

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, 2022

OR

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

For the transition period from _____ to _____

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

issued its audit report.

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 The NASDAQ Capital Market) was approximately \$64,792,006 as of December 31, 2021.

As of September 9, 2022, the number of shares of the registrant's Class A Common Stock outstanding was 27,071,929.

DOCUMENTS INCORPORATED BY REFERENCE

Portions of the Proxy Statement for the Fiscal 2022 Annual Meeting of Stockholders are incorporated by reference in Part II and Part III.

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, statements related to the expected effects on our business from the coronavirus ("COVID-19") pandemic, 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.

[Table of Contents](#)**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 corporate headquarters is located in Orlando, Florida.

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.

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. Since June 2019, ISP’s manufacturing operation has been located at our corporate headquarters facility in Orlando, Florida (the “Orlando Facility”). 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”).

Industry

We and our customers support a wide range of industries, including automotive, telecommunications, defense, medical, bio-technology, industrial, consumer goods and more. A commonality among these industries is the use of photonics as an enabling technology in their products.

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Over the last ten years we have witnessed a pivotal shift in the adoption of photonics in new applications. In the early days of the photonics industry the technology was a specialty, which was both expensive and required highly specialized technical knowledge, leading to low adoption of the technology into industries other than defense and high-end medical applications. Starting with the commercialization of fiber optic communication, and further driven by significant cost reduction in key technologies such as sensors and lasers, the adoption of the technology into more industries and applications began rapidly growing.

With the accelerated rate of adoption and highly diversified industries and applications utilizing an expanding array of photonics technologies, comes a change in both the needs of the customers and the supply chain, to support those needs. In the past, we and other component suppliers mostly served customers that specialized in photonics. The large equipment manufacturers (“OEMs”) focused on component companies as their supply chain for optical parts and minor fabrication and assemblies. OEMs typically produced their own designs and relied on the supply chain to fulfill their needs without any strategic product planning or collaboration. This supply chain was fragmented and consisted of a large number of small companies, many of which had particular specialties in the fabrication process.

As the industry has evolved and sensory, visualization and imaging capabilities have become differentiators, if not a necessity for an expanding array of products in a myriad of industries, the specialized requirements of customers are no longer being adequately addressed. With the wider adaptation of the technology, and with customers that now possess different expertise in different technologies, the needs are different, as is often the case with a mature supply chain. In our case, the change has created opportunities to now serve OEM customers for which photonics is only one of several technologies they embed into their product, and that have or are transitioning from a distributed supply chain that would provide all components for the bill of materials (“BOM”) to a highly diversified and fragmented global customer base in which the optical parts of their system are only a part of multiple technologies integrated together. As a result, the expanding market of original equipment and end market manufacturers are increasingly requiring an ecosystem around them to support their needs for domain knowledge, design, assembly and supply of their optical components. We refer to this ecosystem as “optical engineered solutions,” and believe we are positioned to serve as a single source, global optical solutions provider with leading engineering and manufacturing capabilities. This has led to our development of a new strategy and organizational alignment as discussed below, which we have begun to implement in recent months with significant initial success, including a return to double digit annual revenue growth, multiple new product designs and key multinational customer contract wins.

Growth Strategy

Historically, we operated with a focus on optical component manufacturing, and specifically on our leadership position as a precision molded lens manufacturer for visual light applications. While still positioned as a component provider, we expanded our addressable market with the acquisition of ISP,

a manufacturer of infrared optical components, in December 2016. Collectively, our operations lacked synergies, maintained a high cost structure, and lacked a defined path for capitalizing on the industry’s evolution and growth opportunities.

In March of 2020, our Board of Directors (our “Board”) recruited Mr. Sam Rubin, an industry veteran with a proven track record for delivering high growth through organic and inorganic means, to assume the role of Chief Executive Officer and to develop and implement a new strategy going forward. In the fall of 2020, Mr. Rubin led our Board and the leadership team in collaborative discussions with the purpose of defining a new comprehensive strategy for our business. The collaborative strategic planning process included leaders from across the organization, detailed dialogs with customers, vendors and partners, and an in-depth analysis of the environment we are in, changes and trends in and around the use of photonics, and an analysis of our capabilities, strengths and weaknesses. Throughout the process, we focused on developing a strategy that creates a unique and long-lasting value to our customers, and utilizes our unique capabilities and differentiators, both existing capabilities and differentiators, as well as new capabilities we acquire and develop organically.

Understanding the shifts that are happening in the marketplace and the changes that come when a technology, like photonics, moves from being a specialty to being integrated into mainstream industries and applications, we redefined our strategic direction to provide our wide customer base with domain expertise in optics, and became their partner for the optical engine of their systems. In our view, as the use of photonics evolves, so do customer needs. The industry is transforming from a fragmented industry with many component manufacturers into a solution-focused industry with the potential for partnerships for solution development and production. We believe such partnerships can start with us as the supplier. We have in-house domain expertise in photonics, knowledge and experience in advanced optical technologies, and the necessary manufacturing techniques and capabilities. We believe we can develop these partnerships by working closely with the customer throughout their design process, designing an optical solution that is tailored to their needs, often times using unique technologies that we own, and supplying the customer with a complete optical subsystem to be integrated into their product. Such an approach builds on our unique, value-added technologies that we currently own, such as optical molding, fabrication, system design, and proprietary manufacturing technologies, along with other technologies that we may acquire or develop in the future, to create tailored solutions for our customers.

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Our domain expertise and the extensive “know how” in optical design, fabrication, production and testing technologies will allow our customers to focus on their own development efforts, freeing them from the need to develop subject matter expertise in optics. By providing the bridge into the optical solution world, we are able to partner with our customers on a long-term basis, create value for our customers, and capture that value through the long-term supply relationships we seek to develop.

Organizational Alignment

Along with the development of a new strategic direction, we are focused on the execution of such strategic plan. First, we have taken steps to align the organization with the strategic plan. Such alignment has been ongoing in all levels of the organization, starting at the leadership level through the creation of a new position, Vice President of Operations, and hiring Peter Grief, an expert at building and scaling manufacturing operations, in April 2022 to fill such position. We also hired Albert Miranda, who has strong experience in financial management and mergers and acquisitions in the optical industry, as our Chief Financial Officer in May 2022, to replace our former Chief Financial Officer who retired. We believe that these actions will enhance our focus on building a strong foundation that is aligned with our strategic plan and create an operation that will be ready to take on significant growth, both organic and inorganic. We also appointed S. Eric Creviston, who has extensive experience with wireless and mobile technology and the semiconductor industry, as a new director to our Board.

To execute our new strategic plan, we also need, among other things, a strong manufacturing and technical organization that provides the domain expertise in photonics, from the design of an optical engineered solution tailored for the customer’s needs through the manufacturing, assembly and testing of such a sub-system. Given the fast pace of advancements in photonics technologies, achieving a sustainable advantage will also depend on having unique capabilities and technologies that allow our team to design and deliver the best tailored solutions. To support those goals, we began a few different organization-wide efforts, including standardizing and optimizing our processes and systems, taking steps to realigning our organizational structure, such as breaking down our single combined engineering group into the separate engineering functions that are a part of and better support operations, and creating a new product development group that focuses on developing capabilities and technologies that allow us to design and deliver better solutions. By having a small, focused new product development group, we are able to develop unique technologies that allow us to design solutions that we believe are better than what is otherwise available. Such unique technologies include developing tailored and optimized optical coatings, and advanced fabrication techniques such as freeform optical components, custom materials not available elsewhere, and cutting edge optical design capabilities.

In the longer term, we have identified capabilities and technologies that could be important differentiators, including, for example, optical detectors and active optical components such as lasers, motion systems, and more. The collection of many such unique technologies is what will allow us to differentiate our optical solution, and provide the customer with a product that is tailored exactly to their needs.

In addition to all of the organizational alignment initiatives we are implementing, we have also had a leadership transition and operational enhancements at our Chinese subsidiaries. As discussed in more detail in *Item 7. Management’s Discussion and Analysis of Financial Condition and Results of Operations*, we terminated certain of our management employees at our Chinese subsidiaries, LPOIZ and LPOI, in late fiscal year 2021, and transitioned to new management personnel. These events adversely impacted domestic sales in China beginning in late fiscal year 2021 through fiscal year 2022.

