankUnited Term Loan, and the Sellers Note, see “Liquidity and Capital Resources” below.

*Other Income (Expense):*

In fiscal 2018, we recognized non-cash expense of approximately \$194,000 related to the change in the fair value of the warrants issued in connection with our June 2012 private placement (the “June 2012 Warrants”). The June 2012 Warrants expired on December 11, 2017; therefore, there was no remaining warrant liability as of that date. Accordingly, we did not recognize any income or expense in fiscal 2019 related to these warrants.

Other expense, net, was approximately \$388,000 in fiscal 2019, compared to other income, net, of approximately \$241,000 in the prior fiscal year, primarily resulting from foreign exchange gains and losses. We execute all foreign sales from our Orlando and New York facilities and inter-company transactions in U.S. dollars, partially mitigating the impact of foreign currency fluctuations. Assets and liabilities denominated in non-U.S. currencies, primarily the Chinese Yuan and Euro, are translated at rates of exchange prevailing on the balance sheet date, and revenues and expenses are translated at average rates of exchange for the year. During fiscal 2019, we incurred a loss on foreign currency translation of approximately \$436,000, compared to a gain of \$141,000 for the prior fiscal year.

*Income taxes:*

Income tax expense for fiscal 2019 was \$455,000, compared to an income tax benefit of approximately \$827,000 for fiscal 2018. The income tax benefit for fiscal 2018 is attributable to changes in taxation related to certain subsidiaries in China and Latvia, as well as a decrease in the valuation allowance on our U.S. deferred tax assets. For fiscal 2019, income tax expense is largely attributable to income taxes related to our Chinese subsidiary LPOIZ.

Our Chinese subsidiaries, LPOI and LPOIZ, are governed by the Income Tax Law of the People's Republic of China, which is applicable to privately run and foreign invested enterprises, and which generally subjects such enterprises to a statutory rate of 25% on income reported in the statutory financial statements after appropriate tax adjustments. During fiscal 2018, the statutory rate applicable to LPOIZ decreased from 25% to 15%, in accordance with an incentive program for technology companies in China. This rate change was retroactive to January 1, 2017. Accordingly, we recognized a benefit during fiscal 2018 related to this rate change. ISP Latvia is governed by the Law of Corporate Income Tax of Latvia, which is applicable to privately run and foreign invested enterprises, and which, through December 31, 2017, generally subjected such enterprises to a statutory rate of 15% on income reported in the statutory financial statements after appropriate tax adjustments. Effective January 1, 2018, the Republic of Latvia enacted tax reform, which resulted in the recognition of a tax benefit, due to the reduction of the previously recorded net deferred tax liability to zero during fiscal 2018.

*Net Income (Loss):*

For fiscal 2019, we incurred a net loss of \$2.7 million, or \$0.10 basic and diluted loss per share, compared to net income of approximately \$1.1 million, or \$0.04 basic and diluted earnings per share for fiscal 2018. The approximately \$3.7 million decrease is primarily due to the following: (1) fiscal 2019 includes approximately \$1.2 million in additional SG&A expenses associated with the relocation of the Irvington Facility; (2) income tax expense increased by approximately \$1.3 million due to non-recurring benefits related to our foreign jurisdictions and the adjustment to the valuation allowance on our U.S. deferred tax assets, all of which favorably impacted fiscal 2018; (3) new product development expenses increased by approximately \$397,000; and (4) an unfavorable difference in foreign exchange transaction gains and losses of \$577,000.

Weighted-average shares of Class A common stock outstanding were 25,794,669, for both basic and diluted, in fiscal 2019, compared to basic and diluted shares of 25,006,467 and 26,811,468, respectively, in fiscal 2018. The increase in the basic weighted-average common stock shares was primarily due to the 967,208 shares of Class A common stock issued during the third quarter of fiscal 2018 in conjunction with the satisfaction of the Sellers Note, and, to a lesser extent, shares of Class A common stock issued under the 2014 Employee Stock Purchase Plan ("ESPP"), and upon the exercises of stock options and restricted stock units ("RSUs").

#### **Liquidity and Capital Resources**

At June 30, 2019, we had working capital of approximately \$13.3 million and total cash and cash equivalents of approximately \$4.6 million. Approximately \$3.3 million of our total cash and cash equivalents was held by our foreign subsidiaries in China and Latvia.

Cash and cash equivalents held by our foreign subsidiaries in China were generated in China as a result of foreign earnings. Before any funds can be repatriated, the retained earnings in China must equal at least 150% of the registered capital. As of June 30, 2019, we had retained earnings of \$3.3 million and we need to have retained earnings of \$11.3 million before repatriation will be allowed. We currently intend to permanently invest earnings from our foreign Chinese operations and, therefore, we have not previously provided for future Chinese withholding taxes on the related earnings. However, if, in the future, we change such intention, we would provide for and pay additional foreign taxes, if any, at that time.

Loans payable as of June 30, 2019 consist of the BankUnited Term Loan. As of June 30, 2019, the outstanding balance on the BankUnited Term Loan was approximately \$5.7 million, and we had no borrowings outstanding on the BankUnited Revolving Line. The Amended Loan Agreement (as defined below) includes certain customary covenants. We were in compliance with all covenants as of June 30, 2019.

### *Avidbank Loan*

Until February 26, 2019, loans payable consisted of the Term II Loan payable to Avidbank, pursuant to the Second Amended and Restated Loan and Security Agreement (the "LSA") entered into on December 21, 2016, as amended by the First Amendment to the LSA dated December 20, 2017 (the "First Amendment"), the Second Amendment to the LSA dated January 16, 2018 (the "Second Amendment"), the Third Amendment to the LSA dated May 11, 2018 (the "Third Amendment"), the Fourth Amendment to the LSA dated September 7, 2018 (the "Fourth Amendment"), and the Fifth Amendment to the LSA dated October 30, 2018 (the "Fifth Amendment") and, together with the LSA, First Amendment, the Second Amendment, the Third Amendment, and the Fourth Amendment, the "Amended LSA"). The Amended LSA also provided for a working capital revolving line of credit (the "Revolving Line").

Pursuant to the Amended LSA, Avidbank agreed to, in its discretion, make loan advances under the Revolving Line to us up to a maximum aggregate principal amount outstanding not to exceed the lesser of (i) One Million Dollars (\$1,000,000), or (ii) eighty percent (80%) (the "Maximum Advance Rate") of the aggregate balance of our eligible accounts receivable, as determined by Avidbank in accordance with the Amended LSA. Amounts borrowed under the Revolving Line could be repaid and re-borrowed at any time prior to the Revolving Maturity Date (as defined below), at which time all amounts were immediately due and payable. There were no borrowings under the Revolving Line during the year ended June 30, 2019. As of February 26, 2019, the date on which we terminated the Amended LSA, there was no outstanding balance under the Revolving Line.

On January 16, 2018, we entered into the Second Amendment, which established the Term II Loan in the original principal amount of \$7,294,000, the proceeds of which were used to pay in full the previously outstanding acquisition term loan, and a portion of the Sellers Note. Contemporaneous with this transaction, the Sellers Note was satisfied in full with the issuance of 967,208 shares of our Class A common stock, with the remaining balance paid in cash. The Term II Loan was for a five-year term, and bore interest at a per annum rate equal to two percent (2.0%) above the Prime Rate; provided, however, that at no time would the applicable rate be less than five-and-one-half percent (5.50%) per annum.

As discussed in more detail below, on February 26, 2019, we entered into the Loan Agreement with BankUnited, and used the proceeds from the BankUnited Term Loan to pay in full, all outstanding amounts owed pursuant to the Term II Loan. Accordingly, as of February 26, 2019, there was no outstanding balance under the Term II Loan.

### *BankUnited Loan*

On February 26, 2019, we entered into the Loan Agreement with BankUnited for (i) the BankUnited Revolving Line up to maximum amount of \$2,000,000, (ii) the BankUnited Term Loan in the amount of up to \$5,813,500, and (iii) the Guidance Line up to a maximum amount of \$10,000,000. Each of the BankUnited Loans is evidenced by a promissory note in favor of BankUnited (the "BankUnited Notes").

On May 6, 2019, we entered into that certain First Amendment to Loan Agreement, effective February 26, 2019, with BankUnited (the "Amendment" and, together with the Loan Agreement, the "Amended Loan Agreement"). The Amendment amended the definition of the fixed charge coverage ratio to more accurately reflect the parties' understandings at the time the Loan Agreement was executed.

### BankUnited Revolving Line

Pursuant to the Amended Loan Agreement, BankUnited will make loan advances under the BankUnited Revolving Line to us up to a maximum aggregate principal amount outstanding not to exceed \$2,000,000, which proceeds will be used for working capital and general corporate purposes. Amounts borrowed under the BankUnited Revolving Line may be repaid and re-borrowed at any time prior to February 26, 2022, at which time all amounts will be immediately due and payable. The advances under the BankUnited Revolving Line bear interest, on the outstanding daily balance, at a per annum rate equal to 2.75% above the 30-day LIBOR. Interest payments are due and payable, in arrears, on the first day of each month.

### BankUnited Term Loan

Pursuant to the Amended Loan Agreement, BankUnited advanced us \$5,813,500 to satisfy in full the amounts owed to Avidbank, including the Term II Loan, and to pay the fees and expenses incurred in connection with closing of the BankUnited Loans. The BankUnited Term Loan is for a 5-year term, but co-terminus with the BankUnited Revolving Line. The BankUnited Term Loan bears interest at a per annum rate equal to 2.75% above the 30-day LIBOR. Equal monthly principal payments of \$48,445.83, plus accrued interest, are due and payable, in arrears, on the first day of each month during the term. Upon maturity, all principal and interest shall be immediately due and payable. As of June 30, 2019, the applicable interest rate was 5.19%.

## Guidance Line

Pursuant to the Amended Loan Agreement, BankUnited, in its sole discretion, may make loan advances to us under the Guidance Line up to a maximum aggregate principal amount outstanding not to exceed \$10,000,000, which proceeds will be used for capital expenditures and approved business acquisitions. Such advances must be in minimum amounts of \$1,000,000 for acquisitions and \$500,000 for capital expenditures, and will be limited to 80% of cost or as otherwise determined by BankUnited. Amounts borrowed under the Guidance Line may not re-borrowed. The advances under the Guidance Line bear interest, on the outstanding daily balance, at a per annum rate equal to 2.75% above the 30-day LIBOR. Interest payments are due and payable, in arrears, on the first day of each month. On each anniversary of the Amended Loan Agreement, monthly principal payments become payable, amortized based on a ten-year term.

## Security and Guarantees

Our obligations under the Amended Loan Agreement are collateralized by a first priority security interest (subject to permitted liens) in all of our assets and the assets of our U.S. subsidiaries, GelTech, Inc. ("GelTech") and ISP, pursuant to a Security Agreement granted by GelTech, ISP, and us in favor of BankUnited. Our equity interests in, and the assets of, our foreign subsidiaries are excluded from the security interest. In addition, all of our subsidiaries have guaranteed our obligations under the Amended Loan Agreement and related documents, pursuant to Guaranty Agreements executed by us and our subsidiaries in favor of BankUnited.

## General Terms

The Amended Loan Agreement contains customary covenants, including, but not limited to: (i) limitations on the disposition of property; (ii) limitations on changing our business or permitting a change in control; (iii) limitations on additional indebtedness or encumbrances; (iv) restrictions on distributions; and (v) limitations on certain investments. The Amended Loan Agreement also contains certain financial covenants, including obligations to maintain a fixed charge coverage ratio of 1.25 to 1.00 and a total leverage ratio of 4.00 to 1.00. As of June 30, 2019, we were in compliance with all required covenants.

We may prepay any or all of the BankUnited Loans in whole or in part at any time, without penalty or premium. Late payments are subject to a late fee equal to five percent (5%) of the unpaid amount. Amounts outstanding during an event of default accrue interest at a rate of five percent (5%) above the 30-day LIBOR applicable immediately prior to the occurrence of the event of default. The Amended Loan Agreement contains other customary provisions with respect to events of default, expense reimbursement, and confidentiality.

For additional information, see Note 18, Loans Payable, and Note 19, Note Satisfaction and Securities Purchase Agreement, to the Notes to the Consolidated Financial Statements to this Annual Report on Form 10-K.

We believe we have adequate financial resources to sustain our current operations in the coming year. We have established milestones that will be tracked to ensure that as funds are expended we are achieving results before additional funds are committed. We anticipate sales growth in future years, primarily from infrared products. We structured our sales team to enhance our incremental organic growth position for our core aspheric lens business, prime our operations for the anticipated high growth of our new infrared products, and allow for the integration of strategic acquisitions. We are also seeing a substantial increase in revenue-generating opportunities and broader market applications as a result of our investments in technologies that decreased our lens production costs and expanded our production capacity.

We generally rely on cash from operations and equity and debt offerings, to the extent available, to satisfy our liquidity needs and to maintain our ability to repay the BankUnited Term Loan. There are a number of factors that could result in the need to raise additional funds, including a decline in revenue or a lack of anticipated sales growth, increased material costs, increased labor costs, planned production efficiency improvements not being realized, increases in property, casualty, benefit and liability insurance premiums, and increases in other costs. We will also continue efforts to keep costs under control as we seek renewed sales growth. Our efforts are directed toward generating positive cash flow and profitability. If these efforts are not successful, we may need to raise additional capital. Should capital not be available to us at reasonable terms, other actions may become necessary in addition to cost control measures and continued efforts to increase sales. These actions may include exploring strategic options for the sale of the Company, the sale of certain product lines, the creation of joint ventures or strategic alliances under which we will pursue business opportunities, the creation of licensing arrangements with respect to our technology, or other alternatives.

## *Cash Flows – Financings:*

Net cash used in financing activities was approximately \$1.4 million in fiscal 2019, compared to \$1.3 million in fiscal 2018. In fiscal 2019, net repayments on debt and capital leases were \$1.4 million. In fiscal 2018, net repayments on debt and capital leases were \$2.1 million, including approximately \$600,000 related to the satisfaction of the Sellers Note. These repayments were offset by net proceeds of approximately \$534,000 from the exercise of the June 2012 Warrants, as well as proceeds from exercises of stock options of approximately \$226,000 during fiscal 2018.



### *Cash Flows – Operating and Investing:*

Cash flow provided by operations was approximately \$411,000 for the year ended June 30, 2019, compared to approximately \$2.6 million for the year ended June 30, 2018. The decrease in cash flow from operations is primarily the result of the net loss, including the non-recurring costs associated with the relocation of the Irvington Facility, as well as the increases in inventory and accounts receivable. The increase in inventory is primarily to support the growth in sales of infrared products, particularly as related to our new BD6-based product line. With respect to accounts receivable, one of our larger customers modified its payment cycle during the fourth quarter of fiscal 2019, which contributed to the increase in accounts receivable year-over-year. We did not grant extended payment terms in conjunction with this change, and the collection cycle for this customer remains at 30 days or less.

We anticipate improvement in our cash flows provided by operations in future years, based on our forecasted sales growth and anticipated margin improvements based on production efficiencies, including the relocation of our Irvington Facility, partially offset by marginal increases in sales and marketing, and new product development expenditures.

During fiscal 2019, we expended approximately \$1.9 million for capital equipment, as compared to approximately \$2.5 million during fiscal 2018. In fiscal 2019, we initiated capital leases in the amount of approximately \$530,000 for manufacturing equipment, compared to \$760,000 in fiscal 2018. Our capital expenditures during fiscal 2019 were related to upgrades of equipment and facilities in conjunction with relocating the Irvington Facility, as well as expanding our production capacity for infrared glass, particularly our new BD6 material. During fiscal 2018, the majority of our capital expenditures were related to the purchase of equipment used to enhance or expand our production capacity in alignment with sales growth opportunities, including facility improvements for our Zhenjiang and Riga Facilities.

We anticipate a similar level of capital expenditures during fiscal 2020; however, the total amount expended will depend on sales growth opportunities and circumstances.

### **How We Operate:**

We have continuing sales of two basic types: sales via ad-hoc purchase orders of mostly standard product configurations (our “turns” business) and the more challenging and potentially more rewarding business of customer product development. In this latter type of business, we work with customers to help them determine optical specifications and even create certain optical designs for them, including complex multi-component designs that we call “engineered assemblies.” This is followed by “sampling” small numbers of the product for the customers’ test and evaluation. Thereafter, should a customer conclude that our specification or design is the best solution to their product need; we negotiate and “win” a contract (sometimes called a “design win”) – whether of a “blanket purchase order” type or a supply agreement. The strategy is to create an annuity revenue stream that makes the best use of our production capacity, as compared to the turns business, which is unpredictable and uneven. This annuity revenue stream can also generate low-cost, high-volume type orders. A key business objective is to convert as much of our business to the design win and annuity model as is possible. We face several challenges in doing so:

- Maintaining an optical design and new product sampling capability, including a high-quality and responsive optical design engineering staff;
- The fact that as our customers take products of this nature into higher volume, commercial production (for example, in the case of molded optics, this may be volumes over one million pieces per year) they begin to work seriously to reduce costs – which often leads them to turn to larger or overseas producers, even if sacrificing quality; and
- Our small business mass means that we can only offer a moderate amount of total productive capacity before we reach financial constraints imposed by the need to make additional capital expenditures – in other words, because of our limited cash resources and cash flow, we may not be able to service every opportunity that presents itself in our markets without arranging for such additional capital expenditures.

Despite these challenges to winning more “annuity” business, we nevertheless believe we can be successful in procuring this business because of our unique capabilities in optical design engineering that we make available on the merchant market, a market that we believe is underserved in this area of service offering. Additionally, we believe that we offer value to some customers as a source of supply in the U.S. should they be unwilling to commit to purchase their supply of a critical component from foreign merchant production sources. For information regarding revenue recognition related to our various revenue streams, refer to *Critical Accounting Policies and Estimates* in this Annual Report on Form 10-K.

## Our Key Performance Indicators:

Usually on a weekly basis, management reviews a number of performance indicators. Some of these indicators are qualitative and others are quantitative. These indicators change from time to time as the opportunities and challenges in the business change. They are mostly non-financial indicators, such as units of shippable output by product line, production yield rates by major product line, and the output and yield data from significant intermediary manufacturing processes that support the production of the finished shippable product. These indicators can be used to calculate such other related indicators as fully yielded unit production per-shift, which varies by the particular product and our state of automation in production of that product at any given time. Higher unit production per shift means lower unit cost, and, therefore, improved margins or improved ability to compete, where desirable, for price sensitive customer applications. The data from these reports is used to determine tactical operating actions and changes. We believe that our non-financial production indicators, such as those noted, are proprietary information.

Financial indicators that are usually reviewed at the same time include the major elements of the micro-level business cycle:

- sales backlog;
- revenue dollars and units by product group;
- inventory levels;
- accounts receivable levels and quality; and
- other key indicators.

These indicators are similarly used to determine tactical operating actions and changes and are discussed in more detail below.

### Sales Backlog:

We believe our sales growth has been and continues to be our best indicator of success. Our best view into the efficacy of our sales efforts is in our "order book." Our order book equates to sales "backlog." It has a quantitative and a qualitative aspect: quantitatively, our backlog's prospective dollar value and qualitatively, what percent of the backlog is scheduled by the customer for date-certain delivery. We define our "12-month backlog" as that which is requested by the customer for delivery within one year and which is reasonably likely to remain in the backlog and be converted into revenues. This includes customer purchase orders and may include amounts under supply contracts if they meet the aforementioned criteria. Generally, a higher 12-month backlog is better for us.

Our 12-month backlog grew 33% in comparison to the prior year, while we also increased our sales by 4%, compared to the prior year, maintaining our strong booking performance. Our 12-month backlog at June 30, 2019 was approximately \$17.1 million, compared to \$12.8 million as of June 30, 2017. Backlog growth rates for fiscal 2019 and 2018 are:

Quarter	Backlog (\$ 000)	Change From Prior Year End	Change From Prior Quarter End
Q1 2018	\$ 8,618	-8%	-8%
Q2 2018	\$ 12,306	32%	43%
Q3 2018	\$ 12,898	38%	5%
Q4 2018	\$ 12,828	38%	-1%
Q1 2019	\$ 13,994	9%	9%
Q2 2019	\$ 18,145	41%	30%
Q3 2019	\$ 17,137	34%	-6%
Q4 2019	\$ 17,121	33%	0%

The increase in our 12-month backlog from the first quarter to the second quarter of both fiscal 2019 and 2018 was largely due to the renewal of a large annual contract during the second quarter of the respective fiscal year, which we began shipping against during the third quarter of the respective fiscal year. During the remainder of fiscal 2019, bookings and shipments remained fairly consistent, yielding a continued strong level of backlog.