Technologies

We believe that to be the preferred partner to fulfill the photonics needs of our customers, domain expertise in photonics is the key element. Optics and photonics require multidisciplinary skills, including physics, mechanical engineering, material sciences, electrical engineering, and chemistry, among others. This is part of what makes using photonics so complicated, and at the same time part of what we see as the opportunity. Knowing what can and cannot be produced, designing the architecture and detailed design of the optical system, including electrical and mechanical interfaces, choosing and executing advanced manufacturing technologies, and delivering both the engineering prototypes that are needed, as well as producing a high volume of goods for the long-term, are all part of the domain expertise required. Additionally, to design the best solution for a customer, we not only need to know what can be produced and how to design it, we also must have unique capabilities that differentiate our solutions and allow us to design and produce a better solution that is more profitable than what may otherwise be available.

Along those lines, we continue to focus on developing new, innovative capabilities and technologies in all of our engineering and manufacturing groups, including systems design and testing, optical fabrication of components, material production, optical coatings, and electro mechanical design and production.

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Among the manufacturing technologies we own are:

- **High precision molded lenses.** Historically, precision molding of lenses is the key technology we have built upon. Precision molding of optics is a unique technology that is well suited for both high volume production of optical components, as well as production of optics with unique shapes, which otherwise would require a very lengthy and complex process to individually polish each lens to shape. Precision molded optics (“PMOs”) is a technology in which we continuously invest to pursue advancements in what materials can be molded and the shapes and sizes of the optics we can mold. Although there are several other competitors that can mold optical elements, we have an established leadership position in this area as the original developer of the technology, and we believe we are the preferred vendor for the most complex, high-end projects of many of our customers. Some recent advancements we have made in precision molded optics include molding of non-symmetric shapes such as freeform optical components, and qualifying new materials for availability as moldable materials.
- **Traditional polishing, and diamond turned optics.** Our capabilities include a wide range of traditional fabrication processes. These include CNC (computer numerical control) grinding and polishing of optical elements, traditional grinding and polishing of lenses, and diamond turning of infrared materials.
- **Materials.** Materials play an important role in providing design flexibility and allow tradeoffs between optical performance, weight, and performance in varying conditions. Traditionally, infrared applications have only a small number of materials, all of which are crystal based. However, the introduction of synthetic chalcogenide glass in recent years, which allows for synthesizing of different materials, has created a larger library of materials to design with. We produce four materials: BD6, our flagship chalcogenide glass; (ii) BD2, which we have been producing for over 15 years; (iii) NaCl and (iv) KBr crystals. We believe that having a larger selection of optical materials will provide us more tools to design better solutions than exists with current materials, and we plan to continue to invest in our materials development. In addition, through a grant from Space Florida’s Space Foundation and Israel’s Ministry of Science received in August 2021, we are in the process of qualifying our chalcogenide glass for space applications and in particular thermal imaging from space, which is a fast-growing application. As part of our continued focus on adding unique, value added technologies that will enable us to design and produce better optical systems, we had licensed from US Navy Research Laboratories, on an exclusive basis, their portfolio of Infrared Materials that they have developed in recent years. We believe this expansion of our portfolio of materials places us in a unique position for the rapidly growing market of infrared imaging. The exclusive license enables us to develop, use and sell materials that have been specifically developed to improve overall performance, cost, size and weight of infrared systems, and in particular to enable to new application of multi spectral infrared imaging.
- **Optical coatings.** Thin film coatings are designed to reduce losses and protect the optical material, which are a key part of any optical system. Through our recent investments, we have the ability to coat lenses in all of our facilities, providing efficient, high quality antireflective coatings, as well as reflective and protective coatings. Our coating facilities employ both physical vapor deposition techniques as well as chemical vapor deposition techniques. In addition to our library of dozens of standard coatings, our coating engineers often design coatings specific for an application, optimizing the performance of the system for a specific customer use. One of our most known advanced coatings is Diamond Like Carbon (“DLC”), which provides materials such as chalcogenide glass significant environmental protection. This coating is currently available only at a small number of vendors, and is an example of a capability that we believe gives us a competitive advantage by allowing us to design better optical solutions.
- **Assembly and testing.** In recent years, we have invested significantly in capabilities for sub-system level assemblies and testing in two of our facilities. Even more recently, we have added capabilities of active alignment, and extended testing including environmental testing, to support our growing business of optical assemblies and engineered solutions. We expect to continue to invest in this area as activity grows, particularly in volume manufacturing and testing of assemblies.

New Product Development

Consistent with our new strategic direction, our development efforts during fiscal years 2021 and 2022 also shifted to focus on developing products, technologies and capabilities that allow us to provide better solutions, using the most fit technology for each customer and with alignment to customer product lifecycle. This includes developing unique materials, processing techniques, optical coating offerings and more, which allow us to design a better optical system for customers than we believe is available elsewhere or through in-house/captive capabilities. Examples of such development efforts include our development of the Freeform optics technology, which won us the esteemed industry prism award, the development of new infrared materials, and continuing to stretch and improve our capabilities in all existing technologies, such as optical coating, fabrication and assembly. We generally rely on trade secret protection for technology we develop, but do pursue patents for certain of such technology. In many cases the benefits of patent protection is offset by the requirement to disclose in detail the processes, and so we intend to apply for a patent only in the case when we believe the patent is enforceable and does not compromise our trade secrets and intellectual properties developed over three decades.

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We incurred expenditures for new product development during fiscal years 2022 and 2021 of approximately \$2.1 million and \$2.2 million, respectively.

In some cases our product and technology development is supported through billing of engineering services, such as non-recurring engineering (“NRE”) fees. In other cases we receive external funding, such as our previously announced funding from Space Florida’s Space Foundation and Israel’s Ministry of Science. Our efforts are self-funded in all other cases.

As part of our product development and research and development efforts, we have over 50 employees with engineering and related advanced degrees located in our facilities in the United States, China and Latvia. Our facilities in Orlando, Florida and Zhenjiang, China are located in or near industrial technology campuses with substantial access to optical industry constituencies, including a major university. This enables us and our staff to remain on the cutting edge of industry design trends and to enter into collaborative engagements.

Product Groups and Markets

Overview

Our business is organized into three product groups: PMOs, 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 0.4 millimeters to over 2000 millimeters. In addition, both product groups offer catalog and custom designed optics.

Our specialty product group is comprised of value-added products, such as optical subsystems, assemblies, collimators, and 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 utilizing our existing products to fit their particular needs or specifications. The timing and extent of any such product development requests are outside of our control.

Product Groups

There is 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 facilitates choosing investment priorities to help strategically align our competencies with strategic industry revenue opportunities. Over the long term, this function will also help ensure successful product life cycle management. The following sections further discuss 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 mid-wave (“MWIR”), and long-wave (“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. ISP’s capabilities increase our ability to meet complex optical challenges that demand more exotic optical substrate materials that are non-moldable, as well as larger size optics.

We also have the ability to manufacture chalcogenide glass from which we produce infrared lenses. We developed this glass and melt it internally to produce our Black Diamond glass, which has been trademarked, and is marketed as BD6. Historically, the majority of our thermal imaging products have been 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.

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Overall, we anticipate continued growth for our infrared optics, particularly as BD6 continues to be adopted into new applications and new designs. Infrared systems, which include thermal imaging cameras, temperature sensing, gas sensing devices, spectrometers, night vision systems, automotive driver awareness systems, such as blind spot detection, thermal weapon sights, and infrared counter measure systems, is an area that is growing rapidly and we are selling products that are utilized in a number of these applications. As infrared imaging systems become widely available, market demand will increase as the cost of components decreases. 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 offer a 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. Collimator assemblies are utilized in applications involving light detection and ranging (“LIDAR”) technology for advanced driver assistance systems and autonomous vehicles, such as forklifts and other automated warehouse equipment. This continues to be an emerging market with long-term growth potential for us. We also expect growth from medical programs and commercial optical sub-assemblies.

We design, build, and sell optical assemblies in 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.

In connection with our new strategic direction and the expanding portfolio of products and services, we are evaluating the ways in which we may optimize the financial reporting of our product groups.