We have experienced strong demand for infrared products used in the industrial, defense and first responder sectors. Demand for infrared products is being further fueled by interest in lenses made with our new BD6 material. We expect to maintain moderate growth in our visible PMO product group by continuing to diversify and offer new applications, with a cost competitive structure. Over the past several years, we have broadened our capabilities to include additional glass types and the ability to make much larger lenses, providing long-term opportunities for our technology roadmap and market share expansion. Based on our backlog and recent quote activity, we expect increases in revenue from sales of both molded and turned infrared products as we enter fiscal 2020.

**Revenue Dollars and Units by Product Group:**

The following table sets forth revenue dollars and units by our three product groups for the three and twelve months ended June 30, 2019 and 2018:

	<u>Three Months Ended June 30,</u>		<u>Quarter</u>	<u>Years Ended June 30,</u>		<u>Year-to-date</u>
	<u>2019</u>	<u>2018</u>		<u>% Change</u>	<u>2019</u>	
<b>Revenue</b>						
PMO	\$ 3,508,046	\$ 3,377,942	4%	\$14,098,157	\$13,522,458	4%
Infrared Products	4,746,849	3,992,511	19%	17,271,590	15,979,888	8%
Specialty Products	490,383	717,924	-32%	2,379,341	3,023,125	-21%
Total revenue	\$ 8,745,278	\$ 8,088,377	8%	\$33,749,088	\$32,525,471	4%
<b>Units</b>						
PMO	641,006	566,399	13%	2,287,631	2,206,378	4%
Infrared Products	87,428	44,293	97%	232,081	145,433	60%
Specialty Products	17,383	11,369	53%	69,554	69,854	0%
Total units	745,817	622,061	20%	2,589,266	2,421,665	7%

**Three months ended June 30, 2019 compared to three months ended June 30, 2018**

Our revenue increased by 8% in the fourth quarter of fiscal 2019, as compared to the same period in the prior year primarily as a result of an increase in demand for infrared products, with a moderate increase in sales of PMO products and a significant decrease in sales of specialty products.

Revenue from the PMO product group for the fourth quarter of fiscal 2019 was \$3.5 million, an increase of approximately \$130,000, or 4%, as compared to the same period of the prior fiscal year. Sales of PMO units increased by 13%, as compared to the prior period, however, the average selling prices decreased 8% due to the mix of products shipped. For the fourth quarter of fiscal 2019, revenue from PMO products included more sales to customers in the telecommunications and industrial markets, which are typically higher in volume and lower in average selling prices.

Revenue generated by the infrared product group during the fourth quarter of fiscal 2019 was \$4.7 million, an increase of approximately \$754,000, or 19%, as compared to the same period of the prior fiscal year. Sales of infrared units increased 97%, as compared to the prior year period, and average selling prices decreased by 40%. These changes are driven by an increase in sales of molded infrared products which are higher in volume and lower in prices than diamond-turned infrared products. Industrial applications, firefighting cameras and other public safety applications are the primary drivers of the increased demand for infrared products, particularly our thermal imaging assemblies.

In the fourth quarter of fiscal 2019, our specialty product revenue decreased by 32%, as compared to the same period of the prior fiscal year. This decrease is primarily due to lower sales to customers in the medical and industrial markets, with fewer NRE projects. The decrease in sales to customers in the medical market is due to the timing of customer orders. The decrease in sales to customers in the industrial market is primarily due to a slowdown in LIDAR development projects and the related assemblies. NRE revenue is project-based and the timing of any such projects is wholly dependent on our customers and their project activity.

**Year ended June 30, 2019 compared to year ended June 30, 2018**

Our revenue increased by 4% in fiscal 2019, as compared to fiscal 2018, primarily driven by significant growth in the infrared product group, with a moderate increase in sales of PMO products, partially offset by a decrease in sales of specialty products.

Revenue from the PMO product group for fiscal 2019 was approximately \$14.1 million, an increase of approximately \$576,000, or 4%, as compared to fiscal 2018. Sales of PMO units increased by 4%, as compared to the prior fiscal year, and average selling prices increased 1%. The increase in sales is largely driven by sales to customers in the telecommunications market, partially offset by a decrease in sales to customers in the commercial market.

Revenue generated by the infrared product group during fiscal 2019 was approximately \$17.3 million, an increase of \$1.3 million, or 8%, as compared to the prior fiscal year. Sales of infrared units increased by 60%, as compared to the prior fiscal year, and average selling prices decreased by 34%. These changes are due to the following shifts in the infrared revenue mix: (i) an increase in a large-volume order of diamond turned infrared products, resulting in a lower mix of the typically higher-priced custom infrared diamond-turned products, and (ii) an increase in sales of molded infrared products, which are higher in volume and lower in price than diamond-turned infrared products.

Specialty products revenue was approximately \$2.4 million for fiscal 2019, a decrease of approximately \$644,000, or 21%, as compared to the prior fiscal year. This decrease is largely related to revenues generated from NRE projects and related lenses and assemblies, primarily for customers in the industrial market related to LIDAR applications. NRE revenue is project based and the timing of any such projects is wholly dependent on our customers and their project activity. Fiscal 2018 included a large NRE project, which was not repeated in fiscal 2019. The remainder of the decrease is due to lower sales to customers in the defense market, due to timing of government contracts.

**Inventory Levels:**

We manage inventory levels to minimize investment in working capital but still have the flexibility to meet customer demand to a reasonable degree. We review our inventory for obsolete items quarterly. While the mix of inventory is an important factor, including adequate safety stocks of long lead-time materials, an important aggregate measure of inventory in all phases of production is the quarter's ending inventory expressed as a number of days' worth of the quarter's cost of sales, also known as "days cost of sales in inventory," or "DCSI." It is calculated by dividing the quarter's ending inventory by the quarter's cost of goods sold, multiplied by 365 and divided by 4. Generally, a lower DCSI measure equates to a lesser investment in inventory, and, therefore, more efficient use of capital. The table below shows our DCSI for the immediately preceding eight fiscal quarters:

<b>Fiscal Quarter</b>	<b>Ended</b>	<b>DCSI (days)</b>
Q4-2019	6/30/2019	119
Q3-2019	3/31/2019	122
Q2-2019	12/31/2018	117
Q1-2019	9/30/2018	106
<b>Fiscal 2019 average</b>		<b>116</b>
Q4-2018	6/30/2018	103
Q3-2018	3/31/2018	112
Q2-2018	12/31/2017	113
Q1-2018	9/30/2017	109
<b>Fiscal 2018 average</b>		<b>109</b>

Our average DCSI for fiscal 2019 was 116, compared to 109 for fiscal 2018. The increase in DCSI is driven in part by strategic buys of certain raw materials to reduce lead times and meet increasing demand for infrared glass. As we continue to see increasing demand for infrared products, particularly molded infrared, we expect DCSI to remain between 110 and 120.

**Accounts Receivable Levels and Quality:**

Similarly, we manage our accounts receivable to minimize investment in working capital. We measure the quality of receivables by the proportions of the total that are at various increments past due from our normally extended terms, which are generally 30 days. The most important aggregate measure of accounts receivable is the quarter's ending balance of net accounts receivable expressed as a number of days' worth of the quarter's net revenues, also known as "days sales outstanding," or "DSO." It is calculated by dividing the quarter's ending net accounts receivable by the quarter's net revenues, multiplied by 365 and divided by 4. Generally, a lower DSO measure equates to a lesser investment in accounts receivable and, therefore, more efficient use of capital. The table below shows our DSO for the preceding eight fiscal quarters:

Fiscal Quarter	Ended	DSO (days)
Q4-2019	6/30/2019	65
Q3-2019	3/31/2019	68
Q2-2019	12/31/2018	66
Q1-2019	9/30/2018	56
<b>Fiscal 2019 average</b>		<b>64</b>
Q4-2018	6/30/2018	61
Q3-2018	3/31/2018	61
Q2-2018	12/31/2017	62
Q1-2018	9/30/2017	62
<b>Fiscal 2018 average</b>		<b>62</b>

Our average DSO for fiscal 2019 was 64, compared to 62 for fiscal 2018. During the fourth quarter of fiscal 2019, one of our larger customers modified its payment cycle, which has caused a slight increase in our DSO; however, the average days outstanding for this customer is still less than 30 days. We strive to have a DSO no higher than 65.

**Other Key Indicators:**

Other key indicators include various operating metrics, some of which are qualitative and others are quantitative. These indicators change from time to time as the opportunities and challenges in the business change. They are mostly non-financial indicators, such as on time delivery trends, units of shippable output by major product line, production yield rates by major product line, and the output and yield data from significant intermediary manufacturing processes that support the production of the finished shippable product. These indicators can be used to calculate such other related indicators as fully-yielded unit production per-shift, which varies by the particular product and our state of automation in production of that product at any given time. Higher unit production per shift means lower unit cost, and, therefore, improved margins or improved ability to compete where desirable for price sensitive customer applications. The data from these reports is used to determine tactical operating actions and changes. Management also assesses business performance and makes business decisions regarding our operations using certain non-GAAP measures. These non-GAAP measures are described in more detail below under the heading "Non-GAAP Financial Measures".

**Non-GAAP Financial Measures**

We report our historical results in accordance with GAAP; however, our management also assesses business performance and makes business decisions regarding our operations using certain non-GAAP financial measures. We believe these non-GAAP financial measures provide useful information to management and investors that is supplementary to our financial condition and results of operations computed in accordance with GAAP; however, we acknowledge that our non-GAAP financial measures have a number of limitations. As such, you should not view these disclosures as a substitute for results determined in accordance with GAAP, and they are not necessarily comparable to non-GAAP financial measures that other companies use.

**Adjusted Net Income:**

Adjusted net income is a non-GAAP financial measure used by management, lenders, and certain investors as a supplemental measure in the evaluation of some aspects of a corporation's financial position and core operating performance. Management uses adjusted net income to evaluate our underlying operating performance and for planning and forecasting future business operations. We believe adjusted net income may be helpful for investors as one means of evaluating our operational performance.

We calculate adjusted net income by excluding the change in the fair value of the June 2012 Warrants from net income. The fair value of the June 2012 Warrants was re-measured each reporting period until the warrants were exercised or expired on December 11, 2017. In each reporting period during the term of the June 2012 Warrants, the change in the fair value of the June 2012 Warrants was either recognized as non-cash expense or non-cash income. The change in the fair value of the June 2012 Warrants was not impacted by our actual operations but was instead strongly tied to the change in the market value of our Class A common stock. The following table reconciles net income to adjusted net income for the three and twelve months ended June 30, 2019 and 2018:

	(unaudited)			
	Quarter Ended:		Year Ended:	
	June 30, 2019	June 30, 2018	June 30, 2019	June 30, 2018
Net income (loss)	\$ (1,761,690)	\$ (807,220)	\$ (2,680,323)	\$ 1,060,104
Change in fair value of warrant liability	—	—	—	194,632
Adjusted net income (loss)	<u>\$ (1,761,690)</u>	<u>\$ (807,220)</u>	<u>\$ (2,680,323)</u>	<u>\$ 1,254,736</u>
% of revenue	-20%	-10%	-8%	4%

Our adjusted net loss for the quarter ended June 30, 2019 was approximately \$1.8 million, as compared to \$807,000 for the quarter ended June 30, 2018. The decrease in net income is due to the following: (1) the quarter ended June 30, 2019 includes approximately \$845,000 in additional SG&A expenses associated with the relocation of the Irvington Facility, (2) a \$1.0 million increase in income tax expense, primarily due to adjustments to net deferred tax assets in the U.S. jurisdiction; and (3) an unfavorable difference in foreign exchange gains and losses of \$600,00 for the quarter ended June 30, 2019, as compared to the quarter ended June 30, 2018.

Our adjusted net loss for fiscal 2019 was approximately \$2.7 million, as compared to net income of approximately \$1.3 million for fiscal 2018. The approximately \$3.9 million decrease is primarily due to the following: (1) fiscal 2019 includes approximately \$1.2 million in additional SG&A expenses associated with the relocation of the Irvington Facility, (2) a \$1.3 million increase in income tax expense, due to non-recurring benefits related to our foreign jurisdictions, as well as an adjustment to the valuation allowance on our U.S. deferred tax assets, which all favorably impacted fiscal 2018; (3) a \$397,000 increase in new product development expenses; and (4) an unfavorable difference in foreign exchange gains and losses of \$577,00 for fiscal 2019, as compared to fiscal 2018.

#### **EBITDA and Adjusted EBITDA:**

EBITDA and adjusted EBITDA are non-GAAP financial measures used by management, lenders, and certain investors as a supplemental measure in the evaluation of some aspects of a corporation's financial position and core operating performance. Investors sometimes use EBITDA as it allows for some level of comparability of profitability trends between those businesses differing as to capital structure and capital intensity by removing the impacts of depreciation and amortization. EBITDA also does not include changes in major working capital items, such as receivables, inventory, and payables, which can also indicate a significant need for, or source of, cash. Since decisions regarding capital investment and financing and changes in working capital components can have a significant impact on cash flow, EBITDA is not a good indicator of a business's cash flows. We use EBITDA for evaluating the relative underlying performance of our core operations and for planning purposes. We calculate EBITDA by adjusting net income to exclude net interest expense, income tax expense or benefit, depreciation, and amortization, thus the term "Earnings Before Interest, Taxes, Depreciation and Amortization" and the acronym "EBITDA."

We also calculate an adjusted EBITDA, which excludes the effect of the non-cash income or expense associated with the mark-to-market adjustments, related to our June 2012 Warrants. The fair value of the June 2012 Warrants was re-measured each reporting period until the warrants were either exercised or expired on December 11, 2017. Each reporting period, the change in the fair value of the June 2012 Warrants was either recognized as a non-cash expense or non-cash income. The change in the fair value of the June 2012 Warrants was not impacted by our actual operations but was instead strongly tied to the change in the market value of our Class A common stock. Management uses adjusted EBITDA to evaluate our underlying operating performance and for planning and forecasting future business operations. We believe this adjusted EBITDA is helpful for investors to better understand our underlying business operations. The following table adjusts net income to EBITDA and adjusted EBITDA for the three and twelve months ended June 30, 2019 and 2018:

	(unaudited)			
	Quarter Ended:		Year Ended:	
	June 30, 2019	June 30, 2018	June 30, 2019	June 30, 2018
Net income (loss)	\$ (1,761,690)	\$ (807,220)	\$ (2,680,323)	\$ 1,060,104
Depreciation and amortization	923,195	911,577	3,464,156	3,403,581
Income tax provision (benefit)	495,699	(508,399)	455,206	(827,077)
Interest expense	123,578	134,736	697,113	186,948
EBITDA	(219,218)	(269,306)	\$ 1,936,152	\$ 3,823,556
Change in fair value of warrant liability	—	—	—	194,632
Adjusted EBITDA	\$ (219,218)	\$ (269,306)	\$ 1,936,152	\$ 4,018,188
% of revenue	-3%	-3%	6%	12%

Our adjusted EBITDA for the quarter ended June 30, 2019 was a loss of approximately \$219,000, compared to a loss of \$269,000 for the quarter ended June 30, 2018. The slight improvement in adjusted EBITDA is primarily the result of the increase in gross margin, coupled with an approximately \$600,000 decrease in foreign exchange losses for the fourth quarter of fiscal 2019, as compared to the same period of the prior fiscal year. These favorable changes were offset by approximately \$845,000 in restructuring costs related to the relocation of the Irvington Facility during the fourth quarter of fiscal 2019.

Our adjusted EBITDA for fiscal 2019 was approximately \$1.9 million, compared to approximately \$4.0 million for fiscal 2018. The decrease in adjusted EBITDA between the periods was principally caused by restructuring costs of approximately \$1.2 million incurred during fiscal 2019 related to the relocation of the Irvington Facility. In addition, foreign exchange losses increased by approximately \$577,000 in fiscal 2019, as compared to fiscal 2018.

### **Off Balance Sheet Arrangements**

We do not engage in any activities involving variable interest entities or off balance sheet arrangements.

### **Critical Accounting Policies and Estimates**

The preparation of financial statements in conformity with accounting principles generally accepted in the United States of America requires management to make estimates and assumptions that affect the reported amounts of assets and liabilities and disclosure of contingent assets and liabilities at the date of the financial statements and reported amounts of income and expense during the reporting periods presented. Our critical estimates include the allowance for trade receivables, which is made up of allowances for bad debts, allowances for obsolete inventory, valuation of compensation expense on stock-based awards and accounting for income taxes. Although we believe that these estimates are reasonable, actual results could differ from those estimates given a change in conditions or assumptions that have been consistently applied. We also have other policies that we consider key accounting policies, such as our policy for revenue recognition, however, the application of these policies does not require us to make significant estimates or judgments that are difficult or subjective.

Management has discussed the selection of critical accounting policies and estimates with our Board of Directors (the "Board"), and the Board has reviewed our disclosure relating to critical accounting policies and estimates in this prospectus. The critical accounting policies used by management and the methodology for its estimates and assumptions are as follows:

**Allowance for accounts receivable** is calculated by taking 100% of the total of invoices that are over 90 days past due from the due date and 10% of the total of invoices that are over 60 days past due from the due date for U.S.- and Latvia-based accounts and 100% on invoices that are over 120 days past due for China-based accounts without an agreed upon payment plan. Accounts receivable are customer obligations due under normal trade terms. We perform continuing credit evaluations of our customers' financial condition. Recovery of bad debt amounts which were previously written off is recorded as a reduction of bad debt expense in the period the payment is collected. If our actual collection experience changes, revisions to our allowance may be required. After attempts to collect a receivable have failed, the receivable is written off against the allowance. To date, our actual results have been materially consistent with our estimates, and we expect such estimates to continue to be materially consistent in the future.

**Inventory obsolescence allowance** is calculated by reserving 100% for items that have not been sold in two years or that have not been purchased in two years, or items for which we have more than a two-year supply. These items, as identified, are allowed for at 100%, as well as allowing 50% for other items deemed to be slow moving within the last twelve months and allowing 25% for items deemed to have low material usage within the last six months. The parts identified are adjusted for recent order and quote activity to determine the final inventory allowance. To date, our actual results have been materially consistent with our estimates, and we expect such estimates to continue to be materially consistent in the future.

**Revenue** is generally recognized upon transfer of control, including the risks and rewards of ownership, of products or services to customers in an amount that reflects the consideration we expect to receive in exchange for those products or services. The performance obligations for the sale of optical components and assemblies are satisfied at a point in time. We generally bear all costs, risk of loss, or damage and retain title to the goods up to the point of transfer of control of products to customers. Shipping and handling costs are included in the cost of goods sold. Revenues from product development agreements are recognized as performance obligations are met in accordance with the terms of the agreements and upon transfer of control of products, reports or designs to the customer. Product development agreements are generally short term in nature, with revenue recognized upon satisfaction of the performance obligation, and transfer of control of the agreed-upon deliverable. Invoiced amounts for value-added taxes ("VAT") related to sales are posted to the balance sheet and are not included in revenue.

**Stock-based compensation** is measured at grant date, based on the fair value of the award, and is recognized as an expense over the employee's requisite service period. We estimate the fair value of each stock option as of the date of grant using the Black-Scholes-Merton pricing model. Our directors, officers, and key employees were granted stock-based compensation through our Amended and Restated Omnibus Incentive Plan, as amended (the "Omnibus Plan"), through October 2018 and after that date, the 2018 Stock and Incentive Compensation Plan (the "SICP"). Most options granted under the Omnibus Plan and the SICP vest ratably over two to four years and generally have ten-year contract lives. The volatility rate is based on four-year historical trends in common stock closing prices and the expected term was determined based primarily on historical experience of previously outstanding options. The interest rate used is the U.S. Treasury interest rate for constant maturities. The likelihood of meeting targets for option grants that are performance based are evaluated each quarter. If it is determined that meeting the targets is probable, then the compensation expense will be amortized over the remaining vesting period.

**Goodwill and intangible assets** acquired in a business combination are recognized at fair value using generally accepted valuation methods appropriate for the type of intangible asset and reported separately from goodwill. Purchased intangible assets other than goodwill are amortized over their useful lives unless these lives are determined to be indefinite. Purchased intangible assets are carried at cost, less accumulated amortization. Amortization is computed over the estimated useful lives of the respective assets, generally two to fifteen years. We periodically reassess the useful lives of intangible assets when events or circumstances indicate that useful lives have significantly changed from the previous estimate. Definite-lived intangible assets consist primarily of customer relationships, know-how/trade secrets and trademarks. They are generally valued as the present value of estimated cash flows expected to be generated from the asset using a risk-adjusted discount rate. When determining the fair value of our intangible assets, estimates and assumptions about future expected revenue and remaining useful lives are used. Goodwill and intangible assets are tested for impairment on an annual basis and during the period between annual tests if events or changes in circumstances indicate that the carrying value of goodwill may not be recoverable.

We assess the qualitative factors to determine whether it is more likely than not that the fair value of its reporting unit is less than its carrying amount as a basis for determining whether it is necessary to perform the goodwill impairment analysis. If we determine that it is more likely than not that its fair value is less than its carrying amount, then the goodwill impairment test is performed. The fair value of the reporting unit is compared to its carrying amount, and if the carrying amount exceeds its fair value, then an impairment charge would be recognized for the amount by which the carrying amount exceeds the reporting unit's fair value, up to the total amount of goodwill allocated to that reporting unit.

**Accounting for income taxes** requires estimates and judgments in determining income tax expense for financial statement purposes. These estimates and judgments occur in the calculation of tax credits, benefits, and deductions, and in the calculation of certain tax assets and liabilities, which arise from differences in the timing of the recognition of revenue and expense for tax and financial statement purposes. We assessed the likelihood of the realization of deferred tax assets and concluded that a valuation allowance is needed to reserve the amount of the deferred tax assets that may not be realized due to the uncertainty of the timing and amount of taxable income in certain jurisdictions. In reaching our conclusion, we evaluated certain relevant criteria, including the amount of pre-tax income generated during the current and prior two years, as adjusted for non-recurring items, the existence of deferred tax liabilities that can be used to realize deferred tax assets, the taxable income in prior carryback years in the impacted jurisdictions that can be used to absorb net operating losses and taxable income in future years. Our judgments regarding future profitability may change due to future market conditions, changes in U.S. or international tax laws and other factors. These changes, if any, may require material adjustments to these deferred tax assets, resulting in a reduction in net income or an increase in net loss in the period when such determinations are made, which, in turn, may result in an increase or decrease to our tax provision in a subsequent period.



In the ordinary course of global business, there are many transactions and calculations where the ultimate tax outcome is uncertain. Some of these uncertainties arise as a consequence of cost reimbursement and royalty arrangements among related entities, which could impact our income or loss in each jurisdiction in which we operate. Although we believe our estimates are reasonable, no assurance can be given that the final tax outcome of these matters will not be different than that which is reflected in our historical income tax provisions and accruals. In the event our assumptions are incorrect, the differences could have a material impact on our income tax provision and operating results in the period in which such determination is made. In addition to the factors described above, our current and expected effective tax rate is based on then-current tax law. Significant changes during the year in enacted tax law could affect these estimates.

**Impact of recently issued accounting pronouncements** that have recently been issued but have not yet been implemented by us are described in Note 2, Summary of Significant Accounting Policies, to the Notes to the Consolidated Financial Statements to this Annual Report on Form 10-K, which describes the potential impact that these pronouncements are expected to have on our financial condition, results of operations and cash flows.

#### **Item 8. Financial Statements and Supplementary Data.**

The information required by this Item is incorporated herein by reference to the consolidated financial statements and supplementary data set forth in *Item 15. Exhibits, Financial Statement Schedules* of Part IV of this Annual Report on Form 10-K.

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

None.

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

##### **Evaluation of Disclosure Controls and Procedures**

As of the end of the fiscal year ended June 30, 2019, we carried out an evaluation, under the supervision and with the participation of members of our management, including our Chief Executive Officer (“CEO”) and our Chief Financial Officer (“CFO”), of the effectiveness of the design and operation of our disclosure controls and procedures pursuant to Rule 13a-15(b) of the Exchange Act. Our CEO and our CFO have concluded, based on their evaluation, that as of June 30, 2019, our disclosure controls and procedures were effective at the end of the fiscal year to provide reasonable assurance that information required to be disclosed by us in the reports that we file or submit with the SEC under the Exchange Act is recorded, processed, summarized, and reported within the time periods specified in the SEC’s rules and forms and is accumulated and communicated to our management, including the CEO and CFO, as appropriate to allow timely decisions regarding required disclosure.

##### **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 defined in Rule 13a-15(f) under the Exchange Act). Internal control over financial reporting is a process, including policies and procedures, designed to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external reporting purposes in accordance with U.S. generally accepted accounting principles. Our management assessed our internal control over financial reporting based on the *Internal Control—Integrated Framework (2013 Framework)* issued by the Committee of Sponsoring Organizations of the Treadway Commission (“COSO”). Based on the results of this assessment, our management concluded that our internal control over financial reporting was effective as of June 30, 2019 based on such criteria.

A control system, no matter how well conceived and operated, can provide only reasonable, not absolute, assurance that the objectives of the control system are met under all potential conditions, regardless of how remote, and may not prevent or detect all errors and all fraud. Because of the inherent limitations in all control systems, no evaluation of controls can provide absolute assurance that all control issues and instances of fraud, if any, within LightPath have been prevented or detected. Our internal control over financial reporting is designed to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with generally accepted accounting principles.

**Auditor's Report on Internal Control over Financial Reporting**

This Annual Report does not include an attestation report of our independent registered public accounting firm regarding internal control over financial reporting. Management's report was not subject to attestation by our independent registered public accounting firm pursuant to rules of the Securities and Exchange Commission (the "SEC") that permit us to provide only management's report in this Annual Report.

**Changes in Internal Controls over Financial Reporting**

In connection with our continued monitoring and maintenance of our controls procedures as part of the implementation of Section 404 of the Sarbanes-Oxley Act, we continue to review, test, and improve the effectiveness of our internal controls. There have not been any changes in our internal control over financial reporting (as such term is defined in Rules 13a-15(f) and 15d-15(f) under the Exchange Act) during the fourth quarter and since the year ended June 30, 2019 that have materially affected, or are reasonably likely to materially affect, our internal control over financial reporting.

**Item 9B. Other Information.**

None.

**PART III**

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

The information required under this item is incorporated herein by reference to our proxy statement for our fiscal 2020 Annual Stockholders' Meeting to be filed with the SEC not later than 120 days after the end of fiscal 2019.

**Item 11. Executive Compensation.**

The information required under this item is incorporated herein by reference to our proxy statement for our fiscal 2020 Annual Stockholders' Meeting to be filed with the SEC not later than 120 days after the end of fiscal 2019.

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

The information required under this item is incorporated herein by reference to our proxy statement for our fiscal 2020 Annual Stockholders' Meeting to be filed with the SEC not later than 120 days after the end of fiscal 2019, with the exception of those items listed below.

**Securities Authorized for Issuance Under Equity Compensation Plans**

The following table sets forth information with respect to compensation plans under which our equity securities are authorized for issuance as of the end of fiscal 2019:

Plan category	Number of securities to be issued upon exercise of outstanding options, warrants and rights	Weighted average exercise and grant price of outstanding options, warrants and rights	Number of securities remaining available for future issuance
Equity compensation plans approved by security holders	2,844,451	\$ 1.82	1,416,691
Equity compensation plans not approved by security holders	—	—	—

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

The information required under this item is incorporated herein by reference to our proxy statement for our fiscal 2020 Annual Stockholders' Meeting to be filed with the SEC not later than 120 days after the end of fiscal 2019.

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

The information required under this item is incorporated herein by reference to our proxy statement for our fiscal 2020 Annual Stockholders' Meeting to be filed with the SEC not later than 120 days after the end of fiscal 2019.

## PART IV

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

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

- (1) Financial Statements – See Index on page F-1 of this report

(b) The following exhibits are filed herewith as a part of this report

<b>Exhibit Number</b>	<b>Description</b>
3.1.1	Certificate of Incorporation of LightPath Technologies, Inc., filed June 15, 1992 with the Secretary of State of Delaware, which was filed as an exhibit to our Registration Statement on Form SB-2 (File No: 33-80119) filed with the Securities and Exchange Commission on December 7, 1995, and is incorporated herein by reference thereto.
3.1.2	Certificate of Amendment to Certificate of Incorporation of LightPath Technologies, Inc., filed October 2, 1995 with the Secretary of State of Delaware, which was filed as an exhibit to our Registration Statement on Form SB-2 (File No: 33-80119) filed with the Securities and Exchange Commission on December 7, 1995, and is incorporated herein by reference thereto.
3.1.3	Certificate of Designations of Class A common stock and Class E-1 common stock, Class E-2 common stock, and Class E-3 common stock of LightPath Technologies, Inc., filed November 9, 1995 with the Secretary of State of Delaware, which was filed as an exhibit to our Registration Statement on Form SB-2 (File No: 33-80119) filed with the Securities and Exchange Commission on December 7, 1995, and is incorporated herein by reference thereto.
<a href="#">3.1.4</a>	Certificate of Designation of Series A Preferred Stock of LightPath Technologies, Inc., filed July 9, 1997 with the Secretary of State of Delaware, which was filed as Exhibit 3.4 to our Annual Report on Form 10-KSB40 filed with the Securities and Exchange Commission on September 11, 1997, and is incorporated herein by reference thereto.
<a href="#">3.1.5</a>	Certificate of Designation of Series B Stock of LightPath Technologies, Inc., filed October 2, 1997 with the Secretary of State of Delaware, which was filed as Exhibit 3.2 to our Quarterly Report on Form 10-QSB (File No. 000-27548) filed with the Securities and Exchange Commission on November 14, 1997, and is incorporated herein by reference thereto.

- [3.1.6](#) Certificate of Amendment of Certificate of Incorporation of LightPath Technologies, Inc., filed November 12, 1997 with the Secretary of State of Delaware, which was filed as Exhibit 3.1 to our Quarterly Report on Form 10-QSB (File No. 000-27548) filed with the Securities and Exchange Commission on November 14, 1997, and is incorporated herein by reference thereto.
- [3.1.7](#) Certificate of Designation of Series C Preferred Stock of LightPath Technologies, Inc., filed February 6, 1998 with the Secretary of State of Delaware, which was filed as Exhibit 3.2 to our Registration Statement on Form S-3 (File No. 333-47905) filed with the Securities and Exchange Commission on March 13, 1998, and is incorporated herein by reference thereto.
- [3.1.8](#) Certificate of Designation, Preferences and Rights of Series D Participating Preferred Stock of LightPath Technologies, Inc. filed April 29, 1998 with the Secretary of State of Delaware, which was filed as Exhibit 1 to our Registration Statement on Form 8-A (File No. 000-27548) filed with the Securities and Exchange Commission on April 28, 1998, and is incorporated herein by reference thereto.
- [3.1.9](#) Certificate of Designation of Series F Preferred Stock of LightPath Technologies, Inc., filed November 2, 1999 with the Secretary of State of Delaware, which was filed as Exhibit 3.2 to our Registration Statement on Form S-3 (File No: 333-94303) filed with the Securities and Exchange Commission on January 10, 2000, and is incorporated herein by reference thereto.
- [3.1.10](#) Certificate of Amendment of Certificate of Incorporation of LightPath Technologies, Inc., filed February 28, 2003 with the Secretary of State of Delaware, which was filed as Appendix A to our Proxy Statement (File No. 000-27548) filed with the Securities and Exchange Commission on January 24, 2003, and is incorporated herein by reference thereto.
- [3.1.11](#) Certificate of Amendment of Certificate of Incorporation of LightPath Technologies, Inc., filed March 1, 2016 with the Secretary of State of Delaware, which was filed as Exhibit 3.1.11 to our Quarterly Report on Form 10-Q (File No: 000-27548) filed with the Securities and Exchange Commission on November 14, 2016, and is incorporated herein by reference thereto.
- [3.1.12](#) Certificate of Amendment of Certificate of Incorporation of LightPath Technologies, Inc., filed October 30, 2017 with the Secretary of State of Delaware, which was filed as Exhibit 3.1 to our Current Report on Form 8-K (File No: 000-27548) filed with the Securities and Exchange Commission on October 31, 2017, and is incorporated herein by reference thereto.
- [3.1.13](#) Certificate of Amendment of Certificate of Designations of Class A Common Stock and Class E-1 Common Stock, Class E-2 Common Stock, and Class E-3 Common Stock of LightPath Technologies, Inc., filed October 30, 2017 with the Secretary of State of Delaware, which was filed as Exhibit 3.2 to our Current Report on Form 8-K (File No: 000-27548) filed with the Securities and Exchange Commission on October 31, 2017, and is incorporated herein by reference thereto.
- [3.1.14](#) Certificate of Amendment of Certificate of Designation, Preferences and Rights of Series D Participating Preferred Stock of LightPath Technologies, Inc., filed January 30, 2018 with the Secretary of State of Delaware, which was filed as Exhibit 3.1 to our Current Report on Form 8-K (File No: 000-27548) filed with the Securities and Exchange Commission on February 1, 2018, and is incorporated herein by reference thereto.
- [3.2.1](#) Amended and Restated Bylaws of LightPath Technologies, Inc., which was filed as Exhibit 3.1 to our Current Report on Form 8-K (File No: 000-27548) filed with the Securities and Exchange Commission on February 3, 2015, and is incorporated herein by reference thereto.
- [3.2.2](#) First Amendment to Amended and Restated Bylaws of LightPath Technologies, Inc., which was filed as Exhibit 3.1 to our Current Report on Form 8-K (File No: 000-27548) filed with the Securities and Exchange Commission on September 21, 2017, and is incorporated herein by reference thereto.

- [4.1](#) Rights Agreement dated May 1, 1998, between LightPath Technologies, Inc. and Continental Stock Transfer & Trust Company, as Rights Agent, which was filed as Exhibit 1 to Registration Statement on Form 8-A filed with the Securities and Exchange Commission on April 28, 1998, and is incorporated herein by reference thereto.
- [4.2](#) First Amendment to Rights Agreement dated February 25, 2008 between LightPath Technologies, Inc. and Continental Stock Transfer & Trust Company, as Rights Agent, which was filed as Exhibit 2 to Amendment No. 1 to Form 8-A filed with the Securities and Exchange Commission on February 25, 2008, and is incorporated herein by reference thereto.
- [4.3](#) Second Amendment to Rights Agreement dated January 30, 2018 between LightPath Technologies, Inc. and Continental Stock Transfer & Trust Company, as Rights Agent, which was filed as Exhibit 4.1 to our Current Report on Form 8-K (File No: 000-27548) filed with the Securities and Exchange Commission on February 1, 2018, and is incorporated herein by reference thereto.
- [10.1](#) Amended and Restated Omnibus Incentive Plan dated October 15, 2002, as amended, which was filed as Exhibit 10.1 to our Current Report on Form 8-K (File No.: 000-27548) filed with the Securities and Exchange Commission on October 31, 2017, and is incorporated herein by reference thereto.
- [10.2](#) Employee Letter Agreement dated June 12, 2008, between LightPath Technologies, Inc., and J. James Gaynor, its Chief Executive Officer & President, which was filed as Exhibit 99.1 to our Current Report on Form 8-K (File No.: 000-27548) filed with the Securities and Exchange Commission on June 17, 2008, and is incorporated herein by reference thereto.
- [10.3](#) LightPath Technologies, Inc. Employee Stock Purchase Plan effective January 30, 2015, which was filed as Appendix A to our Definitive Proxy Statement on Schedule 14A (File No.: 000-27548) filed with the Securities and Exchange Commission on December 19, 2014, and is incorporated herein by reference thereto.
- [10.4](#) Second Amended and Restated Loan and Security Agreement dated December 21, 2016 by and between LightPath Technologies, Inc. and Avidbank Corporate Finance, a division of Avidbank, which was filed as Exhibit 10.2 to our Current Report on Form 8-K (File No.: 000-27548) filed with the Securities and Exchange Commission on December 27, 2016, and is incorporated herein by reference thereto.
- [10.5](#) Sixth Amendment to Lease dated as of July 2, 2014 between LightPath Technologies, Inc. and Challenger Discovery LLC, which was filed as Exhibit 10.1 to our Current Report on Form 8-K (File No.: 000-27548) filed with the Securities and Exchange Commission on July 8, 2014, and is incorporated herein by reference thereto.
- [10.6](#) Unsecured Promissory Note dated December 21, 2016 in favor of Joseph Menaker and Mark Lifshotz, which was filed as Exhibit 10.1 to our Current Report on Form 8-K (File No.: 000-27548) filed with the Securities and Exchange Commission on December 27, 2016, and is incorporated herein by reference thereto.
- [10.7](#) Joinder Agreement dated December 22, 2016 by and between ISP Optics Corporation and Avidbank Corporate Finance, a division of Avidbank, which was filed as Exhibit 10.4 to our Current Report on Form 8-K (File No.: 000-27548) filed with the Securities and Exchange Commission on December 27, 2016, and is incorporated herein by reference thereto.
- [10.8](#) First Amendment to Second Amended and Restated Loan and Security Agreement dated December 20, 2017 by and between LightPath Technologies, Inc. and Avidbank Corporate Finance a division of Avidbank, which was filed as Exhibit 10.1 to our Current Report on Form 8-K (File No.: 00027548) filed with the Securities and Exchange Commission on December 22, 2017, and is incorporated herein by reference thereto.
- [10.9](#) Note Satisfaction and Securities Purchase Agreement dated January 16, 2018, by and between LightPath Technologies, Inc., Joseph Menaker, and Mark Lifshotz, which was filed as Exhibit 10.1 to our Current Report on Form 8-K (File No.: 000-27548) filed with the Securities and Exchange Commission on January 17, 2018, and is incorporated herein by reference thereto.
- [10.10](#) Second Amendment to Second Amended and Restated Loan and Security Agreement dated December 20, 2017 by and between LightPath Technologies, Inc. and Avidbank Corporate Finance, a division of Avidbank, which was filed as Exhibit 10.3 to our Current Report on Form 8-K (File No.: 000-27548) filed with the Securities and Exchange Commission on January 17, 2018, and is incorporated herein by reference thereto.