Sales and Marketing

Marketing. Extensive product diversity and varying levels of product maturity characterize the optics industry. Product verticals range from consumer (e.g., AR/VR, cameras, cell phones, gaming, 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., 3D printing, machine vision, LIDAR, robotics and semiconductor production equipment) and communications (e.g., fiber and laser based). As a result, we market our products across a wide variety of customer groups, including laser systems manufacturers, laser OEM's, infrared-imaging systems vendors, automotive OEMs, industrial laser tool manufacturers, telecommunications equipment manufacturers, medical instrumentation manufacturers and industrial measurement equipment manufacturers, government defense agencies, and research institutions worldwide. Our marketing efforts include a global unification of our messaging with the use of digital advertising, branding activities that utilize social media, our website and direct marketing activities. As our focus shifts from the sale of components and standard products to being a value-add supply partner for customized solutions, our marketing activities also shift from a focus on technical aspects of standard components to a focus on best practice use cases, the overall outcome from our solutions and end user benefit. Our market messaging will look to inspire interest and promote engagement.

Sales Model & Structure. To align the organization to better serve our new solution strategy and for accountability of our key corporate objectives, we have made organizational changes designed to ensure customer satisfaction and operational efficiency. Our organizational structure includes a product management function that enables the close coordination of supply with demand to help us leverage our core offerings and coordinate our engineering development efforts that will leverage and expand our portfolio of capabilities. We have also transitioned from a business unit focus to a unified global direct sales team that promotes the overall company portfolio and is standardized on a problem solving, needs analysis process. The team recently went through Sandler Training to help with this shift and to empower action with improved communication techniques. We have added technical program managers and product life cycle management ("PLCM") to better support the new customized customer programs and the transition from prototype engineering to full scale manufacturing.

Sales Team & Channel. We have aligned our sales engineering efforts to be account based and application focused. We have taken a more proactive approach to our direct selling efforts to increase our customer engagement, especially within Europe, where we recently transitioned away from working exclusively through a distributor. We have expanded our standard product offerings with the top two catalog companies in the world for optics and photonics which increases our exposure to new revenue opportunities. In addition, we continue to enhance our website (www.lightpath.com), which is our main communication vehicle for broader promotion of our company, our value-add capabilities, our growing chalcogenide material portfolio, and similarly have optimized our social media assets. We make use of digital and print media plus participate in many key industry associations and global trade shows.

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Trade Shows. We display our standard products, promote new innovative offerings and meet with industry influencers at a number of trade shows each year throughout North America, Europe and Asia. As a result of COVID-19, some of these annual trade shows have been rescheduled or modified into virtual online exchanges. So far in 2022, we participated in a few virtual shows plus several in person shows which included the SHOT Show in Las Vegas, the largest professional event for the sport shooting, hunting and outdoor industry in North America; SPIE Photonics West in San Francisco, where LightPath won a PRISM Award which honors the best new optics and photonics products on the market; SPIE DCS, AUVSI which promotes emerging technologies supporting autonomous vehicles, drones and robotics; and Laser World of Photonics in Munich. These trade shows provide us an opportunity to further expand our brand, network to enhance business relationships and gain valuable insight into technology trends in our target markets.

Competition

Engineered Solutions

The market for non-captive optical engineered solutions is emerging. As companies such as LightPath begin transitioning their offering from components to engineered solutions, we compete on several fronts:

- *Engineered solutions companies.* While there are not many, companies such as Excelitas Technologies Corp. and Jenoptik AG offer optical engineered solutions to the market, with a specific focus on solutions in visible and ultraviolet light bands, and with a vertical industry focus, such as life sciences and semiconductor systems.
- *Engineering firms.* Though less popular, in some cases customers prefer to work with engineering firms that provide design services, which then the customer produces or sub-contracts to third-party component manufacturers. An example of such companies providing engineering services are Lighthouse Imaging, LLC, Optikos Corporation, and Photon Engineering, LLC.
- *In-house or captive design.* The most common approach today is for customers to design the optical system internally by the OEM. This requires customers to have expertise in optical system and component design capabilities, along with knowledge of the most advanced available technologies, however limited the scope of their capabilities or the profitability of their solutions may be.

Our key differentiator is our unique technologies that allow us to design better solutions.

Optical Components

In our optical components business, 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. While the global market for component supply is fragmented and highly competitive, we maintain advantages through our unique technologies that often build on our leadership in precision molded optics, as well as our vertical integration in infrared optics, from raw materials through assemblies.

PMO Product Group. Our PMO products compete with conventional lenses and optical components manufactured from 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 other 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 competitors. An additional competitive advantage is our ability to switch production between different facilities on different continents. We do not depend on one facility and are able to move production in and out of China, which we believe creates a significant advantage by giving us supply chain continuity and an ability to adjust to customers' geographical preferences.

Plastic molded aspheres and hybrid plastic/glass aspheric optics 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. We do not compete in the market for plastic lenses unless a glass substitution presents a viable alternative.

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Infrared Product Group. Our infrared optical components compete with optical products produced by Janos Technology LLC, Ophir Optronics Solutions Ltd. (a subsidiary of MKS Instruments, Inc.), Clear Align, II-VI, Inc. and a variety of Eastern European and Asian manufacturers. Infrared optical components can be produced using several techniques. Historically, infrared optical components were produced only using traditional fabrication technologies, which later changed when diamond turning was introduced (a form of advanced CNC for optical materials), and most recently, with the adoption of synthetic chalcogenide glass, we began to precision mold infrared optical components, by leveraging our years of leadership and expertise in precision molding. Being synthetically produced, chalcogenide glass, such as our proprietary BD6 material, has an inherently lower cost than crystalline materials such as germanium. Additionally, glass such as our BD6 material provides further advantages, including a-thermal behavior, lower weight, and an ability to produce high-volumes through precision molding, something traditional infrared materials cannot achieve due to their crystal structure. In addition to molding lenses directly into finished form, we also developed and patented a process to mold large optical elements into near net shape, which offers a significant cost savings for components that cannot be produced directly from molding. All of this is related in part to our choice to vertically integrate, and produce our own chalcogenide glass, positioning us to create more technical advantages for our customers, by leveraging and optimizing our glass manufacturing to produce unique materials and better overall system performance.

We believe that the market shift towards the use of synthetic materials in infrared products represents a significant opportunity for us, and we continue to invest in further pushing the limits of both molding of infrared components, as well as the glass manufacturing technology and products. We believe this process will create significant differentiators and value in this industry segment, and will further change the dynamics of this industry segment.

Our molded infrared optics competes with products manufactured by Umicore N.V., Rochester Precision Optics, and a number of Asian and European manufacturers. We believe that leadership in glass molding technologies, our vertical integration by producing our own glass, and our continued investment in technology development in this area, coupled with our diverse manufacturing flexibility, and our manufacturing facilities located in Asia, Europe and North America are key advantages over the products manufactured by competitors.

Manufacturing

Facilities. Our manufacturing is largely performed in our combined 62,000 square feet of production facilities in Orlando, Florida, in LPOIZ's combined 55,000 square feet of production facilities in Zhenjiang, China, and in ISP Latvia's 29,000 square feet of production facilities in Riga, Latvia. LPOI sales and support functions occupy a 1,900 square foot facility in Shanghai, China.

Our Orlando Facility and LPOIZ's Zhenjiang Facility feature areas for each step of the manufacturing process, including coating work areas, diamond turning, 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, CNC grinding, conventional polishing, diamond turning, assemblies and state of the art metrology. During fiscal year 2021, we began adding infrared coating capabilities in the Riga Facility as well.

We are routinely adding additional production equipment at our Orlando, Zhenjiang and Riga Facilities. In fiscal year 2021, we added additional space in our Riga Facility, and also executed a lease agreement for additional space at our Orlando Facility, which we expect to occupy in mid-fiscal year 2023. In addition to adding equipment or space at our manufacturing facilities, we add 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 and planned expansions 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 a 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. During fiscal year 2021, we began adding infrared coating capabilities at the Riga Facility, which was completed the second half of fiscal year 2022. 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 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 we are experiencing inflationary pricing pressure in the short term, however there can be no assurances 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 reasonable security measures to protect our trade secrets and proprietary know-how.

We are aggressively pursuing patents for new products that provide new features, capabilities or other advantages to our customers. Over the past three years, we have been granted two new patents. We also have three other 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 throughout 2023. For 2022, we have three new groups of patents being submitted. The first is for the fabrication of mold tooling and the molding process for acylindrical arrays. The second is for the molding of large freeform optics, with respect to the proprietary molding equipment. The third is for the molding of doublets.

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 United States (“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 (collectively, “marks”) that are used in the marketing and sale of our products. The following table sets forth our registered and unregistered marks, and denotes whether each mark is registered, the country in which the mark is filed, and the renewal date for such mark.