- [10.11](#) Affirmation of Guarantee of GelTech, Inc., which was filed as Exhibit 10.4 to our Current Report on Form 8-K (File No.: 000-27548) filed with the Securities and Exchange Commission on January 17, 2018, and is incorporated herein by reference thereto.
- [10.12](#) Amendment No. 8 to the Amended and Restated LightPath Technologies, Inc. Omnibus Incentive Plan dated February 8, 2018, which was filed as Exhibit 10.7 to our Quarterly Report on Form 10-Q (File No.: 000-27548) filed with the Securities and Exchange Commission on February 13, 2018, and is incorporated herein by reference thereto.
- [10.13](#) Lease dated April 20, 2018, by and between LightPath Technologies, Inc. and CIO University Tech, LLC, which was filed as Exhibit 10.1 to our Current Report on Form 8-K (File No.: 000-27548) filed with the Securities and Exchange Commission on April 26, 2018, and is incorporated herein by reference thereto.
- [10.14](#) Third Amendment to Second Amended and Restated Loan and Security Agreement dated May 11, 2018, by and between LightPath Technologies, Inc. and Avidbank, which was filed as Exhibit 10.7 to our Quarterly Report on Form 10-Q (File No.: 000-27548) filed with the Securities and Exchange Commission on May 14, 2018, and is incorporated herein by reference thereto.
- [10.15](#) Affirmation of Guarantee of Geltech, Inc., which was filed as Exhibit 10.8 to our Quarterly Report on Form 10-Q (File No.: 000-27548) filed with the Securities and Exchange Commission on May 14, 2018, and is incorporated herein by reference thereto.
- [10.16](#) Offer Letter between LightPath Technologies, Inc. and Donald O. Retreage, Jr., dated May 31, 2018, which was filed as Exhibit 10.1 to our Current Report on Form 8-K (File No.: 000-27548) filed with the Securities and Exchange Commission on June 5, 2018, and is incorporated herein by reference thereto.
- [10.17](#) Fourth Amendment to the Second Amended and Restated Loan and Security Agreement dated September 7, 2018, by and between LightPath Technologies, Inc. and Avidbank, which was filed as Exhibit 10.21 to our Annual Report on Form 10-K (File No.: 000-27548) filed with the Securities and Exchange Commission on September 13, 2018, and is incorporated herein by reference thereto.
- [10.18](#) First Amendment to Lease, dated January 9, 2019, by and between LightPath Technologies, Inc. and CIO University Tech, LLC, which was filed as Exhibit 10.3 to our Quarterly Report on Form 10-Q (File No.: 000-27548) filed with the Securities and Exchange Commission on February 7, 2019, and is incorporated herein by reference thereto.
- [10.19](#) Loan Agreement dated February 26, 2019 by and between LightPath Technologies, Inc. and BankUnited, N.A., which was filed as Exhibit 10.1 to our Current Report on Form 8-K (File No.: 000-27548) filed with the Securities and Exchange Commission on March 1, 2019, and is incorporated herein by reference thereto.
- [10.20](#) Term Loan Note dated February 26, 2019 by LightPath Technologies, Inc. in favor of BankUnited, N.A., which was filed as Exhibit 10.2 to our Current Report on Form 8-K (File No.: 000-27548) filed with the Securities and Exchange Commission on March 1, 2019, and is incorporated herein by reference thereto.
- [10.21](#) Revolving Credit Note dated February 26, 2019 by LightPath Technologies, Inc. in favor of BankUnited, N.A., which was filed as Exhibit 10.3 to our Current Report on Form 8-K (File No.: 000-27548) filed with the Securities and Exchange Commission on March 1, 2019, and is incorporated herein by reference thereto.
- [10.22](#) Guidance Line Note dated February 26, 2019 by LightPath Technologies, Inc. in favor of BankUnited, N.A., which was filed as Exhibit 10.4 to our Current Report on Form 8-K (File No.: 000-27548) filed with the Securities and Exchange Commission on March 21, 2019, and is incorporated herein by reference thereto.
- [10.23](#) Security Agreement dated February 26, 2019 by LightPath Technologies, Inc. in favor of BankUnited, N.A., and joined by GelTech, Inc. and ISP Optics Corporation, which was filed as Exhibit 10.5 to our Current Report on Form 8-K (File No.: 000-27548) filed with the Securities and Exchange Commission on March 1, 2019, and is incorporated herein by reference thereto.
- [10.24](#) Guaranty Agreement (Term Loan) dated February 26, 2019 by GelTech Inc., ISP Optics Corporation, LightPath Optical Instrumentation (Shanghai) Co., Ltd., LightPath Optical Instrumentation (Zhenjiang) Co., Ltd., and ISP Optics Latvia, SIA in favor of BankUnited, N.A., which was filed as Exhibit 10.6 to our Current Report on Form 8-K (File No.: 000-27548) filed with the Securities and Exchange Commission on March 1, 2019, and is incorporated herein by reference thereto.
- [10.25](#) Guaranty Agreement (Revolving Credit) dated February 26, 2019 by GelTech Inc., ISP Optics Corporation, LightPath Optical Instrumentation (Shanghai) Co., Ltd., LightPath Optical Instrumentation (Zhenjiang) Co., Ltd., and ISP Optics Latvia, SIA in favor of BankUnited, N.A., which was filed as Exhibit 10.7 to our Current Report on Form 8-K (File No.: 000-27548) filed with the Securities and Exchange Commission on March 1, 2019, and is incorporated herein by reference thereto.

<a href="#">10.26</a>	Guaranty Agreement (Guidance Line) dated February 26, 2019 by GelTech Inc., ISP Optics Corporation, LightPath Optical Instrumentation (Shanghai) Co., Ltd., LightPath Optical Instrumentation (Zhenjiang) Co., Ltd., and ISP Optics Latvia, SIA in favor of BankUnited, N.A., which was filed as Exhibit 10.8 to our Current Report on Form 8-K (File No.: 000-27548) filed with the Securities and Exchange Commission on March 1, 2019, and is incorporated herein by reference thereto.
<a href="#">10.27</a>	First Amendment to Loan Agreement dated May 6, 2019, and effective February 26, 2019, by and between LightPath Technologies, Inc. and BankUnited, N.A., which was filed as Exhibit 10.10 to our Quarterly Report on Form 10-Q (File No.: 000-27548) filed with the Securities and Exchange Commission on May 9, 2019, and is incorporated herein by reference thereto.
<a href="#">10.28</a>	Fifth Amendment to Second Amended and Restated Loan and Security Agreement dated October 30, 2018, which was filed as Exhibit 10.1 to our Current Report on Form 8-K (File No.: 000-27548) filed with the Securities and Exchange Commission on November 2, 2018, and is incorporated herein by reference thereto.
<a href="#">10.29</a>	Affirmation of Guarantee of Geltech, Inc., which was filed as Exhibit 10.2 to our Quarterly Report on Form 10-Q (File No.: 000-27548) filed with the Securities and Exchange Commission on November 1, 2018, and is incorporated herein by reference thereto.
<a href="#">10.30</a>	LightPath Technologies, Inc. 2018 Stock and Incentive Compensation Plan, which was filed as Exhibit 10.1 to our Current Report on Form 8-K (File No.: 000-27548) filed with the Securities and Exchange Commission on November 8, 2018, and is incorporated herein by reference thereto.
<a href="#">10.31</a>	Separation Agreement between the Company and Dorothy M. Cipolla, effective as of July 27, 2019, which was filed as Exhibit 10.1 to Amendment No. 1 to our Current Report on Form 8-K (File No.: 000-27548) filed with the Securities and Exchange Commission on August 26, 2019, and is incorporated herein by reference thereto.
<a href="#">14.1</a>	Code of Business Conduct and Ethics, which was filed as Exhibit 14.1 to our Current Report on Form 8-K (File No.: 000-27548) filed with the Securities and Exchange Commission on May 3, 2016, and is incorporated herein by reference thereto.
<a href="#">14.2</a>	Code of Business Conduct and Ethics for Senior Financial Officers, which was filed as Exhibit 14.2 to our Current Report on Form 8-K (File No.: 000-27548) filed with the Securities and Exchange Commission on May 3, 2016, and is incorporated herein by reference thereto.
<a href="#">21.1</a>	Subsidiaries of the Registrant*
<a href="#">23.1</a>	Consent of Moore Stephens Lovelace, P.A.*
<a href="#">24</a>	Power of Attorney*
<a href="#">31.1</a>	Certification of Chief Executive Officer pursuant to Rule 13a-14(a) of the Securities Exchange Act of 1934*
<a href="#">31.2</a>	Certification of Chief Financial Officer pursuant to Rule 13a-14(a) of the Securities Exchange Act of 1934*
<a href="#">32.1</a>	Certification of Chief Executive Officer pursuant to 18 U.S.C. Section 1350 of Chapter 63 of Title 18 of the United States Code*
<a href="#">32.2</a>	Certification of Chief Financial Officer pursuant to 18 U.S.C. Section 1350 of Chapter 63 of Title 18 of the United States Code*
101.INS	XBRL Instance Document*
101.SCH	XBRL Taxonomy Extension Schema Document*
101.CAL	XBRL Taxonomy Extension Calculation Linkbase Document*
101.DEF	XBRL Taxonomy Extension Definition Linkbase Document*
101.LAB	XBRL Taxonomy Extension Label Linkbase Document*
101.PRE	XBRL Taxonomy Presentation Linkbase Document*

\*filed herewith

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

None.



**LightPath Technologies, Inc.**

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## Report of Independent Registered Public Accounting Firm

Board of Directors and Stockholders  
LightPath Technologies, Inc.

### Opinion on the Consolidated Financial Statements

We have audited the accompanying consolidated balance sheets of LightPath Technologies, Inc. (the "Company") as of June 30, 2019 and 2018, and the related consolidated statements of comprehensive income (loss), changes in stockholders' equity, and cash flows for each of the years ended June 30, 2019 and 2018, and the related notes (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 as of June 30, 2019 and 2018, and the results of its operations and its cash flows for each of the years ended June 30, 2019 and 2018, in conformity with accounting principles generally accepted in the United States of America.

### 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 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 a 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.

/s/ MOORE STEPHENS LOVELACE, P.A.

We have served as the Company's auditor since 2017.

Orlando, Florida  
September 12, 2019

**LIGHTPATH TECHNOLOGIES, INC.**  
**Consolidated Balance Sheets**

<b>Assets</b>	<u>June 30, 2019</u>	<u>June 30, 2018</u>
<b>Current assets:</b>		
Cash and cash equivalents	\$ 4,604,701	\$ 5,508,620
Restricted cash	-	1,000,000
Trade accounts receivable, net of allowance of \$29,406 and \$13,364	6,210,831	5,370,508
Inventories, net	7,684,527	6,404,741
Other receivables	353,695	46,574
Prepaid expenses and other assets	754,640	1,058,610
Total current assets	<u>19,608,394</u>	<u>19,389,053</u>
Property and equipment, net	11,731,084	11,809,241
Intangible assets, net	7,837,306	9,057,970
Goodwill	5,854,905	5,854,905
Deferred tax assets, net	652,000	624,000
Other assets	289,491	381,945
Total assets	<u>\$ 45,973,180</u>	<u>\$ 47,117,114</u>
<b>Liabilities and Stockholders' Equity</b>		
<b>Current liabilities:</b>		
Accounts payable	\$ 2,227,768	\$ 2,032,834
Accrued liabilities	871,912	685,430
Accrued payroll and benefits	1,730,658	1,228,120
Deferred rent, current portion	539,151	86,560
Loans payable, current portion	581,350	1,458,800
Capital lease obligation, current portion	404,424	307,199
Total current liabilities	<u>6,355,263</u>	<u>5,798,943</u>
Capital lease obligation, less current portion	640,284	550,127
Deferred rent, less current portion	518,364	290,804
Loans payable, less current portion	5,000,143	5,119,796
Total liabilities	<u>12,514,054</u>	<u>11,759,670</u>
<b>Commitments and Contingencies</b>		
<b>Stockholders' equity:</b>		
Preferred stock: Series D, \$.01 par value, voting; 500,000 shares authorized; none issued and outstanding	—	—
Common stock: Class A, \$.01 par value, voting; 44,500,000 shares authorized; 25,813,895 and 25,764,544 shares issued and outstanding	258,139	257,645
Additional paid-in capital	230,321,324	229,874,823
Accumulated other comprehensive income	808,518	473,508
Accumulated deficit	(197,928,855)	(195,248,532)
Total stockholders' equity	<u>33,459,126</u>	<u>35,357,444</u>
Total liabilities and stockholders' equity	<u>\$ 45,973,180</u>	<u>\$ 47,117,114</u>

The accompanying notes are an integral part of these consolidated financial statements.

**LIGHTPATH TECHNOLOGIES, INC.**  
**Consolidated Statements of Comprehensive Income (Loss)**

	Years Ended June 30,	
	2019	2018
Revenue, net	\$ 33,749,088	\$ 32,525,471
Cost of sales	21,230,168	19,997,740
Gross margin	12,518,920	12,527,731
Operating expenses:		
Selling, general and administrative	10,498,651	9,218,346
New product development	2,016,615	1,618,994
Amortization of intangibles	1,220,664	1,317,082
Gain on disposal of property and equipment	(77,047)	(258)
Total operating costs and expenses	13,658,883	12,154,164
Operating income (loss)	(1,139,963)	373,567
Other income (expense):		
Interest expense, net	(697,113)	(186,948)
Change in fair value of warrant liability	—	(194,632)
Other income (expense), net	(388,041)	241,040
Total other income (expense), net	(1,085,154)	(140,540)
Income (loss) before income taxes	(2,225,117)	233,027
Income tax provision (benefit)	455,206	(827,077)
Net income (loss)	\$ (2,680,323)	\$ 1,060,104
Foreign currency translation adjustment	335,010	178,112
Comprehensive income (loss)	\$ (2,345,313)	\$ 1,238,216
Earnings (loss) per common share (basic)	\$ (0.10)	\$ 0.04
Number of shares used in per share calculation (basic)	25,794,669	25,006,467
Earnings (loss) per common share (diluted)	\$ (0.10)	\$ 0.04
Number of shares used in per share calculation (diluted)	25,794,669	26,811,468

The accompanying notes are an integral part of these consolidated financial statements.

**LIGHTPATH TECHNOLOGIES, INC.**  
**Consolidated Statements of Changes in Stockholders' Equity**

	Class A Common Stock	Amount	Additional	Accumulated Other	Accumulated Deficit	Total Stockholders' Equity
	Shares		Paid-in Capital	Comprehensive Income		
<b>Balances at June 30, 2017</b>	<b>24,215,733</b>	<b>\$ 242,157</b>	<b>\$25,492,252</b>	<b>\$ 295,396</b>	<b><del>\$(196,308,636)</del></b>	<b>\$29,721,169</b>
Issuance of common stock for:						
Exercise of warrants	433,810	4,338	529,980	—	—	534,318
Employee Stock Purchase Plan	19,980	200	48,391	—	—	48,591
Exercise of stock options, net	127,813	1,278	224,723	—	—	226,001
Settlement of Sellers Note	967,208	9,672	2,237,392	—	—	2,247,064
Reclassification of warrant liability upon exercise	—	—	685,132	—	—	685,132
Stock-based compensation on stock options & RSUs	—	—	656,953	—	—	656,953
Foreign currency translation adjustment	—	—	—	178,112	—	178,112
Net income	—	—	—	—	1,060,104	1,060,104
<b>Balances at June 30, 2018</b>	<b>25,764,544</b>	<b>257,645</b>	<b>229,874,823</b>	<b>473,508</b>	<b>(195,248,532)</b>	<b>35,357,444</b>
Issuance of common stock for:						
Employee Stock Purchase Plan	20,871	209	38,229	—	—	38,438
Exercise of stock options, net	28,480	285	13,482	—	—	13,767
Stock-based compensation on stock options & RSUs	—	—	394,790	—	—	394,790
Foreign currency translation adjustment	—	—	—	335,010	—	335,010
Net loss	—	—	—	—	(2,680,323)	(2,680,323)
<b>Balances at June 30, 2019</b>	<b>25,813,895</b>	<b>\$ 258,139</b>	<b>\$230,321,324</b>	<b>\$ 808,518</b>	<b><del>\$(197,928,855)</del></b>	<b>\$33,459,126</b>

The accompanying notes are an integral part of these consolidated financial statements.

**LIGHTPATH TECHNOLOGIES, INC.**  
**Consolidated Statements of Cash Flows**

	Years Ended June 30,	
	2019	2018
Cash flows from operating activities:		
Net (loss) income	\$ (2,680,323)	\$ 1,060,104
Adjustments to reconcile net (loss) income to net cash provided by operating activities:		
Depreciation and amortization	3,464,156	3,403,581
Interest from amortization of debt costs	117,261	19,685
Gain on disposal of property and equipment	(77,047)	(258)
Stock-based compensation on stock options & RSUs, net	394,790	373,554
Provision for doubtful accounts receivable	(6,658)	(16,417)
Change in fair value of warrant liability	—	194,632
Change in fair value of Sellers Note	—	(396,163)
Deferred rent amortization	370,701	(81,475)
Inventory write-offs to reserve	125,234	187,547
Deferred tax benefit	(28,000)	(533,806)
Changes in operating assets and liabilities:		
Trade accounts receivable	(833,665)	618,393
Other receivables	(306,348)	(15,997)
Inventories	(1,405,020)	(1,330,994)
Prepaid expenses and other assets	392,925	(685,260)
Accounts payable and accrued liabilities	883,179	(178,138)
Net cash provided by operating activities	<u>411,185</u>	<u>2,618,988</u>
Cash flows from investing activities:		
Purchase of property and equipment	(1,931,835)	(2,517,685)
Proceeds from sale of equipment	683,250	—
Net cash used in investing activities	<u>(1,248,585)</u>	<u>(2,517,685)</u>
Cash flows from financing activities:		
Proceeds from exercise of stock options	13,767	226,001
Proceeds from sale of common stock from Employee Stock Purchase Plan	38,438	48,591
Loan costs	(92,860)	(61,253)
Borrowings on loan payable	5,813,500	2,942,583
Proceeds from exercise of warrants, net of costs	—	534,318
Payments on loan payable	(6,831,503)	(4,716,536)
Payments on capital lease obligations	(342,871)	(287,354)
Net cash used in financing activities	<u>(1,401,529)</u>	<u>(1,313,650)</u>
Effect of exchange rate on cash and cash equivalents	335,010	(364,048)
Change in cash and cash equivalents and restricted cash	(1,903,919)	(1,576,395)
Cash and cash equivalents and restricted cash, beginning of period	6,508,620	8,085,015
Cash and cash equivalents, end of period	<u>\$ 4,604,701</u>	<u>\$ 6,508,620</u>
Supplemental disclosure of cash flow information:		
Interest paid in cash	\$ 500,985	\$ 546,306
Income taxes paid	\$ 406,526	\$ 386,471
Supplemental disclosure of non-cash investing & financing activities:		
Purchase of equipment through capital lease arrangements	\$ 530,253	\$ 763,247
Landlord credits for leasehold improvements	\$ 309,450	—
Reclassification of warrant liability upon exercise	—	\$ 685,132
Derecognition of liability associated with stock option grants	—	\$ 283,399
Conversion of Sellers Note to Common Stock	—	\$ 2,247,064

The accompanying notes are an integral part of these consolidated financial statements.

## **1. Organization and History**

LightPath Technologies, Inc. ("LightPath", the "Company", "we", "us" or "our") was incorporated in Delaware in 1992. It was the successor to LightPath Technologies Limited Partnership formed in 1989, and its predecessor, Integrated Solar Technologies Corporation formed in 1985. On April 14, 2000, the Company acquired Horizon Photonics, Inc. ("Horizon"). On September 20, 2000, the Company acquired Geltech, Inc. ("Geltech"). The Company completed its initial public offering during fiscal 1996. In November 2005, we formed LightPath Optical Instrumentation (Shanghai) Co., Ltd ("LPOI"), a wholly-owned subsidiary located in Jiading, People's Republic of China. In December 2013, we formed LightPath Optical Instrumentation (Zhenjiang) Co., Ltd ("LPOIZ"), a wholly-owned subsidiary located in Zhenjiang, Jiangsu Province, People's Republic of China. In December 2016, we acquired ISP Optics Corporation, a New York corporation ("ISP"), and its wholly-owned subsidiary, ISP Optics Latvia, SIA, a limited liability company founded in 1998 under the Laws of the Republic of Latvia ("ISP Latvia").

LightPath is a manufacturer of optical components and higher-level assemblies, including precision molded glass aspheric optics, molded and diamond-turned infrared aspheric lenses, and other optical components used to produce products that manipulate light. LightPath designs, develops, manufactures, and distributes optical components and assemblies utilizing advanced optical manufacturing processes. LightPath products are incorporated into a variety of applications by customers in many industries, including defense products, medical devices, laser aided industrial tools, automotive safety applications, barcode scanners, optical data storage, hybrid fiber coax datacom, telecommunications, machine vision and sensors, among others.

As used herein, the terms "LightPath," the "Company," "we," "us" or "our," refer to LightPath individually or, as the context requires, collectively with its subsidiaries on a consolidated basis.

## **2. Summary of Significant Accounting Policies**

**Consolidated Financial Statements** include the accounts of the Company and its wholly-owned subsidiaries. All significant intercompany balances and transactions have been eliminated in consolidation.

**Reclassifications.** The classification of certain prior-year amounts have been adjusted in our Consolidated Financial Statements to conform to current-year classifications. Reclassifications include the addition of the line item "Deferred rent, current portion" to the Consolidated Balance Sheet, to classify as current the amount of the liability expected to be relieved within a one-year period.

**Management estimates.** Management makes estimates and assumptions during the preparation of the Company's Consolidated Financial Statements that affect amounts reported in the Consolidated Financial Statements and accompanying notes. Such estimates and assumptions could change in the future as more information becomes available, which, in turn, could impact the amounts reported and disclosed herein.

**Cash and cash equivalents** consist of cash in the bank and cash equivalents with maturities of 90 days or less when purchased. The Company maintains its cash accounts in various institutions with high credit ratings. The Company's domestic cash accounts are maintained in one financial institution, and balances may exceed federal insured limits at times. The Company's foreign cash accounts are not insured.

**Restricted cash** consists of amounts held in restricted accounts as collateral associated with our debt covenants. See Note 18, Loans Payable, to these Consolidated Financial Statements for additional information. Our restricted cash was invested in a money market account. During fiscal year 2018, the Company adopted ASU 2016-18, "Statement of Cash Flows (Topic 320): Restricted Cash" ("ASU 2016-18"), which provides guidance on the presentation of restricted cash and restricted cash equivalents in the statement of cash flows. Cash and cash equivalents and restricted cash presented in the Consolidated Balance Sheet as of June 30, 2018 are combined in the Consolidated Statements of Cash Flows for the years ended June 30, 2019 and 2018.

**Allowance for accounts receivable** is calculated by taking 100% of the total of invoices that are over 90 days past due from the due date and 10% of the total of invoices that are over 60 days past due from the due date for U.S.- and Latvia-based accounts and 100% of invoices that are over 120 days past due for Chinese-based accounts. Accounts receivable are customer obligations due under normal trade terms. The Company performs continuing credit evaluations of its customers' financial condition. If the Company's actual collection experience changes, revisions to its allowance may be required. After all attempts to collect a receivable have failed, the receivable is written off against the allowance.

**Inventories**, which consist principally of raw materials, tooling, work-in-process and finished lenses, collimators and assemblies are stated at the lower of cost or net realizable value, on a first-in, first-out basis. Inventory costs include materials, labor and manufacturing overhead. Acquisition of goods from our vendors has a purchase burden added to cover customs, shipping and handling costs. Fixed costs related to excess manufacturing capacity are expensed when incurred. The Company looks at the following criteria for parts to consider for the inventory allowance: (i) items that have not been sold in two years, (ii) items that have not been purchased in two years, or (iii) items of which we have more than a two-year supply. These items, as identified, are allowed for at 100%, as well as allowing 50% for other items deemed to be slow moving within the last twelve months and allowing 25% for items deemed to have low material usage within the last six months. The parts identified are adjusted for recent order and quote activity to determine the final inventory allowance.

**Property and equipment** are stated at cost and depreciated using the straight-line method over the estimated useful lives of the related assets ranging from one to ten years. Leasehold improvements are amortized over the shorter of the lease term or the estimated useful lives of the related assets using the straight-line method. Construction in process represents the accumulated costs of assets not yet placed in service and primarily relates to manufacturing equipment.

**Long-lived assets**, such as property, plant, and equipment and purchased intangibles subject to amortization, are reviewed for impairment whenever events or changes in circumstances indicate that the carrying amount of an asset may not be recoverable. Recoverability of assets to be held and used is measured by a comparison of the carrying amount of an asset to its estimated undiscounted future cash flows expected to be generated by the asset. If the carrying amount of an asset exceeds its estimated future cash flows, an impairment charge is recognized in the amount by which the carrying amount of the asset exceeds the fair value of the asset. Assets to be disposed of would be separately presented in the Consolidated Balance Sheet and reported at the lower of the carrying amount or fair value less costs to sell, and would no longer be depreciated. The assets and liabilities of a disposed group classified as held for sale would be presented separately in the appropriate asset and liability sections of the Consolidated Balance Sheet.

**Goodwill and Intangible Assets** acquired in a business combination are recognized at fair value using generally accepted valuation methods appropriate for the type of intangible asset and reported separately from goodwill. Purchased intangible assets other than goodwill are amortized over their useful lives unless these lives are determined to be indefinite. Purchased intangible assets are carried at cost, less accumulated amortization. Amortization is computed over the estimated useful lives of the respective assets, generally two to fifteen years. The Company periodically reassesses the useful lives of its intangible assets when events or circumstances indicate that useful lives have significantly changed from the previous estimate. Definite-lived intangible assets consist primarily of customer relationships, know-how/trade secrets and trademarks. They are generally valued as the present value of estimated cash flows expected to be generated from the asset using a risk-adjusted discount rate. When determining the fair value of our intangible assets, estimates and assumptions about future expected revenue and remaining useful lives are used. Goodwill and intangible assets are tested for impairment on an annual basis and during the period between annual tests if events or changes in circumstances indicate that the carrying value of goodwill may not be recoverable.

The Company will assess the qualitative factors to determine whether it is more likely than not that the fair value of its reporting unit is less than its carrying amount as a basis for determining whether it is necessary to perform the goodwill impairment analysis. If the Company determines that it is more likely than not that its fair value is less than its carrying amount, then the goodwill impairment test is performed. The first step, identifying a potential impairment, compares the fair value of the reporting unit with its carrying amount. If the carrying amount exceeds its fair value, the second step would need to be performed; otherwise, no further steps are required. The second step, measuring the impairment loss, compares the implied fair value of the goodwill with the carrying amount of the goodwill. Any excess of the goodwill carrying amount over the implied fair value is recognized as an impairment loss, and the carrying value of goodwill is written down to fair value. During fiscal year 2018, the Company adopted ASU 2017-4, "Intangibles – Goodwill and Other (Topic 350): Simplifying the Test for Goodwill Impairment" ("ASU 2017-4"), which amends the goodwill impairment test to compare the fair value of a reporting unit with its carrying amount and recognize an impairment charge for the amount by which the carrying amount exceeds the reporting unit's fair value, up to the total amount of goodwill allocated to that reporting unit. The Company did not record any goodwill impairment during the fiscal years ended June 30, 2019 or 2018.

**Deferred rent** relates to certain of the Company's operating leases containing predetermined fixed increases of the base rental rate during the lease term being recognized as rental expense on a straight-line basis over the lease term, as well as applicable leasehold improvement incentives provided by the landlord. The Company has recorded the difference between the amounts charged to operations and amounts payable under the leases as deferred rent in the accompanying Consolidated Balance Sheets.

**Income taxes** are accounted for under the asset and liability method. Deferred income tax assets and liabilities are computed on the basis of differences between the financial statement and tax basis of assets and liabilities that will result in taxable or deductible amounts in the future based upon enacted tax laws and rates applicable to the periods in which the differences are expected to affect taxable income. Valuation allowances have been established to reduce deferred tax assets to the amount expected to be realized.



The Company has not recognized a liability for uncertain tax positions. A reconciliation of the beginning and ending amount of unrecognized tax benefits or penalties has not been provided since there has been no unrecognized benefit or penalty. If there were an unrecognized tax benefit or penalty, the Company would recognize interest accrued related to unrecognized tax benefits in interest expense and penalties in operating expenses.

The Company files United States ("U.S.") Federal income tax returns, as well as tax returns in various states and foreign jurisdictions. Open tax years subject to examination by the Internal Revenue Service generally remain open for three years from the filing date. Tax years subject to examination by the state jurisdictions generally remain open for up to four years from the filing date. In Latvia, tax years subject to examination remain open for up to five years from the filing date and, in China, tax years subject to examination remain open for up to ten years from the filing date.

Our cash, cash equivalents totaled \$4.6 million at June 30, 2019. Of this amount, approximately 71% was held by our foreign subsidiaries in China and Latvia. These foreign funds were generated in China and Latvia as a result of foreign earnings. With respect to the funds generated by our foreign subsidiaries in China, the retained earnings in China must equal at least 150% of the registered capital before any funds can be repatriated. As of June 30, 2019, we have retained earnings in China of approximately \$3.3 million and we need to have \$11.3 million before repatriation will be allowed.

Accumulated earnings from the Company's non-U.S. subsidiaries were subject to inclusion in the Company's current period U.S. and state income tax returns as a result of the impact of the U.S. tax law changes. However, no income tax was due on the inclusion of these earnings due to utilization of net operating losses. See Note 9, Income Taxes, to these Consolidated Financial Statements for additional information.

The Company currently intends to permanently invest earnings generated from its foreign Chinese operations and, therefore, has not previously provided for future Chinese withholding taxes on such related earnings. However, if in the future the Company changes such intention, the Company would provide for and pay additional foreign taxes, if any, at that time.

**Revenue recognition** – See Note 3, Revenue, to these Consolidated Financial Statements for additional information.

**VAT** is computed on the gross sales price on all sales of the Company's products sold in the People's Republic of China and Latvia. The VAT rates range up to 21%, depending on the type of products sold. The VAT may be offset by VAT paid by the Company on raw materials and other materials included in the cost of producing or acquiring its finished products. The Company recorded a VAT receivable, net of payables, in the accompanying Consolidated Financial Statements.

**New product development** costs are expensed as incurred.

**Stock-based compensation** is measured at grant date, based on the fair value of the award, and is recognized as an expense over the employee's requisite service period. We estimate the fair value of each restricted stock unit or stock option as of the date of grant using the Black-Scholes-Merton pricing model. Our directors, officers, and key employees were granted stock-based compensation through our Amended and Restated Omnibus Incentive Plan, as amended (the "Omnibus Plan"), through October 2018 and after that date, the 2018 Stock and Incentive Compensation Plan (the "SICP"). Most options granted under the Omnibus Plan and the SICP vest ratably over two to four years and generally have four to ten-year contract lives. The volatility rate is based on historical trends in common stock closing prices and the expected term was determined based primarily on historical experience of previously outstanding awards. The interest rate used is the U.S. Treasury interest rate for constant maturities. The likelihood of meeting targets for option grants that are performance based are evaluated each quarter. If it is determined that meeting the targets is probable, then the compensation expense will be amortized over the remaining vesting period.

**Fair value of financial instruments.** The Company accounts for financial instruments in accordance with the Financial Accounting Standards Board's Accounting Standards Codification Topic 820, "Fair Value Measurements and Disclosures" ("ASC 820"), which provides a framework for measuring fair value and expands required disclosure about fair value measurements of assets and liabilities. ASC 820 defines fair value as the exchange price that would be received for an asset or paid to transfer a liability (an exit price) in the principal or most advantageous market for the asset or liability in an orderly transaction between market participants on the measurement date. ASC 820 also establishes a fair value hierarchy which requires an entity to maximize the use of observable inputs and minimize the use of unobservable inputs when measuring fair value. The standard describes three levels of inputs that may be used to measure fair value:

Level 1 - Quoted prices in active markets for identical assets or liabilities.

Level 2 - Inputs other than quoted prices included within Level 1 that are either directly or indirectly observable.

Level 3 - Unobservable inputs that are supported by little or no market activity, therefore requiring an entity to develop its own assumptions about the assumptions that market participants would use in pricing.

Fair value estimates discussed herein are based upon certain market assumptions and pertinent information available to management.

The respective carrying value of certain on-balance-sheet financial instruments approximated their fair values. These financial instruments include receivables, accounts payable and accrued liabilities. Fair values were assumed to approximate carrying values for these financial instruments since they are short term in nature and their carrying amounts approximate fair values or they are receivable or payable on demand. The fair value of the Company's capital lease obligations and loans payable approximate their carrying values, based upon current rates available to us. On January 16, 2018, the Company satisfied in full a note payable to the sellers of ISP, in the aggregate original principal amount of \$6 million (the "Sellers Note"). Therefore, the Sellers Note was not included in loans payable as of June 30, 2018. The carrying value of the Sellers Note included a fair value premium based on a risk-adjusted discount rate, a Level 2 fair value measurement. Upon satisfaction of the Sellers Note, the fair value adjustment liability was reversed and is included in interest expense, net, in the Consolidated Statement of Operations for the year ended June 30, 2018. See Note 18, Loans Payable, to these Consolidated Financial Statements for additional information.

The Company valued its warrant liabilities based on open-form option pricing models which, based on the relevant inputs, render the fair value measurement at Level 3. The Company based its estimates of fair value for warrant liabilities on the amount it would pay a third-party market participant to transfer the liability and incorporated inputs, such as equity prices, historical and implied volatilities, dividend rates and prices of convertible securities issued by comparable companies, maximizing the use of observable inputs when available. See Note 17, Derivative Financial Instruments (Warrant Liability), to these Consolidated Financial Statements for additional information.

The Company does not have any other financial or non-financial assets or liabilities that would be characterized as Level 1, Level 2 or Level 3 instruments.

**Debt issuance costs** are recorded as a reduction to the carrying value of the related notes payable, by the same amount, and are amortized ratably over the term of the related note.

**Derivative financial instruments.** The Company accounts for derivative instruments in accordance with Financial Accounting Standards Board's Accounting Standards Codification Topic 815, "Derivatives and Hedging" ("ASC 815"), which requires additional disclosures about the Company's objectives and strategies for using derivative instruments, how the derivative instruments and related hedged items are accounted for, and how the derivative instruments and related hedging items affect the financial statements.

The Company does not use derivative instruments to hedge exposures to cash flow, market or foreign currency risk. Terms of convertible debt instruments are reviewed to determine whether or not they contain embedded derivative instruments that are required under ASC 815 to be accounted for separately from the host contract, and recorded on the balance sheet at fair value. The fair value of derivative liabilities, if any, is required to be revalued at each reporting date, with corresponding changes in fair value recorded in current period operating results. The Company issued warrants in connection with our June 2012 private placement (the "June 2012 Warrants"). The fair value of the June 2012 Warrants was estimated using the Lattice option-pricing model. See Note 17, Derivative Financial Instruments (Warrant Liability), to these Consolidated Financial Statements for additional information.

Freestanding warrants issued by the Company in connection with the issuance or sale of debt and equity instruments are considered to be derivative instruments. Pursuant to ASC 815, an evaluation of specifically identified conditions is made to determine whether the fair value of warrants issued is required to be classified as equity or as a derivative liability.

**Comprehensive income** is defined as the change in equity (net assets) of a business enterprise during a period from transactions and other events and circumstances from non-owner sources. It includes all changes in equity during a period, except those resulting from investments by owners and distributions to owners. Comprehensive income has two components, net income, and other comprehensive income, and is included on the Consolidated Statements of Comprehensive Income. Our other comprehensive income consists of foreign currency translation adjustments made for financial reporting purposes.

**Business segments.** As the Company only operates in principally one business segment, no additional reporting is required.

**Recent accounting pronouncements.** There are new accounting pronouncements issued by the Financial Accounting Standards Board ("FASB") that are not yet effective for the Company for the year ended June 30, 2019.

**Leases** – In February 2016, the FASB issued a new lease standard that supersedes existing lease guidance under GAAP. This standard requires, among other things, the recognition of right-of-use assets and liabilities on the balance sheet for most lease arrangements and disclosure of certain information about leasing arrangements. The new standard currently allows two transition methods with certain practical expedients available. Companies may elect to use the modified retrospective approach for leases that exist or are entered into after the beginning of the earliest comparative period in the financial statements or to initially apply this standard at the adoption date and recognize a cumulative-effect adjustment to the opening balance of retained earnings in the period of adoption. This standard is effective for fiscal years, and interim reporting periods within those years, beginning after December 15, 2018, which for the Company is its fiscal 2020.

The Company expects to adopt the new lease standard on July 1, 2019 by applying the standard at the adoption date and recognizing a cumulative-effect adjustment, if any, to the opening balance of retained earnings. The Company also intends to elect the package of practical expedients permitted by the standard, which, among other things, allows it to carry forward the historical lease classification. The Company's current real estate lease arrangements are classified as operating leases under existing GAAP lease guidance, and the Company expects they will continue to be classified as operating leases under the new standard. The Company's current capital lease arrangements are expected to be classified as finance leases under the new standard. The Company has made progress in executing its implementation plan, and it is in the process of measuring the right-of-use assets and liabilities for leases in effect at the adoption date. The adoption of this guidance is expected to have a material impact on the Company's consolidated balance sheets and disclosures in consolidated financial statements. The Company does not expect that the adoption of this standard will have a material impact on its results of operations, cash flows, or debt covenant compliance.

No other new accounting pronouncement recently issued or newly effective had or is expected to have a material impact on the Consolidated Financial Statements.

### 3. Revenue

On July 1, 2018, the Company adopted ASU 2014-9 using the modified retrospective method, which required a cumulative effect adjustment, if any, to be recorded at the date of adoption. The adoption did not have a material impact on the Company's Consolidated Financial Statements and, as a result, no changes were made to prior reporting periods presented.

#### *Product Revenue*

The Company manufactures optical components and higher-level assemblies, including precision molded glass aspheric optics, molded and diamond-turned infrared aspheric lenses, and other optical components used to produce products that manipulate light. The Company designs, develops, manufactures, and distributes optical components and assemblies utilizing advanced optical manufacturing processes. The Company also performs research and development for optical solutions for a wide range of optics markets. Revenue is derived primarily from the sale of optical components and assemblies.

#### *Revenue Recognition*

Revenue is generally recognized upon transfer of control, including the risks and rewards of ownership, of products or services to customers in an amount that reflects the consideration the Company expects to receive in exchange for those products or services. The Company generally bears all costs, risk of loss, or damage and retains title to the goods up to the point of transfer of control of products to customers. Shipping and handling costs are included in the cost of goods sold. Revenue is presented net of sales taxes and any similar assessments.

Customary payment terms are granted to customers, based on credit evaluations. The Company does not have any contracts where revenue is recognized, but the customer payment is contingent on a future event. Deferred revenue is recorded when cash payments are received or due in advance of the Company's performance. Deferred revenue was immaterial as of June 30, 2019 and 2018.

#### *Nature of Products*

Revenue from the sale of optical components and assemblies is recognized upon transfer of control, including the risks and rewards of ownership, to the customer. The performance obligations for the sale of optical components and assemblies are satisfied at a point in time. Product development agreements are generally short term in nature, with revenue recognized upon satisfaction of the performance obligation, and transfer of control of the agreed-upon deliverable. The Company has organized its products in three groups: precision molded optics ("PMO"), infrared, and specialty products. Revenues from product development agreements are included in specialty products. The Company's revenue by product group for the years ended June 30, 2019 and 2018 was as follows:

	Years Ended June 30,	
	2019	2018
PMO	\$ 14,098,157	\$ 13,522,458
Infrared Products	17,271,590	15,979,888
Specialty Products	2,379,341	3,023,125
Total revenue	<u>\$ 33,749,088</u>	<u>\$ 32,525,471</u>

#### 4. Inventories, net

The components of inventories include the following:

	<u>June 30, 2019</u>	<u>June 30, 2018</u>
Raw materials	\$ 3,467,105	\$ 2,309,454
Work in process	2,288,226	2,506,891
Finished goods	2,704,471	2,263,121
Allowance for obsolescence	(775,275)	(674,725)
	<u>\$ 7,684,527</u>	<u>\$ 6,404,741</u>

During fiscal 2019 and 2018, the Company evaluated all allowed items and disposed of approximately \$125,000 and \$188,000, respectively, of inventory parts and wrote them off against the allowance for obsolescence.

The value of tooling in raw materials was approximately \$2.2 million and \$1.6 million at June 30, 2019 and 2018, respectively.

#### 5. Property and Equipment, net

Property and equipment consist of the following:

	<u>Estimated Lives (Years)</u>	<u>June 30, 2019</u>	<u>June 30, 2018</u>
Manufacturing equipment	5 - 10	\$ 17,412,136	\$ 16,534,124
Computer equipment and software	3 - 5	706,840	513,681
Furniture and fixtures	5	293,582	199,872
Leasehold improvements	5 - 7	2,074,069	1,350,482
Construction in progress		697,126	954,317
Total property and equipment		<u>21,183,753</u>	<u>19,552,476</u>
Less accumulated depreciation and amortization		(9,452,669)	(7,743,235)
Total property and equipment, net		<u>\$ 11,731,084</u>	<u>\$ 11,809,241</u>

During fiscal 2015, the Company extended the term of its Orlando lease and received a tenant improvement allowance from the landlord of \$420,014. During fiscal 2019, the Company received a tenant improvement allowance from the landlord related to the new portion of the Orlando facility in the amount of \$309,450. These allowances were used to construct improvements and were recorded as leasehold improvements and deferred rent liability. The balances are being amortized over the corresponding lease terms.