Mark	Type	Registered	Country	Renewal Date
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, 2023

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.

Concentration of Customer Risk

In fiscal year 2022, we had sales to three customers that comprised an aggregate of approximately 35% of our annual revenue with one customer at 19% of our sales, another customer at 9% of our sales, and the third customer at 7% of our sales. In fiscal year 2021, we had sales to three customers that comprised an aggregate of approximately 38% of our annual revenue with one customer at 18% of our sales, another customer at 10% of our sales, and the third customer at 10% 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 year 2022, 61% of our net revenue was derived from sales outside of the U.S., with 95% of our foreign sales derived from customers in Europe and Asia. In fiscal year 2021, 68% of our net revenue was derived from sales outside of the U.S., with 95% of our foreign sales derived from customers in Europe and Asia.

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Employees

As of June 30, 2022, we had 334 employees, of which 329 were full-time equivalent employees, with 108 in the U.S., including 101 located in Orlando, Florida and 7 working remotely from various locations, 98 located in Riga, Latvia, and 128 located in Jiading and Zhenjiang, China. Of our 329 full-time equivalent employees, we have 33 employees engaged in management, administrative, and clerical functions, 32 employees in new product development, 11 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 year 2022. 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.

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

Our business, results of operations, financial condition, cash flows, and the stock price of our Class A common stock can be adversely affected by pandemics, epidemics, or other public health emergencies, such as the recent outbreak of COVID-19. Our business, results of operations financial condition, cash flows, and the stock price of our Class A common stock can be adversely affected by pandemics, epidemics, or other public health emergencies, such as the recent global outbreak of COVID-19. In March 2020, the World Health Organization (the “WHO”) declared COVID-19 as a pandemic. The COVID-19 pandemic resulted in governments around the world implementing measures to help control the spread of the virus, including “stay at home” orders, travel restrictions, business curtailments, school closures, and other measures. These restrictions significantly impacted economic conditions in the U.S. in 2020 and continued into 2021. Beginning in the spring of 2021, we have seen some restrictions lift as vaccines have become more available.

We are considered an “essential business,” as a critical supplier to both the medical and defense industries. To date, we have continued to operate our manufacturing facilities consistent with government guidelines and state and local orders; however, the outbreak of COVID-19 and any preventive or protective actions taken by governmental authorities may have a material adverse effect on our operations, supply chain, customers, and transportation networks, including business shutdown or disruptions. The extent to which COVID-19 may adversely impact our business depends on future developments, which are highly uncertain and unpredictable, depends upon the severity and duration of the outbreak and the effectiveness of actions taken globally to contain or mitigate its effect. Any resulting financial impact cannot be estimated reasonably at this time, but may materially adversely affect our business, results of operations, financial condition, and cash flows. Even after the COVID-19 pandemic has subsided, we may experience materially adverse impacts to our business due to any resulting economic recession or depression. Additionally, concerns over the economic impact of COVID-19 have caused extreme volatility in financial and other capital markets, which has and may continue to adversely impact our stock price and our ability to access capital markets. To the extent the COVID-19 pandemic may adversely affect our business and financial results, it may also have the effect of heightening many of the other risks described in this Annual Report on Form 10-K.

We have a history of losses. We reported net losses of \$3.5 million and \$3.2 million for fiscal years 2022 and 2021, respectively, and although we reported net income of \$0.9 million for fiscal year 2020, we incurred a net loss of \$2.7 million for fiscal year 2019. As of June 30, 2022, we had an accumulated deficit of approximately \$203.8 million. We may incur losses in the future if we do not achieve sufficient revenue to maintain profitability, or if we continue to incur unusual costs. We expect revenue to grow by generating additional sales through promotion of our infrared products, with a focus on engineered solutions, and continued cost reduction efforts across all product groups, 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 year 2022, we had sales to three customers that comprised an aggregate of approximately 35% of our annual revenue, with one customer at 19% of our sales, another customer at 9% of our sales, and the third customer at 7% of our sales. In fiscal year 2021, we had sales to three customers that comprised an aggregate of approximately 38% of our annual revenue, with one customer at 18% of our sales, another customer at 10% of our sales, and the third customer at 10% of our sales. The third customer lost a significant bid in 2021 which adversely affected our sales in fiscal year 2022. Our current strategy of providing the domain expertise and the extensive “know how” in optical design, fabrication, production and testing technologies will allow our customers to focus on their own development efforts, without needing to develop subject matter expertise in optics. By providing the bridge into the optical solution world, we partner with our customers on a long term basis, create value to our customers, and capture that value through the long-term supply relationships we develop. However the loss of any of these customers, or a significant reduction in sales to any such customer, would adversely affect our revenues.

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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 year 2022, 61% of our net revenue was derived from sales outside of the U.S., with 95% of our foreign sales derived from customers in Europe and Asia. In fiscal year 2021, 68% of our net revenue was derived from sales outside of the U.S., with 95% 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 distributions, 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.;
- the impact of high, sustained inflation;
- 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

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If the custodians or authorized users of our controlling non-tangible assets, including corporate chops and seals of our Chinese subsidiaries, fail to fulfill their responsibilities or misappropriate or misuse those assets, our business and operations could be materially and adversely affected. In China, a company chop or seal serves as the legal representation of the company towards third parties even when unaccompanied by a signature. Under law of the People's Republic of China, legal documents for corporate transactions, including contracts and leases that our business relies upon, are executed using "corporate chops," which are instruments that contain either the official seal of the signing entity or the signature of a legal representative whose designation is registered and filed with the State Administration for Industry and Commerce, or SAIC.

Our Chinese subsidiaries, LPOI and LPOIZ, generally execute legal documents with corporate chops. One or more of our corporate chops may be used to, among other things, execute commercial sales or purchase contracts, procurement contracts and office leases, open bank accounts, issue checks and to issue invoices. We have controls in place over access to and use of the chops. However, we cannot assure you that unauthorized access to or use of those chops can be prevented. Our designated employees who hold the corporate chops could abuse their authority by, for example, binding us to contracts against our interests or intentions, which could result in economic harm, disruption or our operations or other damages to them as a result of any contractual obligations, or resulting disputes, that might arise. If the party contracting with us asserted that we did not act in good faith under such circumstances, then we could incur costs to nullify such contracts. Such corporate or legal action could involve significant time and resources, while distracting management from our operations. In addition, we may not be able to recover corporate assets that are sold or transferred out of our control in the event of such a misappropriation if a transferee relies on the apparent authority of the representative and acts in good faith.

If a designated employee uses a chop in an effort to obtain control over one or more of our Chinese subsidiaries, we would need to take legal action to seek the return of the applicable chop(s), apply for a new chop(s) with the relevant authorities, or otherwise seek legal redress for the violation of their duties. During any period where we lose effective control of the corporate activities of one or more of our Chinese subsidiaries as a result of such misuse or misappropriation, the business activities of the affected entity could be disrupted and we could lose the economic benefits of that aspect of our business. To the extent those chops are stolen or are used by unauthorized persons or for unauthorized purposes, the corporate governance of these entities could be severely and adversely compromised and the operations of those entities could be significantly and adversely impacted.

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. In recent years, the U.S. government took certain actions that led to, and may lead to, further changes to U.S. and international trade policies, including the imposition of 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.

It remains unclear how tax or trade policies, tariffs, or trade relations may change or evolve with changes in the U.S. Presidential Administration. Perceived or actual 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 had a negative impact on our cost of sales beginning late in fiscal year 2019. As a result, we implemented a number of strategies to mitigate the current and, hopefully, future impact of tariffs. These strategies mitigated the impact of tariffs beginning in the second quarter of fiscal year 2020 and continued through fiscal years 2021 and 2022. 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 in the future, any future impact on our operations and financial results is uncertain and these impacts could be more significant than those we experienced in fiscal year 2020. Further, we can provide no assurance that the strategies we implemented to mitigate the impact of such tariffs or other trade actions will continue to 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 and offering to provide complete optical solutions such as assemblies to existing and other markets. While we believe we are able to provide such engineered solutions, we anticipate the need to gain the customer's trust in providing more than the optical component, a process that can sometimes take months, if not years. 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.

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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 continue to expand our sales operations globally, we may not be able to continue 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 year 2022, sales of PMO products represented approximately 42% of our net revenues, sales of infrared products represented approximately 53% of our net revenues, and sales of specialty products represented 5% of our revenues. In the future, we expect growth in both our PMO and infrared product groups. Continued and expanding market acceptance of these products, particularly our BD6-based infrared 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.