#### 6. Goodwill and Intangible Assets

In connection with the December 2016 acquisition of ISP, the Company identified intangible assets, which were recorded at fair value and are being amortized on a straight-line basis over their useful lives. The excess purchase price over the fair values of all identified assets and liabilities was recorded as goodwill, attributable primarily to expected synergies and the assembled workforce of ISP.

There were no changes in the net carrying value of goodwill during the years ended June 30, 2019 and 2018, and there have been no events or changes in circumstances that indicate the carrying value of goodwill may not be recoverable.

Identifiable intangible assets were comprised of:

	Useful Lives (Years)	June 30, 2019	June 30, 2018
Customer relationships	15	\$ 3,590,000	\$ 3,590,000
Backlog	2	366,000	366,000
Trade secrets	8	3,272,000	3,272,000
Trademarks	8	3,814,000	3,814,000
Non-compete agreement	3	27,000	27,000
Total intangible assets		11,069,000	11,069,000
Less accumulated amortization		(3,231,694)	(2,011,030)
Total intangible assets, net		<u>\$ 7,837,306</u>	<u>\$ 9,057,970</u>

Future amortization of identifiable intangibles is as follows:

Fiscal year ending:

June 30, 2020	\$ 1,129,342
June 30, 2021	1,125,083
June 30, 2022	1,125,083
June 30, 2023	1,125,083
June 30, 2024 and later	3,332,715
	<u>\$ 7,837,306</u>

## 7. Accounts Payable

The accounts payable balance includes \$91,000 and \$82,000 of earned but unpaid board of directors' fees, as of June 30, 2019 and 2018, respectively.

## 8. Stockholders' Equity

The Company's authorized capital stock consists of 55,000,000 shares, comprised of 50,000,000 shares of common stock, par value \$0.01 per share, and 5,000,000 shares of preferred stock, par value \$0.01 per share.

Of the 5,000,000 shares of preferred stock authorized, the board of directors has previously designated:

- 250 shares of preferred stock as Series A Preferred Stock, all previously outstanding shares of which have been previously redeemed or converted into shares of our Class A common stock and may not be reissued;
- 300 shares of preferred stock as Series B Preferred Stock, all previously outstanding shares of which have been previously redeemed or converted into shares of our Class A common stock and may not be reissued;
- 500 shares of preferred stock as Series C Preferred Stock, all previously outstanding shares of which have been previously redeemed or converted into shares of our Class A common stock and may not be reissued;
- 500,000 shares of preferred stock as Series D Preferred Stock, none of which have been issued; however, in 1998, the board of directors declared a dividend distribution as a right to purchase one share of Series D Preferred Stock for each outstanding share of Class A common stock upon occurrence of certain events. The rights will be exercisable only if a person or group acquires twenty percent (20%) or more of the Class A common stock or announces a tender offer, the consummation of which would result in ownership by a person or group of twenty percent (20%) or more of the Class A common stock. As of the date of the filing of this Annual Report on Form 10-K, no such triggering event has occurred. If, in the future, any shares of Series D Preferred Stock are issued, the stockholders of Series D Preferred Stock are entitled to one vote for each share held; and
- 500 shares of our preferred stock as Series F Preferred Stock, all previously outstanding shares of which have been previously redeemed or converted into shares of our Class A common stock and may not be reissued.

Of the 50,000,000 shares of common stock authorized, the board of directors has previously designated 44,500,000 shares authorized as Class A common stock. The stockholders of Class A common stock are entitled to one vote for each share held. The remaining 5,500,000 shares of authorized common stock were designated as Class E-1 common stock, Class E-2 common stock, or Class E-3 common stock, all previously outstanding shares of which have been previously redeemed or converted into shares of Class A common stock.

During fiscal 2018, the Company received approximately \$534,000 in net proceeds from the exercise of the June 2012 Warrants. The Company issued 433,810 shares of Class A common stock during fiscal 2018, in connection with these exercises. The June 2012 Warrants expired on December 11, 2017. There were no outstanding warrants as of June 30, 2019 or 2018.

## 9. Income Taxes

For financial reporting purposes, income before income taxes includes the following components:

	Year Ended June 30,	
	2019	2018
<b>Pretax income:</b>		
United States	\$ (4,649,593)	\$ 359,027
Foreign	2,424,476	(126,000)
Income before income taxes	<u>\$ (2,225,117)</u>	<u>\$ 233,027</u>

The components of the provision for income taxes are as follows:

	Year Ended June 30,	
	2019	2018
<b>Current:</b>		
Federal tax	\$ (9,352)	\$ 57,315
State	23,423	-
Foreign	469,135	(117,852)
Total current	483,206	(60,537)
<b>Deferred:</b>		
Federal tax	21,803	(510,125)
State	(49,803)	(72,875)
Foreign	-	(183,540)
Total deferred	(28,000)	(766,540)
Total income tax (benefit)	<u>\$ 455,206</u>	<u>\$ (827,077)</u>

The reconciliation of income tax computed at the U.S. federal statutory rates to income tax expense is as follows:

	Year Ended June 30,	
	2019	2018
U.S. federal statutory tax rate	21.0%	27.5%
<b>Income tax provision reconciliation:</b>		
Tax at statutory rate:	\$ (467,275)	\$ 64,082
Net foreign income subject to lower tax rate	(303,288)	25,927
State income taxes, net of federal benefit	(26,380)	(107,997)
Valuation allowance	652,262	(11,763,000)
Changes in statutory income tax rates	-	9,114,886
IRC 965 repatriation	202,026	1,809,603
GILTI	251,869	-
Federal research and development and other credits	(84,440)	(163,165)
Stock-based compensation	3,034	43,818
Change in fair value of derivative warrants	-	53,524
Other permanent differences	74,099	30,758
Other, net	153,299	64,487
	<u>\$ 455,206</u>	<u>\$ (827,077)</u>

*Tax Cuts and Jobs Act*

In December 2017, the U.S. enacted the Tax Cuts and Jobs Act (the "TCJA"), which changes existing U.S. tax law and includes various provisions that are expected to affect companies. Among other things, the TCJA: (i) changes U.S. corporate tax rates, (ii) generally reduces a company's ability to utilize accumulated net operating losses, and (iii) requires the calculation of a one-time transition tax on certain foreign earnings and profits ("foreign E&P") that had not been previously repatriated.

As of June 30, 2018, the Company had not fully completed our accounting for the income tax impact of enactment of the TCJA. In accordance with SEC Staff Accounting Bulletin No. 118, the Company recognized provisional amounts for income tax effects of the TCJA that it was able to reasonably estimate.

Implementation of the TCJA required the Company to calculate a one-time transition tax on certain foreign E&P that had not been previously repatriated. During fiscal 2018, the Company provisionally determined its foreign E&P inclusion, and anticipated that it would not owe any one-time transition tax due to utilization of U.S. net operating loss ("NOL") carryforward benefits against these earnings. During fiscal 2019, the Company completed its analysis of the TCJA, and although the Company did not owe any one-time transition tax, the deferred tax asset related to its NOL carryforwards was impacted by approximately \$202,000. This amount is offset by a valuation allowance for a net impact of zero to its provision for income taxes for the year ended June 30, 2019.

*Income Tax Law of the People's Republic of China*

The Company's Chinese subsidiaries, LPOI and LPOIZ, are governed by the Income Tax Law of the People's Republic of China concerning the privately run and foreign invested enterprises, which are generally subject to tax at a statutory rate of 25% on income reported in the statutory financial statements after appropriate tax adjustments. During the three months ended December 31, 2017, the statutory tax rate applicable to LPOIZ was lowered from 25% to 15% in accordance with an incentive program for technology companies. The lower rate applies to LPOIZ's 2017 tax year, beginning January 1, 2017. Accordingly, the Company recorded a tax benefit of approximately \$100,000 during the year ended June 30, 2018 related to this retroactive rate change. For the fiscal year ended June 30, 2019, income taxes were accrued at the applicable rates. No deferred tax provision has been recorded for China, as the effect is deemed de minimis.

The Company currently intends to permanently invest earnings generated from its foreign Chinese operations and, therefore, has not previously provided for future Chinese withholding taxes on such related earnings. However, if in the future the Company changes such intention, the Company would provide for and pay additional foreign taxes, if any, at that time.

*Law of Corporate Income Tax of Latvia*

The Company's Latvian subsidiary, ISP Latvia, is governed by the Law of Corporate Income Tax of Latvia. Until December 31, 2017, ISP Latvia was subject to a statutory income tax rate of 15%. Effective January 1, 2018, the Republic of Latvia enacted tax reform with the following key provisions: (i) corporations are no longer subject to income tax, but are instead subject to a distribution tax on distributed profits (or deemed distributions, as defined), and (ii) the tax rate was changed to 20%; however, distribution amounts are first divided by 0.8 to arrive at the taxable amount of profit, resulting in an effective tax rate of 25%. As a transitional measure, distributions made from earnings prior to January 1, 2018, distributed prior to December 31, 2019, are not subject to tax. As such, any distributions of profits from ISP Latvia to ISP, its U.S. parent company, will be from earnings prior to January 1, 2018 and, therefore, will not be subject to tax. The Company currently does not intend to distribute any current earnings generated after January 1, 2018. If, in the future, the Company changes such intention, distribution taxes, if any, will be accrued as profits are generated. With this change, the concept of taxable income and tax basis in assets and liabilities was eliminated and is no longer relevant for determining income taxes; therefore, the previously recorded net deferred tax liability related to ISP Latvia was adjusted to zero during the fiscal year ended June 30, 2018, resulting in a tax benefit of approximately \$184,000.

The tax effects of temporary differences that give rise to significant portions of deferred tax assets and deferred tax liabilities are as follows at June 30:

	<u>2019</u>	<u>2018</u>
Deferred tax assets:		
Net operating loss and credit carryforwards	\$ 16,044,000	\$ 16,282,000
Stock-based compensation	822,000	710,000
R&D and other credits	2,014,000	1,899,000
Capitalized R&D expenses	476,000	373,000
Inventory	156,000	143,000
Accrued expenses and other	111,000	83,000
Gross deferred tax assets	19,623,000	19,490,000
Valuation allowance for deferred tax assets	(16,725,000)	(16,123,000)
Total deferred tax assets	2,898,000	3,367,000
Deferred tax liabilities:		
Depreciation and other	(277,000)	(563,000)
Intangible assets	(1,969,000)	(2,180,000)
Total deferred tax liabilities	(2,246,000)	(2,743,000)
Net deferred tax asset	<u>\$ 652,000</u>	<u>\$ 624,000</u>

As of June 30, 2019, the Company has also recorded a non-current income tax receivable of \$214,000 related to previously paid alternative minimum tax that is expected to be recovered within the next five years pursuant to certain provisions of the TCJA.

In assessing the potential future recognition of deferred tax assets, management considers whether it is more likely than not that some portion or all of the deferred tax assets will not be realized. The ultimate realization of deferred tax assets is dependent upon the generation of future taxable income during the periods in which those temporary differences become deductible. Management considers the scheduled reversal of deferred tax liabilities, projected future taxable income, and tax planning strategies in making this assessment. In order to fully realize the deferred tax asset, the Company will need to generate future taxable income of approximately \$74 million prior to the expiration of NOL carry-forwards from 2020 through 2035. Based on the level of historical taxable income, management has provided for a valuation adjustment against the deferred tax assets of \$16,725,000 at June 30, 2019, an increase of approximately \$602,000 as compared to June 30, 2018. The increase in the valuation allowance for deferred tax assets as compared to the prior year is primarily the result of the various movements in the current year deferred items. The net deferred tax asset of \$652,000 results from federal and state tax credits with indefinite carryover periods, and approximately \$510,000 in federal NOL carryforwards that management expects to utilize in a future period. State income tax expense disclosed on the effective tax rate reconciliation above includes state deferred taxes that are offset by a full valuation allowance.

At June 30, 2019, in addition to net operating loss carry forwards, the Company also has research and development credit carry forwards of approximately \$2,014,000, which will expire from 2022 through 2039. A portion of the NOL carry forwards may be subject to certain limitations of the Internal Revenue Code Sections 382 and 383, which would restrict the annual utilization in future periods due principally to changes in ownership in prior periods.



## 10. Compensatory Equity Incentive Plan and Other Equity Incentives

**Share-based payment arrangements** — The Company's directors, officers, and key employees were granted stock-based compensation through the Omnibus Plan, through October 2018 and after that date, the SICP. The awards include incentive stock options, non-qualified stock options and restricted stock unit ("RSU") awards. Stock-based compensation is measured at grant date, based on the fair value of the award, and is recognized as an expense over the employee's requisite service period. The Company estimates the fair value of each stock option as of the date of grant using the Black-Scholes-Merton pricing model. Most options granted under the Omnibus Plan and the SICP vest ratably over two to four years and generally have ten-year contract lives. The volatility rate is based on four-year historical trends in common stock closing prices and the expected term was determined based primarily on historical experience of previously outstanding options. The interest rate used is the U.S. Treasury interest rate for constant maturities. The likelihood of meeting targets for option grants that are performance based are evaluated each quarter. If it is determined that meeting the targets is probable, then the compensation expense will be amortized over the remaining vesting period.

The LightPath Technologies, Inc. Employee Stock Purchase Plan ("2014 ESPP") was adopted by the Company's board of directors on October 30, 2014 and approved by the Company's stockholders on January 29, 2015. The 2014 ESPP permits employees to purchase Class A common stock through payroll deductions, which may not exceed 15% of an employee's compensation, at a price not less than 85% of the market value of the Class A common stock on specified dates (June 30 and December 31). In no event can any participant purchase more than \$25,000 worth of shares of Class A common stock in any calendar year and an employee cannot purchase more than 8,000 shares on any purchase date within an offering period of 12 months and 4,000 shares on any purchase date within an offering period of six months. This discount of approximately \$3,900 and \$4,900 for fiscal 2019 and 2018, respectively, is included in the selling, general and administrative expense in the accompanying Consolidated Statements Comprehensive Income (Loss), which represents the value of the 10% discount given to the employees purchasing stock under the 2014 ESPP.

These plans are summarized below:

Equity Compensation Arrangement	Award Shares Authorized	Outstanding at June 30, 2019	Available for Issuance at June 30, 2019
SICP (or Omnibus Plan)	5,115,625	2,844,451	1,416,691
2014 ESPP	400,000	—	337,137
	<u>5,515,625</u>	<u>2,844,451</u>	<u>1,753,828</u>

**Grant Date Fair Values and Underlying Assumptions; Contractual Terms**—The Company estimates the fair value of each equity option as of the date of grant. The Company uses the Black-Scholes-Merton pricing model. The 2014 ESPP fair value is the amount of the discount the employee obtains at the date of the purchase transaction.

For stock options and RSUs granted in the years ended June 30, 2019 and 2018, the Company estimated the fair value of each stock award as of the date of grant using the following assumptions:

	Year Ended June 30,	
	2019	2018
Weighted-average expected volatility	69.5%	63% - 75%
Dividend yields	0%	0%
Weighted-average risk-free interest rate	3.00%	1.28% - 2.82%
Weighted-average expected term, in years	7.50	7.27

The assumed forfeiture rates used in calculating the fair value of options and restricted stock unit grants with both performance and service conditions were 20% for each of the years ended June 30, 2019 and 2018. The volatility rate and expected term are based on seven-year historical trends in Class A common stock closing prices and actual forfeitures. The interest rate used is the U.S. Treasury interest rate for constant maturities.

**Information Regarding Current Share-Based Payment Awards** — A summary of the activity for share-based payment awards in the years ended June 30, 2019 and 2018 is presented below:

	Stock Options			Restricted Stock Units (RSUs)	
	Shares	Weighted-Average Exercise Price	Weighted-Average Remaining Contract	Shares	Weighted-Average Remaining Contract
<b>June 30, 2017</b>	1,096,186	\$ 1.68	6.3	1,508,782	0.9
Granted	68,849	\$ 3.88	9.4	140,571	2.2
Exercised	(127,813)	\$ 1.80		—	
Cancelled/Forfeited	(32,093)	\$ 2.62		—	
<b>June 30, 2018</b>	1,005,129	\$ 1.77	6.3	1,649,353	0.9
Granted	13,058	\$ 2.10	9.4	229,509	2.4
Exercised	(17,610)	\$ 1.08		(14,336)	
Cancelled/Forfeited	(20,652)	\$ 1.17		—	
<b>June 30, 2019</b>	<u>979,925</u>	\$ 1.80	5.5	<u>1,864,526</u>	0.9
Awards exercisable/ vested as of					
<b>June 30, 2019</b>	869,230	\$ 1.70	5.2	1,464,382	—
Awards unexercisable/ unvested as of					
<b>June 30, 2019</b>	<u>110,695</u>	\$ 2.56	7.7	<u>400,144</u>	0.9
	<u>979,925</u>			<u>1,864,526</u>	

The total intrinsic value of stock options exercised for the years ended June 30, 2019 and 2018 was approximately \$580 and \$1,000, respectively.

The total intrinsic value of stock options outstanding and exercisable at June 30, 2019 and 2018 was approximately \$320 and \$573,000, respectively.

The total fair value of stock options vested during the years ended June 30, 2019 and 2018 was approximately \$170,000 and \$103,000, respectively.

The total intrinsic value of RSUs exercised during the years ended June 30, 2019 and 2018 was approximately \$26,000 and \$0, respectively.

The total intrinsic value of RSUs outstanding and exercisable at June 30, 2019 and 2018 was approximately \$1.3 million and \$3.0 million, respectively.

The total fair value of RSUs vested during the years ended June 30, 2019 and 2018 was approximately \$393,000 and \$320,000, respectively.

As of June 30, 2019, there was approximately \$523,000 of total unrecognized compensation cost related to non-vested share-based compensation arrangements, including share options and RSUs, granted under the Omnibus Plan. The expected compensation cost to be recognized is as follows:

	Stock Options	RSUs	Total
Year ending June 30, 2020	\$ 8,926	\$ 289,944	\$ 298,870
Year ending June 30, 2021	5,939	169,978	175,917
Year ending June 30, 2022	2,021	46,654	48,675
	<u>\$ 16,886</u>	<u>\$ 506,576</u>	<u>\$ 523,462</u>

The table above does not include shares under the Company's 2014 ESPP, which has purchase settlement dates in the second and fourth fiscal quarters.

RSU awards vest immediately or from two to four years from the grant date.