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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 2022 and 2021, we recognized net losses of approximately \$3,000 and \$1,000 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. If the Euro or Renminbi currencies were to trend unfavorably against the U.S. dollar on a long-term basis, then we would seek to rebalance our strategic materials sourcing.

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 year 2022, greater than 50% of our cash was held abroad. Historically, we generally considered unremitted earnings of our subsidiaries operating outside of the U.S. to be indefinitely reinvested. During fiscal year 2020, we began declaring intercompany dividends to remit a portion of the earnings of our foreign subsidiaries to us. Remaining 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 of the legal entity must equal at least 50% of its registered capital. As of June 30, 2022, LPOIZ had approximately \$3.9 million in retained earnings available for repatriation, and LPOI did not have any earnings available for repatriation, based on earnings accumulated through December 31, 2021, the end of the most recent statutory tax year, that remained undistributed as of June 30, 2022. 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.

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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 made 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 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 year 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 year 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 decreased by approximately \$202,000. This amount was 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.

On March 27, 2020, the Coronavirus Aid, Relief, and Economic Security Act (the “CARES Act”) was signed into law, which, among other things, is intended to provide emergency assistance to qualifying businesses and individuals. The CARES Act also suspends the limitation on the deduction of NOLs arising in taxable years beginning before January 1, 2021, permits a five-year carryback of NOLs arising in taxable years beginning after December 31, 2017 and before January 1, 2021, and generally modifies the limitation on the deduction for net interest expense to 50% of adjusted taxable income for taxable years beginning in 2019 and 2020. During fiscal year 2020, as a result of the CARES Act, the Company was able to accelerate the recovery of an income tax receivable related to previously paid alternative minimum tax. The receivable amount of approximately \$107,000 as of June 30, 2020 was collected in July 2020. In addition, the Company elected to utilize the payroll tax deferral under the CARES Act, resulting in cash savings in fiscal 2021 of approximately \$325,000, accrued as of June 30, 2021. Half of this amount was remitted on December 31, 2021, with the remainder deferred until December 31, 2022. While we may receive further financial, tax, or other relief and other benefits under and as a result of the CARES Act, it is not possible to estimate at this time the availability, extent, or impact of any such relief.

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. For example, President Biden has proposed various changes to existing U.S. tax laws, including increasing the corporate income tax rate and increasing the income tax rate on certain earnings of foreign subsidiaries, which if enacted could have a material impact on our business, results of operations, financial condition, and cash flows.

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.

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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 November 2022 and the other in November 2032. The Riga Facility is subject to two leases which expire in December 2030, and the Zhenjiang Facility is subject to one lease that expires in December 2024. 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.

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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. In January 2020, the United Kingdom and the European Union entered into a withdrawal agreement pursuant to which the United Kingdom formally withdrew from the European Union on January 31, 2020 (generally referred to as "BREXIT"). Following such withdrawal, the United Kingdom entered into a transition period scheduled to end on December 31, 2020. Effective May 1, 2021, the United Kingdom and the European Union struck a bilateral trade and cooperation deal governing the future relationship between the United Kingdom and the European Union. However, there remains uncertainties and risks to our business related to Brexit and the new relationship between the United Kingdom and European Union, which will continue to be developed and defined, as well as any resulting political and economic instability created by Brexit. The political and economic impact of Brexit has caused and may continue to cause significant volatility in global markets as well as greater restrictions on imports and exports between the United Kingdom and European Union countries, a fluctuation in currency exchange rates, and increased regulatory complexities. The impact of the withdrawal of the United Kingdom may adversely affect business activity, political stability, and economic conditions in the United Kingdom, the European Union, and elsewhere. Such developments and their ultimate impact, or the perception that any of these developments are likely to occur, could have a material adverse effect on economic growth or business activity in the United Kingdom, the Eurozone, or the European Union, and could result in the relocation of businesses, cause business interruptions, lead to economic recession or depression, inhibit the growth of the European economy, cause greater volatility in all of the global currencies that we currently use to transact business and impact the stability of the financial markets, availability of credit, political systems or financial institutions, and the financial and monetary system. Such developments could have a material adverse effect on our business, financial position, liquidity and results of operations.

Russia's ongoing conflict with Ukraine has disrupted the global economy. Our business, financial condition, and results of operations could be adversely affected by continued disruption and global consequences stemming from the conflict. Although we have no direct operations in Russia or Ukraine, the broader consequences of this conflict have negatively affected, and are expected to continue to negatively affect, the global economy, including the imposition of sanctions, cyber incidents or information technology failures, supply disruptions, increases in inflation rates, increase in energy costs, changes to foreign currency exchange rates, constraints, volatility, or disruption in financial markets, the availability of raw materials, supplies, freight, and labor, and uncertainty about economic and global stability. Historically, we have sourced germanium from suppliers located in Russia and China. We have, and intend to continue, sourcing germanium from suppliers located in China through the continuation of the Russian-Ukraine conflict and the Russian trade embargo. Though we do not anticipate any challenges from sourcing germanium solely from suppliers in China, we cannot provide any assurances that we will be able to obtain adequate supplies in the future or, if adequate supplies are available, that the timing or costs of obtaining such raw materials will be acceptable to us. Further, some of our major customers in Europe may be directly impacted by the Russian-Ukraine conflict, which could impact the amount and frequency of orders they place with us, as well as impact the timing and ability to pay for products ordered from us. Any material impacts to our customers could have a material adverse effect on our business and operating results.

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.

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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 not be able to protect our intellectual property rights throughout the world. Filing, prosecuting, and defending patents or establishing other intellectual property rights in all countries throughout the world would be prohibitively expensive, and our intellectual property rights in some countries outside the U.S. can be less extensive than those in the U.S. or non-existent. Further, many companies have encountered significant problems in protecting and defending intellectual property rights in foreign jurisdictions. The legal systems of some countries do not favor the enforcement of patents and other intellectual property protection, which could make it difficult for us to stop the infringement of our patents or misappropriation of our intellectual property

rights generally. Proceedings to enforce our patent and other intellectual property rights in foreign jurisdictions could result in substantial costs and divert our efforts and attention from other aspects of our business, could put our patents or intellectual property rights at risk of being invalidated or interpreted narrowly and our patent applications at risk of not issuing and could provoke third parties to assert claims against us. We may not prevail in any lawsuits that we initiate, and the damages or other remedies awarded, if any, may not be commercially meaningful. We believe that we have adequate protections in place with respect to our intellectual property; however, we cannot provide any assurances that such protections will be sufficient in the future. Any infringement or misappropriations of our patents and intellectual property rights would adversely 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.

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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. We also have a sales, marketing, and administrative office in Shanghai, China. The following schedule presents the approximate square footage of our offices and facilities as of June 30, 2022:

Location	Square Feet	Commitment and Use
Orlando, Florida	62,000	Leased; 3 suites used for corporate headquarters offices, manufacturing, and research and development
Riga, Latvia	29,000	Leased; 3 suites used for administrative offices, manufacturing and crystal growing
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 office suite used for sales, marketing and administrative offices

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 12, *Leases*, 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 material 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 material adverse legal activity is anticipated or threatened.

Item 4. Mine Safety Disclosures.

Not Applicable.

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PART II

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 Nasdaq Capital Market under the symbol “LPTH”.

Holders

As of September 8, 2022, we estimate there were approximately 199 holders of record and approximately 10,930 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 6. Reserved.

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.

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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 indicates the amount of funds available to cover 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.