The Company issues new shares of Class A common stock upon the exercise of stock options. The following table is a summary of the number and weighted-average grant date fair values regarding our unexercisable/unvested awards as of June 30, 2019 and 2018 and changes during the two years then ended:

Unexercisable/Unvested Awards	Stock Options Shares	RSU Shares	Total Shares	Weighted- Average Grant Date Fair Values (per share)
June 30, 2017	244,511	438,912	683,423	\$ 1.39
Granted	68,849	140,571	209,420	\$ 3.61
Vested	(85,191)	(217,500)	(302,691)	\$ 3.78
Cancelled/Forfeited	(9,750)	-	(9,750)	\$ 2.36
June 30, 2018	218,419	361,983	580,402	\$ 1.53
Granted	13,058	229,509	242,567	\$ 1.80
Vested	(118,282)	(191,348)	(309,630)	\$ 1.79
Cancelled/Forfeited	(2,500)	-	(2,500)	\$ 0.97
June 30, 2019	<u>110,695</u>	<u>400,144</u>	<u>510,839</u>	\$ 2.09

**Acceleration of Vesting** — The Company does not generally accelerate the vesting of any stock options.

**Financial Statement Effects and Presentation** — The following table shows total stock-based compensation expense for the years ended June 30, 2019 and 2018 included in the accompanying Consolidated Statements of Comprehensive Income (Loss):

	Year Ended June 30,	
	2019	2018
Stock options	\$ 36,461	\$ 38,572
RSUs	358,329	334,982
Total	<u>\$ 394,790</u>	<u>\$ 373,554</u>

**The amounts above were included in:**

Selling, general & administrative	\$ 393,352	\$ 366,407
Cost of sales	1,620	5,910
New product development	(182)	1,237
	<u>\$ 394,790</u>	<u>\$ 373,554</u>

**11. Earnings Per Share**

Basic earnings per share is computed by dividing net income by the weighted-average number of shares of Class A common stock outstanding during each period presented. Diluted earnings per share is computed similarly to basic earnings per share except that it reflects the potential dilution that could occur if dilutive securities or other obligations to issue shares of Class A common stock were exercised or converted into shares of Class A common stock. The computations for basic and diluted earnings (loss) per common share are described in the following table:

	Year Ended June 30,	
	2019	2018
Net income (loss)	<u>\$ (2,680,323)</u>	<u>\$ 1,060,104</u>
Weighted-average common shares outstanding:		
<b>Basic number of shares</b>	25,794,669	25,006,467
Effect of dilutive securities:		
Options to purchase common stock	-	331,985
RSUs	-	1,387,348
Common stock warrants	-	85,668
<b>Diluted number of shares</b>	<u>25,794,669</u>	<u>26,811,468</u>
<b>Earnings (loss) per common share:</b>		
Basic	\$ (0.10)	\$ 0.04
Diluted	\$ (0.10)	\$ 0.04

The following weighted-average potential dilutive shares were not included in the computation of diluted earnings (loss) per common share, as their effects would be anti-dilutive:

	Year Ended June 30,	
	2019	2018
Options to purchase common stock	999,612	739,864
RSUs	1,755,893	216,946
Common stock warrants	-	85,018
	<u>2,755,505</u>	<u>1,041,828</u>

## 12. Defined Contribution Plan

The Company provides retirement benefits to its U.S.-based employees through a defined contribution retirement plan. Until April 12, 2018, these benefits were offered under the ADP Total Source 401(k) plan (the "ADP Plan"). The ADP Plan was a defined 401(k) contribution plan, administered by a third party, that all U.S. employees, over the age of 21, were eligible to participate in after three months of employment. Under the ADP Plan, annual discretionary contributions could be made by the Company to match a portion of the funds contributed by employees. Effective April 12, 2018, all plan assets were transferred to the Insperty 401(k) plan (the "Insperty Plan"). The Insperty Plan is a defined 401(k) contribution plan that all employees, over the age of 21, are eligible to participate in after three months of employment. Under the Insperty Plan, the Company matches 100% of the first 2% of employee contributions. As of June 30, 2019, there were 55 employees who are enrolled in this plan. The Company made matching contributions of approximately \$107,000 and \$34,000 during the years ended June 30, 2019 and 2018, respectively.

## 13. Lease Commitments

The Company has operating leases for its manufacturing and office space. At June 30, 2019, the Company has two lease agreements for its corporate headquarters and manufacturing facilities in Orlando, Florida. The first lease (the "Orlando Lease") is for approximately 26,000 square feet, has a seven-year original term with renewal options, and expires in April 2022. Minimum rental rates for the extension term were established based on annual increases of two-and one-half percent starting in the third year of the extension period. Additionally, there is one five-year extension option exercisable by the Company. The minimum rental rates for such additional extension option will be determined at the time an option is exercised and will be based on a "fair market rental rate," as determined in accordance with the Orlando Lease, as amended.

On April 20, 2018, the Company entered into a lease agreement for an additional 12,378 square feet in Orlando, Florida (the "Orlando Lease II"). The Orlando Lease II provides additional manufacturing and office space near the Company's corporate headquarters. The commencement date of the Orlando Lease II was November 1, 2018, and it has a four-year original term with one renewal option for an additional five-year term.

The Company received a \$420,000 tenant improvement allowance in fiscal 2015 with respect to the Orlando Lease. In fiscal 2019, the Company received a tenant improvement allowance of \$309,450 with respect to the Orlando Lease II. These amounts are included in the property and equipment and deferred rent on the Consolidated Balance Sheets. Amortization of tenant improvements was approximately \$284,000 as of June 30, 2019. The deferred rent is being amortized as a reduction in lease expense over the terms of the respective leases.

As of June 30, 2019, the Company, through its wholly-owned subsidiary, LPOI, has a lease agreement for an office facility in Shanghai, China (the "Shanghai Lease") for 1,900 square feet. The Shanghai Lease commenced in October 2015. During fiscal 2019, the Shanghai Lease was renewed for an additional one-year term, and now expires in October 2019.

As of June 30, 2019, the Company, through its wholly-owned subsidiary, LPOIZ, has three lease agreements for manufacturing and office facilities in Zhenjiang, China for an aggregate of 55,000 square feet. The initial lease (the "Zhenjiang Lease I") is for approximately 26,000 square feet, and had a five-year original term with renewal options. In fiscal 2019, the Company renewed the Zhenjiang Lease I and it now expires in June 2022. During fiscal 2018, another lease was executed for 13,000 additional square feet in this same facility (the "Zhenjiang Lease II"). The Zhenjiang Lease II has a 54-month term, and expires in December 2021. During fiscal 2019, LPOIZ entered into another lease agreement for manufacturing space near the existing facility, for an additional 16,000 square feet (the "Zhenjiang Lease III"). The Zhenjiang Lease III has a three-year term and expires in April 2022.

At June 30, 2019, the Company, through its wholly-owned subsidiary ISP, has a lease agreement for a manufacturing and office facility in Irvington, New York (the "ISP Lease") for 13,000 square feet. The ISP Lease, which is for a five-year original term with renewal options, expires in September 2020. As of June 30, 2019, the relocation of the operations formerly housed in this facility is complete and we have ceased use of this facility. See Note 20, Restructuring, to these Consolidated Financial Statements for additional information.

At June 30, 2019, the Company, through ISP's wholly-owned subsidiary ISP Latvia, has two lease agreements for a manufacturing and office facility in Riga, Latvia (the "Riga Leases") for an aggregate of 23,000 square feet. The Riga Leases, each of which was for a five-year original term with renewal options, were set to expire in December 2019. During fiscal 2019, the Riga Leases were renewed, and now expire in December 2022.

As of June 30, 2019, the Company has obligations under five capital lease agreements, entered into during fiscal years 2016, 2017, 2018 and 2019, with terms ranging from three to five years. The leases are for computer and manufacturing equipment, which are included as part of property and equipment in the accompanying Consolidated Balance Sheets. Assets under capital lease include approximately \$2.0 million and \$1.5 million in manufacturing equipment, with accumulated amortization of approximately \$900,000 and \$646,000 as of June 30, 2019 and 2018, respectively. Amortization related to assets under capital leases is included in depreciation expense.

Rent expense totaled \$1.7 million and \$1.0 million during the years ended June 30, 2019 and 2018, respectively. For the year ended June 30, 2019, this includes an accrual of \$467,000 in future lease payments due pursuant to the ISP Lease, which facility the Company ceased use of as of June 30, 2019. See Note 20, Restructuring, to these Consolidated Financial Statements for additional information.

The approximate future minimum lease payments under capital and operating leases at June 30, 2019, including the aforementioned accrued but unpaid lease obligation for the ISP Lease, were as follows:

	<u>Capital Leases</u>	<u>Operating Leases</u>
<b>Fiscal year ending June 30,</b>		
2020	\$ 482,598	\$ 1,093,000
2021	407,954	907,000
2022	231,783	777,000
2023	59,647	157,000
Total minimum payments	<u>1,181,982</u>	<u>\$ 2,934,000</u>
Less imputed interest	(137,274)	
Present value of minimum lease payments included in capital lease obligations	1,044,708	
Less current portion	<u>404,424</u>	
Non-current portion	<u>\$ 640,284</u>	

#### 14. Contingencies

The Company from time to time is involved in various legal actions arising in the normal course of business. Management, after reviewing with legal counsel all of these actions and proceedings, believes that the aggregate losses, if any, will not have a material adverse effect on the Company's financial position or results of operations.

#### 15. Foreign Operations

Assets and liabilities denominated in non-U.S. currencies are translated at rates of exchange prevailing on the balance sheet date, and revenues and expenses are translated at average rates of exchange for the period. Gains or losses on the translation of the financial statements of a non-U.S. operation, where the functional currency is other than the U.S. dollar, are reflected as a separate component of equity, which was a cumulative gain of approximately \$809,000 and \$474,000 as of June 30, 2019 and 2018, respectively. During the years ended June 30, 2019 and 2018, we also recognized a net foreign currency transaction loss of approximately \$436,000 and a net foreign currency transaction gain of approximately \$141,000, respectively, included in the Consolidated Statements of Comprehensive Income (Loss) in the line item entitled "Other income (expense), net."

Assets and net assets in foreign countries are as follows:

	China		Latvia	
	<u>June 30, 2019</u>	<u>June 30, 2018</u>	<u>June 30, 2019</u>	<u>June 30, 2018</u>
Assets	\$ 16.9 million	\$ 14.7 million	\$ 8.2 million	\$ 6.4 million
Net assets	\$ 14.5 million	\$ 12.6 million	\$ 7.8 million	\$ 5.9 million

#### 16. Supplier and Customer Concentrations

The Company utilizes a number of glass compositions in manufacturing its molded glass aspheres and lens array products. These glasses or equivalents are available from a large number of suppliers, including CDGM Glass Company Ltd., Ohara Corporation, and Sumita Optical Glass, Inc. Base optical materials, used in certain of the Company's specialty products, are manufactured and supplied by a number of optical and glass manufacturers. ISP utilizes major infrared material suppliers located around the globe for a broad spectrum of infrared crystal and glass. The Company believes that a satisfactory supply of such production materials will continue to be available, at reasonable prices or, in some cases, at increased prices, although there can be no assurance in this regard.

In fiscal 2019, sales to three customers comprised an aggregate of approximately 32% of the Company's annual revenue, and 40% of accounts receivable as of June 30, 2019, with one customer at 17% of sales, another customer at 8% of sales, and the third customer at 7% of sales. In fiscal 2018, sales to three customers comprised an aggregate of approximately 28% of the Company's annual revenue, and 28% of accounts receivable as of June 30, 2018, with one customer at 16% of sales, another customer at 7% of sales, and the third customer at 5% of sales. The loss of any of these customers, or a significant reduction in sales to any such customer, would adversely affect the Company's revenues.

In fiscal 2019, 62% of the Company's net revenue was derived from sales outside of the U.S., with 94% of foreign sales derived from customers in Europe and Asia. In fiscal 2018, 58% of the Company's net revenue was derived from sales outside of the U.S., with 84% of foreign sales derived from customers in Europe and Asia.

#### 17. Derivative Financial Instruments (Warrant Liability)

On June 11, 2012, the Company executed a Securities Purchase Agreement with respect to a private placement of an aggregate of 1,943,852 shares of its Class A common stock at \$1.02 per share and the June 2012 Warrants to purchase up to 1,457,892 shares of its Class A common stock at an initial exercise price of \$1.32 per share, which was subsequently reduced to \$1.26, and then to \$1.22 on December 21, 2016 as a result of our public offering. The June 2012 Warrants were exercisable for a period of five years beginning on December 11, 2012. The Company accounted for the June 2012 Warrants issued to investors in accordance with ASC 815-10. ASC 815-10 provides guidance for determining whether an equity-linked financial instrument (or embedded feature) is indexed to an entity's own stock. This applies to any freestanding financial instrument or embedded feature that has all the characteristics of a derivative under ASC 815-10, including any freestanding financial instrument that is potentially settled in an entity's own stock.

Due to certain adjustments that could be made to the exercise price of the June 2012 Warrants if the Company issued or sold shares of its Class A common stock at a price that was less than the then-current warrant exercise price, the June 2012 Warrants have been classified as a liability, as opposed to equity, in accordance with ASC 815-10, as it was determined that the June 2012 Warrants were not indexed to the Company's Class A common stock.

The fair value of the outstanding June 2012 Warrants was re-measured at the end of each reporting period to reflect the then-current fair market value. The fair value was also re-measured upon each warrant exercise, to determine the fair value adjustment to the warrant liability related to the warrant exercise. The June 2012 Warrants expired on December 11, 2017. All warrants that required fair value re-measurement were exercised prior to expiration, and, as such, the warrant liability was reduced to zero as of that date. The change in fair value of the June 2012 Warrants is recorded in the Consolidated Statements of Comprehensive Income (Loss), as estimated using the Lattice option-pricing model using the following range of assumptions for the year ended June 30, 2018:

	<u>Year Ended</u> <u>June 30, 2018</u>
<b>Inputs into Lattice model for warrants:</b>	
Equivalent volatility	21.06% - 162.92%
Equivalent interest rate	0.95% - 1.14%
Floor	\$1.15
Stock price	\$2.56 - \$2.60
Probability price < strike price	0.00%
Fair value of call	\$1.13 - \$2.79
Probability of fundamental transaction occurring	0%

The warrant liabilities were considered recurring Level 3 financial instruments. The following table summarizes the activity of Level 3 financial instruments measured on a recurring basis for the year ended June 30, 2018:

	<u>Warrant Liability</u>
Fair value, June 30, 2017	490,500
Reclassification of warrant liability upon exercise	(685,132)
Change in fair value of warrant liability	194,632
Fair value, June 30, 2018	<u>\$ -</u>

All warrants issued by the Company other than the above noted June 2012 Warrants were classified as equity. There were no outstanding warrants as of June 30, 2019 or 2018.

## 18. Loans Payable

### *Avidbank Loan*

Until February 26, 2019, the Company was party to the Second Amended and Restated Loan and Security Agreement (the "LSA") entered into on December 21, 2016 with Avidbank Corporate Finance, a division of Avidbank ("Avidbank"), as amended by the First Amendment to the LSA dated December 20, 2017 (the "First Amendment"), the Second Amendment to the LSA dated January 16, 2018 (the "Second Amendment"), the Third Amendment to the LSA dated May 11, 2018 (the "Third Amendment"), the Fourth Amendment to the LSA dated September 7, 2018 (the "Fourth Amendment"), and the Fifth Amendment to the LSA dated October 30, 2018 (the "Fifth Amendment") and, together with the LSA, First Amendment, the Second Amendment, the Third Amendment, and the Fourth Amendment, the "Amended LSA"). The Amended LSA provided for an acquisition term loan in the original principal amount of \$5,000,000 (the "Term I Loan"). Pursuant to the Second Amendment, Avidbank paid a single cash advance to the Company in an original principal amount of \$7,294,000 (the "Term II Loan"), the proceeds of which were used to repay all amounts owing with respect to the Term Loan, which was approximately \$4.4 million, with the remaining \$2.9 million in proceeds used to repay the amounts owing under the note payable to the sellers (the "Sellers") of ISP (the "Sellers Note"). The Term II Loan was for a five-year term, and bore interest at a per annum rate equal to two percent (2.0%) above the Prime Rate; provided, however, that at no time would the applicable rate be less than five-and-one-half percent (5.50%) per annum.

The Amended LSA also provided for a working capital revolving line of credit (the "Revolving Line"). Pursuant to the Amended LSA, Avidbank agreed to, in its discretion, make loan advances under the Revolving Line to the Company up to a maximum aggregate principal amount outstanding not to exceed the lesser of (i) One Million Dollars (\$1,000,000), or (ii) eighty percent (80%) (the "Maximum Advance Rate") of the aggregate balance of the Company's eligible accounts receivable, as determined by Avidbank in accordance with the Amended LSA. Amounts borrowed under the Revolving Line could be repaid and re-borrowed at any time prior to the Revolving Maturity Date (as defined below), at which time all amounts would be immediately due and payable. There were no borrowings under the Revolving Line during the year ended June 30, 2019. As of February 26, 2019, the date on which the Company terminated the Amended LSA, there was no outstanding balance under the Revolving Line.

The Company's obligations under the Amended LSA were collateralized by a first priority security interest (subject to permitted liens) in cash, U.S. inventory, accounts receivable and equipment. In addition, the Company's wholly-owned subsidiary, Geltech, Inc., guaranteed the Company's obligations under the Amended LSA.

The Amended LSA contained customary covenants, including, but not limited to: (i) limitations on the disposition of property; (ii) limitations on changing the Company's business or permitting a change in control; (iii) limitations on additional indebtedness or encumbrances; (iv) restrictions on distributions; (v) limitations on certain investments; and (vi) limitations on the amount of cash held in financial institutions in Latvia. Additionally, the Amended LSA required the Company to maintain a fixed charge coverage ratio (as defined in the Amended LSA) of at least 1.15 to 1.00 and an asset coverage ratio (as defined in the Amended LSA) of at least 1.50 to 1.00.

The Third Amendment (i) amended the definition of "Permitted Indebtedness" and (ii) amended Section 6.8(a) of the Amended LSA to require that the Company, and each of its domestic subsidiaries, maintain all of its domestic depository and operating accounts with Avidbank beginning on June 1, 2018, and to prohibit the Company from maintaining a domestic account balance outside of Avidbank that exceeds Ten Thousand Dollars (\$10,000) during the transition period. The Third Amendment also amended Section 6.9(a) of the Amended LSA to require that the Company maintain a fixed charge coverage ratio, as measured on June 30, 2018, of at least 1.10 to 1.00 and, thereafter, beginning with the quarter ended September 30, 2018, to maintain a fixed charge coverage ratio of at least 1.15 to 1.00. Additionally, pursuant to the Third Amendment, Avidbank granted the Company a waiver of default arising prior to the Third Amendment from its failure to comply with the fixed charge coverage ratio measured on March 31, 2018.

Pursuant to the Fourth Amendment, Avidbank granted the Company a waiver of default arising prior to the Fourth Amendment from its failure to comply with the fixed charge coverage ratio covenant measured on June 30, 2018. Based on the waiver, the Company was no longer in default on the Term II Loan or the Revolving Line. The Fourth Amendment also provided for the restriction of \$1 million of the Company's cash, which would be released upon two consecutive quarters of compliance with the fixed charge coverage ratio covenant, and so long as no event of default has occurred that is continuing on that date. The Fourth Amendment also provided that during the restrictive period, the calculation of the fixed charge coverage ratio would be determined as if the outstanding principal amount of the Term II Loan was \$1 million less than the actual outstanding principal amount of the Term II Loan.

On October 30, 2018, the Company entered into the Fifth Amendment, which amended the definition of "Adjusted EBITDA" to allow for the addback of certain one-time expenses for purposes of determining the fixed charge coverage ratio and compliance with the related covenant. The Fifth Amendment also extended the maturity date of the Revolving Line from December 21, 2018 to March 21, 2019. As discussed in more detail below, on February 26, 2019, the Company entered into the Loan Agreement (as defined below) with BankUnited, N.A. ("BankUnited"), and used the proceeds from the BankUnited Term Loan (as defined below) to pay in full, all outstanding amounts owed pursuant to the Term II Loan. Accordingly, as of June 30, 2019, there was no outstanding balance under the Term II Loan.



## BankUnited Loan

On February 26, 2019, the Company entered into a Loan Agreement (the "Loan Agreement") with BankUnited for (i) a revolving line of credit up to maximum amount of \$2,000,000 (the "BankUnited Revolving Line"), (ii) a term loan in the amount of up to \$5,813,500 ("BankUnited Term Loan"), and (iii) a non-revolving guidance line of credit up to a maximum amount of \$10,000,000 (the "Guidance Line" and, together with the BankUnited Revolving Line and BankUnited Term Loan, the "BankUnited Loans"). Each of the BankUnited Loans is evidenced by a promissory note in favor of BankUnited (the "BankUnited Notes").

On May 6, 2019, the Company entered into that certain First Amendment to Loan Agreement, effective February 26, 2019, with BankUnited (the "Amendment" and, together with the Loan Agreement, the "Amended Loan Agreement"). The Amendment amended the definition of the fixed charge coverage ratio to more accurately reflect the parties' understandings at the time the Loan Agreement was executed.

### BankUnited Revolving Line

Pursuant to the Amended Loan Agreement, BankUnited will make loan advances under the BankUnited Revolving Line to the Company up to a maximum aggregate principal amount outstanding not to exceed \$2,000,000, which proceeds will be used for working capital and general corporate purposes. Amounts borrowed under the BankUnited Revolving Line may be repaid and re-borrowed at any time prior to February 26, 2022, at which time all amounts will be immediately due and payable. The advances under the BankUnited Revolving Line bear interest, on the outstanding daily balance, at a per annum rate equal to 2.75% above the 30-day LIBOR. Interest payments are due and payable, in arrears, on the first day of each month.