Potential Impact of COVID-19

In March 2020, the WHO declared the outbreak of COVID-19 as a pandemic based on the rapid increase in global exposure. COVID-19 has spread throughout world, including the U.S., and continues to spread as additional variants emerge. As a result of the COVID-19 pandemic, our employees at our facilities in China, Latvia, and the U.S. were subject to stay-at-home orders during a portion of fiscal year 2021, which restrictions have since been lifted as of the date of this Annual Report on Form 10-K. In addition to stay-at-home orders, many jurisdictions also implemented social distancing and other restrictions and measures to slow the spread of COVID-19. These restrictions significantly impacted economic conditions in the U.S. in 2020 and continued into 2021 and 2022. Beginning in the spring of 2021, restrictions began to lift as vaccines became more available. Despite these stay-at-home orders and other measures and restrictions implemented in the areas in which we operate, as a critical supplier to both the medical and defense industries, we were deemed to be an essential business; thus, regardless of the stay-at-home orders, our workforce was permitted to work from our facilities and our business operations have generally continued to operate as normal. Nonetheless, despite the lifting of these stay-at-home orders, out of concern for our workforce, our U.S.- and Latvia-based non-manufacturing employees have continued to work remotely to some extent. To date, we have not seen any significant direct financial impact of COVID-19 to our business. However, the COVID-19 pandemic continues to impact economic conditions, which could impact the short-term and long-term demand from our customers and, therefore, has the potential to negatively impact our results of operations, cash flows, and financial position in the future. Management is actively monitoring this situation and any impact on our financial condition, liquidity, and results of operations. However, given the daily evolution of the COVID-19 pandemic and the global responses to curb its spread, we are not presently able to estimate the effects of the COVID-19 pandemic on our future results of operations, financials, or liquidity in fiscal year 2023 or beyond.

Effect of Certain Events Occurring at Our Chinese Subsidiaries

In April 2021, we terminated several employees of our China subsidiaries, LPOIZ and LPOI, including the General Manager, the Sales Manager, and the Engineering Manager, after determining that they had engaged in malfeasance and conduct adverse to our interests, including efforts to misappropriate certain of our proprietary technology, diverting sales to entities owned or controlled by these former employees and other suspected acts of fraud, theft and embezzlement. In connection with such terminations, our China subsidiaries have engaged in certain legal proceedings with the terminated employees.

We have incurred various expenses associated with our investigation into these matters prior and subsequent to the termination of the employees and the associated legal proceedings. These expenses, which included legal, consulting and other transitional management fees, totaled \$718,000 during the year ended June 30, 2021. During the year ended June 30, 2022, approximately \$400,000 of related expenses were incurred. Such expenses were recorded as “Selling, general and administrative” expenses in the accompanying Consolidated Statements of Comprehensive Income (Loss).

We also identified a further liability in the amount of \$210,000, which could have been incurred in the future due to the actions of these employees. This amount was accrued as of June 30, 2021, pending further investigation, and was included in “Other Expense, net” in the Consolidated Statement of Comprehensive Income (Loss) for the year ended June 30, 2021. During the third quarter of fiscal year 2022, it was determined that our Chinese subsidiary would not be responsible for this amount. As such, this accrual was reversed and is included in the accompanying Consolidated Statements of Comprehensive Income (Loss) in the line item entitled “Other income (expense), net” for the year ended June 30, 2022.

Knowing that employee transitions in international subsidiaries can lead to lengthy legal proceedings that can interrupt the subsidiary’s ability to operate, compounded by the fact that our officers could not travel to China to oversee the transitions because of the travel restrictions imposed by COVID-19, we chose to enter into severance agreements with certain of the employees at the time of termination. Pursuant to the severance agreements, LPOIZ and LPOI agreed to pay such employees severance of approximately \$485,000 in the aggregate, to be paid over a six-month period. After the execution of the severance agreements, we discovered additional wrongdoing by the terminated employees. As a result, LPOIZ and LPOI have not yet paid the severance payments and have disputed the employees’ rights to such payments. Currently, there are ongoing civil actions in China in connection with LPOIZ’s and LPOI’s refusal to pay these severance amounts due to the employees’ non-compliance. However, based on the likelihood that the courts in China will determine that our subsidiaries will ultimately be obligated to pay these amounts, we have accrued for these payments as of June 30, 2021, and such expenses were recorded as “Selling, general and administrative” expenses in the accompanying Consolidated Statement of Comprehensive Income (Loss) in fiscal year 2021. As of June 30, 2022, approximately \$430,000 remains accrued. The Chinese Labor Court has ruled in favor of the former employees, as expected. We are continuing litigation and negotiation as an option.

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We have transitioned the management of LPOI and LPOIZ to a new management team without any significant detrimental effects on their ability to operate. We do not expect any material adverse impact to the business operations of LPOI or LPOIZ as a result of the transition.

We expect to incur additional legal fees and consulting expenses in future periods as we continue to pursue our legal options and remedies; however, such future fees are expected to be at lower levels than have been incurred to date.

Although we have taken steps to minimize the business impacts from the termination of the local management employees and transition to new management personnel, we experienced some short-term adverse impacts on LPOIZ's and LPOI's domestic sales in China and results of operations in the three-month period ended June 30, 2021, which continued through fiscal year 2022. We have not experienced, nor do we anticipate, any material adverse impact on LPOIZ's or LPOI's production and supply of products to LightPath for LightPath's customers.

Results of Operations

Operating Results for Fiscal Year Ended June 30, 2022 compared to the Fiscal Year Ended June 30, 2021:

Revenue.

Revenue for fiscal year 2022 was approximately \$35.6 million, a decrease of 8%, as compared to \$38.5 million in fiscal year 2021. Revenue generated by infrared products was approximately \$18.7 million in fiscal year 2022, a decrease of 11%, as compared to the prior fiscal year. The decrease in revenue is primarily driven by sales to customers in the industrial market, particularly for our BD6-based molded infrared products. Industrial applications, firefighting cameras, and other public safety applications continue to be the primary drivers of demand for infrared products, including thermal imaging assemblies. During fiscal years 2020 and 2021, we saw an increase in demand for medical and temperature sensing applications, such as fever detection. Demand for temperature sensing applications were accelerated by COVID-19, and although the demand has leveled off since the initial spike, it remains elevated.

Revenue generated by PMO products was approximately \$15.0 million for fiscal year 2022, a decrease of 5%, as compared to the prior fiscal year. The decrease in revenue is primarily attributed to a reduction in orders from a key customer in the telecommunications market, due to a decrease in that customer's market share. This decrease was partially offset by an increase in sales through our catalog and distribution channels, as well as increases in sales to customers in the industrial and medical industries.

Revenue generated by specialty products was approximately \$1.8 million in fiscal year 2022, an increase of approximately 12% as compared to fiscal year 2021. This increase is primarily due to higher NRE project revenue in fiscal year 2022. NRE revenue is project based and the timing of any such projects is wholly dependent on our customers and their project activity.

Cost of Sales and Gross Margin.

Gross margin for fiscal year 2022 was approximately \$11.8 million, a decrease of 12%, as compared to approximately \$13.4 million in fiscal year 2021. Total cost of sales was approximately \$23.7 million for fiscal year 2022, compared to \$25.0 million for fiscal year 2021, a decrease of 5%. Gross margin as a percentage of revenue was 33% for fiscal year 2022, compared to 35% for the prior fiscal year. Although the product mix is similar for PMO and infrared products for fiscal year 2022, as compared to the prior fiscal year, the gross margin as a percentage of revenue is unfavorably impacted by the 8% decrease in revenue, which resulted in under-utilized capacity in some areas. Infrared product margins also reflect increased costs associated with the completion of the coating department in our Riga Facility, which began to improve in the fourth quarter of fiscal year 2022 and is expected to continue to improve over time, as that facility works through the qualification stages for more products and begins to produce at higher volumes. In the second half of fiscal year 2022, margins were also negatively impacted by inflationary pressure in the cost of raw materials, and significantly increased energy costs, particularly in Latvia.

Selling, General and Administrative.

For fiscal year 2022, Selling, General and Administrative ("SG&A") costs were approximately \$11.2 million, a decrease of approximately \$768,000, or 6%, as compared to the prior fiscal year. The decrease in SG&A for fiscal year 2022 is primarily due to an approximate \$800,000 decrease in expenses associated with the previously described events that occurred at our Chinese subsidiaries, including severance, legal and consulting fees. This decrease was partially offset by an increase in expenses for travel and tradeshow, with fewer COVID-19 restrictions in place, as well as expenses for certain "value-added taxes" ("VAT") and related taxes owed by one of our Chinese subsidiaries from prior years, which was identified and settled in fiscal year 2022. These increases were offset by the absence of the following non-recurring expenses that were incurred in fiscal year 2021: (i) approximately \$400,000 of additional compensation to our former Chief Executive Officer, as previously disclosed in the Current Report on Form 8-K filed with the SEC on November 18, 2020, and (ii) approximately \$150,000 of additional stock compensation recorded as certain RSUs vested upon the retirement of two directors.

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New Product Development.

New product development costs were approximately \$2.1 million in fiscal year 2022, a decrease of approximately 4%, as compared to approximately \$2.2 million in the prior fiscal year. This decrease was primarily due to lower spending on internally-funded development projects, while customer- and government-funded NRE projects increased in fiscal year 2022.

Other Expense.

Interest expense was approximately \$229,000 for fiscal year 2022, compared to approximately \$215,000 in the prior fiscal year. The increase in interest expense is due to rising interest rates, partially offset by a 14% reduction in our total debt, including finance lease obligations, and excluding operating lease liabilities, as of June 30, 2022, as compared to the end of the prior fiscal year.

Other income, net, was approximately \$177,000 in for fiscal year 2022, compared to other expense, net, of approximately \$194,000 for fiscal year 2021. Other income, net, for fiscal year 2022 includes a benefit of \$210,000, which represents the reversal of a potential liability related to the actions of the

terminated employees of our subsidiaries in China, as previously discussed. This potential liability was accrued as of June 30, 2021, pending further investigation, and it was determined in the third quarter of fiscal year 2022 that our Chinese subsidiary would not be responsible for this amount. Other expense, net, for fiscal year 2021 included an expense of \$210,000 associated with this accrual. Other income (expense), net also includes net foreign currency transaction gains and losses, which were minimal for fiscal years 2022 and 2021. We execute all foreign sales from our U.S. facilities and intercompany transactions in U.S. dollars, partially mitigating the impact of foreign currency fluctuations. Assets and liabilities denominated in non-United States 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 year 2022, we incurred net foreign currency transaction losses of approximately \$3,000, compared to \$1,000 for fiscal year 2021.

Income Taxes.

During fiscal year 2022, we recorded income tax expense of approximately \$863,000, compared to approximately \$934,000 in fiscal year 2021, primarily related to income taxes from our operations in China. Income taxes for fiscal years 2022 and 2021 also included Chinese withholding tax expenses of \$230,000 and \$524,000, respectively, the majority of which are associated with intercompany dividends declared by LPOIZ, payable to us as the parent company. While this repatriation transaction resulted in some additional Chinese withholding taxes, LPOIZ currently qualifies for a reduced Chinese income tax rate; therefore, the total tax on those earnings was still below the normal income tax rate. The income tax provision for fiscal year 2022 also includes a true-up of deferred tax liabilities for LPOIZ, and the income tax provision for fiscal year 2021 reflects an increase in the valuation allowance on our U.S. deferred tax assets. Please refer to Note 8, *Income Taxes*, in the Notes to the Consolidated Financial Statements in this Annual Report on Form 10-K for additional information related to each of our tax jurisdictions.

Net Income (Loss).

Net loss for fiscal year 2022 was approximately \$3.5 million, or \$0.13 basic and diluted loss per share, compared to approximately \$3.2 million, or \$0.12 basic and diluted loss per share, for fiscal year 2021. The increase in net loss for fiscal year 2022, as compared to fiscal year 2021, is primarily attributable to a \$785,000 increase in operating loss resulting from lower gross margin, which was partially offset by lower operating expenses. Non-operating items include a \$420,000 favorable difference for the aforementioned accrual and subsequent reversal of a potential liability associated with the actions of our terminated employees of our Chinese subsidiaries. In addition, there was a favorable difference of approximately \$71,000 in the provision for income taxes.

Weighted-average common stock shares outstanding were 27,019,534 for both basic and diluted in fiscal year 2022, compared to 26,314,025 for both basic and diluted in fiscal year 2021. The increase in the weighted-average basic common shares was due to the issuance of shares of Class A common stock under the 2014 ESPP and underlying vested RSUs. Potential dilutive common stock equivalents were excluded from the calculation of diluted shares for fiscal years 2022 and 2021, as their effects would have been anti-dilutive due to the net loss in those periods.

Liquidity and Capital Resources

At June 30, 2022, we had working capital of approximately \$10.4 million and total cash and cash equivalents of approximately \$5.5 million. Greater than 50% 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 and Latvia were generated in-country as a result of foreign earnings. Historically, we considered unremitted earnings held by our foreign subsidiaries to be permanently reinvested. However, during fiscal year 2020, we began declaring intercompany dividends to remit a portion of the earnings of our foreign subsidiaries to us, as the U.S. parent company. It is still our intent to reinvest a significant portion of earnings generated by our foreign subsidiaries, however we also plan to repatriate a portion of their earnings.

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In China, before any funds can be repatriated, the retained earnings of the legal entity must equal at least 50% of the registered capital. During fiscal years 2022 and 2021, we repatriated approximately \$2.8 million and \$4 million, respectively, from LPOIZ. As of June 30, 2022, LPOIZ had approximately \$3.9 million in retained earnings available for repatriation, and LPOI did not have any earnings available for repatriation, based on earnings accumulated through December 31, 2021, the end of the most recent statutory tax year, that remained undistributed as of June 30, 2022. Based on our previous intent, we had not historically provided for future Chinese withholding taxes on the related earnings. However, during fiscal year 2020 we began to accrue for these taxes on the portion of earnings that we intend to repatriate.

Loans payable as of June 30, 2022 consisted of the term loan in the original principal amount of approximately \$5.8 million (the “BankUnited Term Loan”) issued in favor of BankUnited, N.A. (“BankUnited”) and an equipment loan with a third party. Details of the loans are as follows:

BankUnited Loans.

On February 26, 2019, we entered into the Loan Agreement (the “Loan Agreement”) with BankUnited for the BankUnited Term Loan, a revolving line of credit up to a maximum amount of \$2 million (the “BankUnited Revolving Line”), and 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”). 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”). On September 9, 2021, we entered into a letter agreement with BankUnited (the “Letter Agreement”). The Letter Agreement: (i) reduced the fixed charge coverage ratio to 1.0 for the quarter ending September 30, 2021 and to 1.1 for the quarter ended December 31, 2021; (ii) modified the calculation for both the fixed charge coverage ratio and the total leverage ratio to provide for adjustments related to expenses incurred in connection with the events at LPOI and LPOIZ, which expenses must be approved by BankUnited; (iii) terminated the Guidance Line; and (iv) required approval from BankUnited prior to our being able to draw upon the Revolving Line, subject to our compliance with the fixed charge coverage ratio for the quarters ending September 30, 2021 and December 31, 2021. The Letter Agreement also granted us a waiver of default arising prior to the Letter Agreement for our failure to comply with the fixed charge coverage ratio measured on June 30, 2021. Based on the waiver, we were no longer in default of the Amended Loan Agreement. Finally, in connection with the Letter Agreement, we paid BankUnited a fee equal to \$10,000.

On November 5, 2021, we entered into a letter agreement with BankUnited (the “Second Letter Agreement”). In accordance with the Second Letter Agreement, the parties agreed to initiate discussions regarding a possible modification, forbearance, or other resolution of the Amended Loan Agreement (as defined below), which resolution would occur on or before December 31, 2021. On December 20, 2021, we entered into the Second Amendment to the Loan Agreement dated February 26, 2019 (the “Second Amendment”), which further amended the Loan Agreement with BankUnited. In accordance with

the Second Amendment, the parties agreed to the following terms, among others: (i) a maturity date of April 15, 2023 with respect to the Term Loan (as defined in the Amended Loan Agreement); (ii) an increased monthly payment amount of \$100,000 commencing on November 1, 2022; (iii) beginning on December 20, 2021, each facility will bear interest at BankUnited's then-prime rate of interest minus fifty (50) basis points (4.25% as of June 30, 2022), as adjusted from time to time, (iv) the Term Loan will bear a higher interest rate commencing on August 1, 2022; (v) an exit fee equal to 4% of the outstanding principal balance of the Term Loan on April 15, 2023 (to the extent the Term Loan is still outstanding on such date and has not been refinanced with another lender); and (vi) a fee of \$50,000 payable upon execution of the Second Amendment. The Second Amendment also granted us a waiver of compliance for the Financial Covenants (as set forth in the Amended Loan Agreement) for the periods ended December 31, 2021, March 31, 2022 and June 30, 2022.

On May 11, 2022, we entered into the Third Amendment to the Loan Agreement dated February 26, 2019 (the "Third Amendment"; and, together with the First Amendment, the Letter Agreement and the Second Letter Agreement, the "Amended Loan Agreement"), which further amended the Loan Agreement with BankUnited. In accordance with the Third Amendment, the parties agreed to the following terms, among others: (i) an amended maturity date of April 15, 2024 with respect to the Term Loan (as defined in the Amended Loan Agreement); and (ii) an amended exit fee equal to (a) 2% of the outstanding principal balance of the Term Loan on September 30, 2022, (b) 1% of the outstanding principal balance on December 31, 2022, (c) 1% of the outstanding principal balance on March 31, 2023, and (d) 4% of the outstanding principal balance on April 15, 2024 (to the extent the Term Loan is still outstanding on the respective dates and has not been refinanced with another lender).