### BankUnited Term Loan

Pursuant to the Amended Loan Agreement, BankUnited advanced the Company \$5,813,500 to satisfy in full the amounts owed to Avidbank, including the Term II Loan, and to pay the fees and expenses incurred in connection with closing of the BankUnited Loans. The BankUnited Term Loan is for a 5-year term, but co-terminus with the BankUnited Revolving Line. The BankUnited Term Loan bears interest at a per annum rate equal to 2.75% above the 30-day LIBOR. Equal monthly principal payments of \$48,445.83, plus accrued interest, are due and payable, in arrears, on the first day of each month during the term. Upon maturity, all principal and interest shall be immediately due and payable. As of June 30, 2019, the applicable interest rate was 5.19%.

### Guidance Line

Pursuant to the Amended Loan Agreement, BankUnited, in its sole discretion, may make loan advances to the Company under the Guidance Line up to a maximum aggregate principal amount outstanding not to exceed \$10,000,000, which proceeds will be used for capital expenditures and approved business acquisitions. Such advances must be in minimum amounts of \$1,000,000 for acquisitions and \$500,000 for capital expenditures, and will be limited to 80% of cost or as otherwise determined by BankUnited. Amounts borrowed under the Guidance Line may not re-borrowed. The advances under the Guidance Line bear interest, on the outstanding daily balance, at a per annum rate equal to 2.75% above the 30-day LIBOR. Interest payments are due and payable, in arrears, on the first day of each month. On each anniversary of the Amended Loan Agreement, monthly principal payments become payable, amortized based on a ten-year term.

### Security and Guarantees

The Company's obligations under the Amended Loan Agreement are collateralized by a first priority security interest (subject to permitted liens) in all of its assets and the assets of the Company's U.S. subsidiaries, GelTech, and ISP, pursuant to a Security Agreement granted by GelTech, ISP, and the Company in favor of BankUnited. The Company's equity interests in, and the assets of, its foreign subsidiaries are excluded from the security interest. In addition, all of the Company's subsidiaries have guaranteed the Company's obligations under the Amended Loan Agreement and related documents, pursuant to Guaranty Agreements executed by the Company and its subsidiaries in favor of BankUnited.

### General Terms

The Amended Loan Agreement contains customary covenants, including, but not limited to: (i) limitations on the disposition of property; (ii) limitations on changing the Company's business or permitting a change in control; (iii) limitations on additional indebtedness or encumbrances; (iv) restrictions on distributions; and (v) limitations on certain investments. The Amended Loan Agreement also contains certain financial covenants, including obligations to maintain a fixed charge coverage ratio of 1.25 to 1.00 and a total leverage ratio of 4.00 to 1.00. As of June 30, 2019, the Company was in compliance with all required covenants.

We may prepay any or all of the BankUnited Loans in whole or in part at any time, without penalty or premium. Late payments are subject to a late fee equal to five percent (5%) of the unpaid amount. Amounts outstanding during an event of default accrue interest at a rate of five percent (5%) above the 30-day LIBOR applicable immediately prior to the occurrence of the event of default. The Amended Loan Agreement contains other customary provisions with respect to events of default, expense reimbursement, and confidentiality.

Financing costs incurred were recorded as a discount on debt and will be amortized over the term. Amortization of approximately \$117,000 and \$13,700 is included in interest expense for the years ended June 30, 2019 and 2018, respectively. For the year ended June 30, 2019, this includes approximately \$94,000 of previously unamortized financing costs related to the Term II Loan, which were expensed as of February 26, 2019 when this note was paid in full.

Future maturities of loans payable are as follows:

	<u>BankUnited Term Loan</u>	<u>Unamortized Debt Costs</u>	<u>Total</u>
<b>Fiscal year ending:</b>			
June 30, 2020	\$ 581,350	\$ (17,334)	\$ 564,016
June 30, 2021	581,350	(17,334)	564,016
June 30, 2022	581,350	(17,334)	564,016
June 30, 2023	581,350	(17,334)	564,016
June 30, 2024	<u>3,342,763</u>	<u>(17,334)</u>	<u>3,325,429</u>
Total payments	\$ 5,668,163	\$ (86,670)	\$ 5,581,493
Less current portion			<u>(581,350)</u>
Non-current portion			<u>\$ 5,000,143</u>

## 19. Note Satisfaction and Securities Purchase Agreement

### *Note Satisfaction and Securities Purchase Agreement*

On January 16, 2018 (the "Satisfaction Date"), the Company entered into a Note Satisfaction and Securities Purchase Agreement (the "Note Satisfaction Agreement") with the Sellers with respect to the Sellers Note. At the closing of the acquisition of ISP, as partial consideration for the shares of ISP, the Company issued the Sellers Note in the original principal amount of \$6,000,000, which principal payment amount was subsequently reduced to \$5.7 million, after applying a working capital adjustment equal to approximately \$293,000.

Pursuant to the Note Satisfaction Agreement, the Company and the Sellers agreed to satisfy the Sellers Note in full by (i) converting 39.5% of the outstanding principal amount of the Sellers Note into shares of the Company's Class A common stock, and (ii) paying the remaining 60.5% of the outstanding principal amount of the Sellers Note, plus all accrued but unpaid interest, in cash to the Sellers. As of the Satisfaction Date, the outstanding principal amount of the Sellers Note was \$5,707,183, and there was \$20,883 in accrued but unpaid interest thereon (collectively, the "Note Satisfaction Amount"). Accordingly, the Company paid approximately \$3,453,582, plus all accrued but unpaid interest on the Sellers Note, in cash (the "Cash Payment") and issued 967,208 shares of Class A common stock (the "Shares"), which represents the balance of the Note Satisfaction Amount divided by the Conversion Price. The "Conversion Price" equaled \$2.33, representing the average closing bid price of the Class A common stock, as reported by Bloomberg for the five (5) trading days preceding the Satisfaction Date. The Cash Payment was paid using approximately \$600,000 of cash on hand and approximately \$2.9 million in proceeds from the Term II Loan from Avidbank. As of the Satisfaction Date, the Sellers Note was deemed satisfied in full and terminated.

The Shares issued to the Sellers were exempt from the registration requirements of the Securities Act of 1933, as amended (the "Act"), pursuant to Section 4(a) (2) of the Act (in that the Shares were issued by us in a transaction not involving any public offering), and pursuant to Rule 506 of Regulation D as promulgated by the SEC under the Act.

### *Registration Rights Agreement*

In connection with the Note Satisfaction Agreement, the Company and the Sellers also entered into a Registration Rights Agreement dated January 16, 2018, pursuant to which the Company agreed to file with the Securities and Exchange Commission by February 15, 2018, and to cause to be declared effective, a registration statement to register the resale of the Shares issued to partially pay the Note Satisfaction Amount. The Registration Statement on Form S-3 (File No. 333-223028) was declared effective by the SEC on March 8, 2018.

## 20. Restructuring

In July 2018, we announced the relocation and consolidation of ISP's New York facility (the "Irvington Facility") into our existing facilities in Orlando, Florida and Riga, Latvia. We record charges for restructuring and other exit activities related to the closure or relocation of business activities at fair value, when incurred. Such charges include termination benefits, contract termination costs, and costs to consolidate facilities or relocate employees. For the year ended June 30, 2019, we recorded approximately \$1.2 million in expenses related to the relocation of the Irvington Facility. These charges are included as a component of the "Selling, general and administrative" expenses line item in our Consolidated Statement of Comprehensive Income (Loss). These charges include approximately \$467,000 for our remaining obligation under the Irvington Lease until its expiration in September 2020, as we have ceased use of this facility. Amounts accrued and included in our Consolidated Balance Sheet as of June 30, 2019 related to this activity are comprised of the remaining lease obligation of approximately \$467,000, included in "Deferred rent", and approximately \$246,000 of termination benefits and other cost, included in "Accrued payroll and benefits."

End of Consolidated Financial Statements

**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.

**LIGHTPATH TECHNOLOGIES, INC.**

Date: September 14, 2019

By: /s/ J. James Gaynor

**J. James Gaynor**  
**President & 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.

<u>/s/ J. JAMES GAYNOR</u> <b>J. James Gaynor</b> <b>President &amp; Chief Executive Officer</b> <b>(Principal Executive Officer)</b>	September 11, 2019	<u>/s/ DONALD O. RETREAGE, Jr.</u> <b>Donald O. Retreage, Jr.</b> <b>Chief Financial Officer</b> <b>(Principal Financial Officer)</b>	September 11, 2019
<u>/s/ ROBERT RIPP</u> <b>Robert Ripp</b> <b>Director (Chairman of the Board)</b>	September 6, 2019	<u>/s/ SOHAIL KHAN</u> <b>Sohail Khan</b> <b>Director</b>	September 11, 2019
<u>/s/ DR. STEVEN R. J. BRUECK</u> <b>Dr. Steven R. J. Brueck</b> <b>Director</b>	September 4, 2019	<u>/s/ LOUIS LEEBURG</u> <b>Louis Leeburg</b> <b>Director</b>	September 3, 2019
<u>/s/ M. SCOTT FARIS</u> <b>M. Scott Faris</b> <b>Director</b>	September 3, 2019	<u>/s/ JOSEPH MENAKER</u> <b>Joseph Menaker</b> <b>Director</b>	September 4, 2019
<u>/s/ CRAIG DUNHAM</u> <b>Craig Dunham</b> <b>Director</b>	September 10, 2019		

Exhibit 21.1

Subsidiaries

GeiTech Inc.	Delaware
LightPath Optical Instrumentation (Shanghai) Co., Ltd	People's Republic of China
LightPath Optical Instrumentation (Zhenjiang) Co., Ltd	People's Republic of China
ISP Optics Corporation	New York
ISP Optics Latvia, SIA	Latvia

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**CONSENT OF INDEPENDENT REGISTERED PUBLIC ACCOUNTING FIRM**

LightPath Technologies, Inc.  
Orlando, Florida

We hereby consent to the incorporation by reference in the Registration Statements on Form S-8 (Nos. 333-23515, 333-23511, 333-41705, 333-92017, 333-121389, 333-121385, 333-96083, 333-50976, 333-50974, 333-155044, 333-188482, 333-201871, 333-201872 and 333-221665), Form S-3 (Nos. 333-113814, 333-37443, 333-39641, 333-47905, 333-86185, 333-93179, 333-94303, 333-31014, 333-37622, 333-47992, 333-51474, 333-75528, 333-127053, 333-133772, 333-146550, 333-153743, 333-159603, 333-162342, 333-163416, 333-166633, 333-182240 and 333-223028) and Form S-1 (No. 333-213860) of LightPath Technologies, Inc., of our report dated September 12, 2019, relating to the consolidated financial statements, which appear in this Annual Report on Form 10-K.

**MOORE STEPHENS LOVELACE, P.A.**

Orlando, Florida  
September 12, 2019

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Exhibit 24  
POWER OF ATTORNEY

KNOW ALL BY THESE PRESENTS, that the undersigned constitutes and appoints J. James Gaynor and Donald O. Retreage, Jr., and each of them, his true and lawful attorneys'-in-fact and agents, with full power of substitution and resubstitution, for and in his name, place and stead, in any and all capacities, to sign the Annual Report on Form 10-K for the fiscal year ended June 30, 2019, and any and all amendments thereto and to file the same, with all exhibits thereto, and other documents in connection therewith, with the Securities and Exchange Commission, granting unto said attorneys-in-fact and agents, and each of them, full power and authority to do and perform each and every act and thing requisite and necessary to be done in and about the premises as fully to all intents and purposes as might or could be done in person, hereby ratifying and confirming all that said attorneys-in-fact and agents or either of them, or their substitute or substitutes may lawfully do or cause to be done by virtue hereof.

IN WITNESS WHEREOF, this Power of Attorney has been signed by the following persons on the dates indicated.

<u>/s/ Robert Ripp</u> Robert Ripp	September 6, 2019	<u>/s/ J. James Gaynor</u> J. James Gaynor	September 11, 2019
<u>/s/ Sohail Khan</u> Sohail Khan	September 11, 2019	<u>/s/ Craig Dunham</u> Craig Dunham	September 10, 2019
<u>/s/ Steven Brueck</u> Steven Brueck	September 4, 2019	<u>/s/ Louis Leeburg</u> Louis Leeburg	September 3, 2019
<u>/s/ M. Scott Faris</u> M. Scott Faris	September 3, 2019	<u>/s/ Joseph Menaker</u> Joseph Menaker	September 4, 2019

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**Certification of Chief Executive Officer**  
**Pursuant to Rule 13a-14(a) under the Securities Exchange Act of 1934**

I, J. James Gaynor, certify that:

1. I have reviewed this annual report on Form 10-K for the year ended June 30, 2019 of LightPath Technologies, Inc.;
2. Based on my knowledge, this report does not contain any untrue statement of a material fact or omit to state a material fact necessary to make the statements made, in light of the circumstances under which such statements were made, not misleading with respect to the period covered by this report;
3. Based on my knowledge, the financial statements, and other financial information included in this report, fairly present in all material respects the financial condition, results of operations and cash flows of the registrant as of, and for, the periods presented in this report;
4. The registrant's other certifying officer(s) and I are responsible for establishing and maintaining disclosure controls and procedures (as defined in Exchange Act Rules 13a-15(e) and 15d-15(e)) and internal control over financial reporting (as defined in Exchange Act Rules 13a-15(f) and 15d-15(f)) for the registrant and have:
  - a) Designed such disclosure controls and procedures, or caused such disclosure controls and procedures to be designed under our supervision, to ensure that material information relating to the registrant, including its consolidated subsidiaries, is made known to us by others within those entities, particularly during the period in which this report is being prepared;
  - b) Designed such internal control over financial reporting, or caused such internal control over financial reporting to be designed under our supervision, to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with generally accepted accounting principles;
  - c) Evaluated the effectiveness of the registrant's disclosure controls and procedures and presented in this report our conclusions about the effectiveness of the disclosure controls and procedures, as of the end of the period covered by this report based on such evaluation; and
  - d) Disclosed in this report any change in the registrant's internal control over financial reporting that occurred during the registrant's most recent fiscal quarter (the registrant's fourth fiscal quarter in the case of an annual report) that has materially affected, or is reasonably likely to materially affect, the registrant's internal control over financial reporting; and
5. The registrant's other certifying officer(s) and I have disclosed, based on our most recent evaluation of internal control over financial reporting, to the registrant's auditors and the audit committee of the registrant's board of directors (or persons performing the equivalent functions):
  - a) All significant deficiencies and material weaknesses in the design or operation of internal control over financial reporting which are reasonably likely to adversely affect the registrant's ability to record, process, summarize and report financial information; and
  - b) Any fraud, whether or not material, that involves management or other employees who have a significant role in the registrant's internal control over financial reporting.

Date: September 12, 2019

/s/ J. James Gaynor  
J. James Gaynor  
President and Chief Executive Officer

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**Certification of Chief Financial Officer**  
**Pursuant to Rule 13a-14(a) under the Securities Exchange Act of 1934**

I, Donald O. Retreage, Jr., certify that:

1. I have reviewed this annual report on Form 10-K for the year ended June 30, 2019 of LightPath Technologies, Inc.;
2. Based on my knowledge, this report does not contain any untrue statement of a material fact or omit to state a material fact necessary to make the statements made, in light of the circumstances under which such statements were made, not misleading with respect to the period covered by this report;
3. Based on my knowledge, the financial statements, and other financial information included in this report, fairly present in all material respects the financial condition, results of operations and cash flows of the registrant as of, and for, the periods presented in this report;
4. The registrant's other certifying officer(s) and I are responsible for establishing and maintaining disclosure controls and procedures (as defined in Exchange Act Rules 13a-15(e) and 15d-15(e)) and internal control over financial reporting (as defined in Exchange Act Rules 13a-15(f) and 15d-15(f)) for the registrant and have:
  - a) Designed such disclosure controls and procedures, or caused such disclosure controls and procedures to be designed under our supervision, to ensure that material information relating to the registrant, including its consolidated subsidiaries, is made known to us by others within those entities, particularly during the period in which this report is being prepared;
  - b) Designed such internal control over financial reporting, or caused such internal control over financial reporting to be designed under our supervision, to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with generally accepted accounting principles;
  - c) Evaluated the effectiveness of the registrant's disclosure controls and procedures and presented in this report our conclusions about the effectiveness of the disclosure controls and procedures, as of the end of the period covered by this report based on such evaluation; and
  - d) Disclosed in this report any change in the registrant's internal control over financial reporting that occurred during the registrant's most recent fiscal quarter (the registrant's fourth fiscal quarter in the case of an annual report) that has materially affected, or is reasonably likely to materially affect, the registrant's internal control over financial reporting; and
5. The registrant's other certifying officer(s) and I have disclosed, based on our most recent evaluation of internal control over financial reporting, to the registrant's auditors and the audit committee of the registrant's board of directors (or persons performing the equivalent functions):
  - a) All significant deficiencies and material weaknesses in the design or operation of internal control over financial reporting which are reasonably likely to adversely affect the registrant's ability to record, process, summarize and report financial information; and
  - b) Any fraud, whether or not material, that involves management or other employees who have a significant role in the registrant's internal control over financial reporting.

Date: September 12, 2019

/s/ Donald O. Retreage, Jr.  
Donald O. Retreage, Jr.  
Chief Financial Officer

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**Certification of Chief Executive Officer  
Pursuant to Section 1350 of Chapter 63 of Title 18 of the United States Code**

Pursuant to U.S.C. Section 1350, as created by Section 906 of the Sarbanes-Oxley Act of 2002, the undersigned Chief Executive Officer of LightPath Technologies, Inc. (the "Company") does hereby certify, to the best of such officer's knowledge, that:

1. The Annual Report on Form 10-K of the Company for the annual period ended June 30, 2019 (the "Report") fully complies with the requirements of Section 13(a) or Section 15(d), as applicable, of the Securities Exchange Act of 1934, as amended; and

2. The information contained in the Report fairly presents, in all material respects, the financial condition and results of operations of the Company.

Dated: September 12, 2019

/s/ J. James Gaynor  
J. James Gaynor,  
President and Chief Executive Officer

The certifications set forth above are being furnished as an exhibit solely pursuant to Section 906 of the Sarbanes-Oxley Act of 2002, and shall not be deemed to be "filed" for purposes of Section 18 of the Securities Exchange Act of 1934, as amended, nor shall they be deemed incorporated by reference in any filing under the Securities Act of 1933, as amended.

A signed original of this written statement required by Section 906, or other document authenticating, acknowledging or otherwise adopting the signature that appears in typed form within the electronic version of this written statement required by Section 906, has been provided to LightPath Technologies, Inc. and will be retained by LightPath Technologies, Inc. and furnished to the Securities and Exchange Commission or its staff upon request.

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**Certification of Chief Financial Officer**  
**Pursuant to Section 1350 of Chapter 63 of Title 18 of the United States Code**

Pursuant to U.S.C. Section 1350, as created by Section 906 of the Sarbanes-Oxley Act of 2002, the undersigned Chief Financial Officer of LightPath Technologies, Inc. (the "Company") does hereby certify, to the best of such officer's knowledge, that:

1. The Annual Report on Form 10-K of the Company for the annual period ended June 30, 2019 (the "Report") fully complies with the requirements of Section 13(a) or Section 15(d), as applicable, of the Securities Exchange Act of 1934, as amended; and

2. The information contained in the Report fairly presents, in all material respects, the financial condition and results of operations of the Company.

Dated: September 12, 2019

/s/ Donald O. Retreage, Jr.  
Donald O. Retreage, Jr.  
Chief Financial Officer

The certifications set forth above are being furnished as an exhibit solely pursuant to Section 906 of the Sarbanes-Oxley Act of 2002, and shall not be deemed to be "filed" for purposes of Section 18 of the Securities Exchange Act of 1934, as amended, nor shall they be deemed incorporated by reference in any filing under the Securities Act of 1933, as amended.

A signed original of this written statement required by Section 906, or other document authenticating, acknowledging or otherwise adopting the signature that appears in typed form within the electronic version of this written statement required by Section 906, has been provided to LightPath Technologies, Inc. and will be retained by LightPath Technologies, Inc. and furnished to the Securities and Exchange Commission or its staff upon request.

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