We have commenced discussions with other lenders, with the intent of refinancing our credit facility prior to maturity with reasonable commercial terms, of which there can be no assurance. If we are unable to refinance the credit facility with other commercial lenders prior to maturity, we may need to raise additional equity financing, source financing through non-commercial lenders or further reduce certain operating expenses and capital expenditures in order to repay our credit facility and all charges related thereto upon its maturity on April 15, 2024. For additional information on liquidity, see Note 13, *Loans Payable*, to the Notes to the Consolidated Financial Statements to this Annual Report on Form 10-K.

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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.

[BankUnited Revolving Line](#)

Pursuant to the Amended Loan Agreement, BankUnited agreed to 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 could have been used for working capital and general corporate purposes. The BankUnited Revolving Line expired on February 26, 2022. No amounts were outstanding under the BankUnited Revolving Line on June 30, 2021 or on February 26, 2022.

[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 outstanding principal amount and all accrued interest under the acquisition term loan and to pay the fees and expenses incurred in connection with closing of the BankUnited Loans. The Term Loan was for a 5-year term, but co-terminus with the BankUnited Revolving Line should the BankUnited Revolving Line not be renewed beyond February 26, 2022. Pursuant to the Second Amendment, the maturity date of the Term Loan was April 15, 2023, and pursuant to the Third Amendment, the maturity date of the Term Loan is April 15, 2024. The Term Loan initially bore interest at a per annum rate equal to 2.75% above the 30-day LIBOR. However, pursuant to the Second Amendment, beginning on December 20, 2021, each facility bears interest at BankUnited's then-prime rate of interest minus fifty (50) basis points (4.25% as of June 30, 2022), as adjusted from time to time. Equal monthly principal payments of approximately \$48,446, plus accrued interest, are due and payable, in arrears, on the first day of each month during the term. Pursuant to the Second Amendment, the monthly payment, including principal and interest, will increase to \$100,000, commencing November 1, 2022. Upon maturity, all principal and interest shall be immediately due and payable.

As of June 30, 2022, the applicable interest rate was 4.25% and the outstanding balance on the BankUnited Term Loan was approximately \$3.9 million.

[Guidance Line](#)

The Amended Loan Agreement provided that BankUnited, in its sole discretion, could 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 could have been used for capital expenditures and approved business acquisitions. The Guidance Line terminated on September 9, 2021 in accordance with the Letter Agreement. There were no amounts outstanding under the Guidance Line at June 30, 2021 or upon its termination at September 9, 2021.

[General Terms](#)

The Amended Loan Agreement contains customary covenants, including, but not limited to certain financial covenants. Generally, we must maintain a fixed charge coverage ratio of 1.25 to 1.00 and a total leverage ratio of 4.00 to 1.00. The Letter Agreement granted us a waiver of default arising prior to the Letter Agreement from our failure to comply with the fixed charge coverage ratio measured on June 30, 2021. The Second Amendment to the Amended Loan Agreement granted us a waiver of compliance for the Financial Covenants (as set forth in the Amended Loan Agreement) through June 30, 2022. Based on the waivers, we are no longer in default of the Amended Loan Agreement. As of June 30, 2022, we were in compliance with all other covenants.

[Equipment Loan.](#)

In December 2020, ISP Latvia entered into an equipment loan with a third party (the "Equipment Loan"), which party is also a significant customer. The Equipment Loan is subordinate to the BankUnited Loans and is collateralized by certain equipment. The initial advance under the Equipment Loan was 225,000 EUR (or USD \$275,000), payable in equal installments over 60 months, the proceeds of which were used to make a prepayment to a vendor for equipment to be delivered at a future date. The Equipment Loan bears interest at a fixed rate of 3.3%. An additional 225,000 EUR (or USD \$267,000) was

drawn in September 2021, which proceeds were paid to the vendor for the equipment, payable in equal installments over 52 months. As of June 30, 2022, the outstanding balance on the Equipment Loan was 335,000 EUR (or USD \$352,000).

For additional information regarding the BankUnited Loans and the Equipment Loan, see Note 13, *Loans Payable*, to the Notes to the Consolidated Financial Statements to this Annual Report on Form 10-K.

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In February 2022, we filed a shelf registration statement to facilitate the issuance of our Class A common stock, warrants exercisable for shares of our Class A common stock, and/or units up to an aggregate offering price of \$75.8 million from time to time. In connection with the filing of the shelf registration statement, we also included a prospectus supplement relating to an at-the-market equity program under which we may issue and sell shares of our Class A common stock up to an aggregate offering price of \$25.2 million from time to time, decreasing the aggregate offering price available under our shelf registration statement to \$50.6 million. The shelf registration statement was declared effective by the SEC on March 1, 2022. We have not issued any shares of our Class A common stock pursuant to the at-the-market equity program.

We believe we have adequate financial resources to sustain our current and anticipated 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 the engineered solutions we plan to focus on.

We generally rely on cash from operations and equity offerings, and commercial debt, to the extent available, to satisfy our liquidity needs and to maintain our ability to meet our payment obligations, including payments due under the BankUnited Term Loan and Equipment 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 – Operating.

Cash flow provided by operations was approximately \$1.5 million for fiscal year 2022, compared to approximately \$4.7 million for fiscal year 2021. The decrease in cash flows from operations during fiscal year 2022 is primarily due to the increase in net loss, decrease in accounts payable and accrued liabilities, and an increase in accounts receivable, partially offset by a reduction in inventory. The decrease in accounts payable and accrued liabilities was primarily due to the previously described events that occurred at our Chinese subsidiaries, for which certain expenses were accrued as of June 30, 2021, many of which were paid during fiscal year 2022, as well as payment of certain bonuses paid to our executive officers and other employees which were earned during fiscal year 2021. During fiscal year 2022 we also made the first installment payment of payroll taxes deferred in fiscal year 2020 under the CARES Act.

We anticipate continued improvement in our cash flows provided by operations in future years, as we continue to focus on managing our receivables, payables and inventory, while continuing to grow our sales and improve gross margins, with moderate increases in general, administrative, sales and marketing and new product development costs.

Cash Flows – Investing.

During fiscal year 2022, we expended approximately \$1.6 million for capital equipment, as compared to approximately \$3.2 million during fiscal year 2021. Our capital expenditures during fiscal year 2022 were primarily related to the continued expansion of our infrared coating capacity as well as increasing our lens diamond turning capacity to meet current and forecasted demand. During fiscal year 2021, our capital expenditures were primarily related to the continued expansion of our infrared coating capacity as well as increasing our lens pressing and dicing capacity to meet demand.

We anticipate a similar level of capital expenditures during fiscal year 2023; however, the total amount expended will depend on sales growth opportunities and other circumstances.

Cash Flows – Financings.

Net cash used in financing activities was approximately \$636,000 in fiscal year 2022, compared to \$843,000 in fiscal year 2021. Cash used in financing activities for fiscal year 2022 reflects approximately \$894,000 in principal payments on our loans and finance leases and \$61,000 in loan costs, offset by proceeds of approximately \$267,000 from the Equipment Loan and approximately \$52,000 in proceeds from the sale of Class A common stock under the 2014 ESPP. Cash used in financing activities for fiscal year 2021 reflects approximately \$1.3 million in principal payments on our loans and finance leases, offset by proceeds of approximately \$275,000 from the Equipment Loan, and approximately \$173,000 in proceeds from the exercise of stock options and from the sale of Class A common stock under the 2014 ESPP.

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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 solutions.” 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 several 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 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. Management will evaluate these key indicators as we transition to our new strategic plan to determine whether any changes or updates to our key indicators are warranted.

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Sales Backlog.

We believe 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. Historically, we evaluated our backlog on a 12-month basis, which examined orders required by a customer for delivery within a one-year period. To better align with our strategic focus on longer-term customer orders and relationships, beginning in fiscal year 2021, management began evaluating our total backlog, which includes all firm orders requested by a customer that are reasonably believed 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 total backlog is better for us.

Quarterly backlog levels for fiscal years 2022 and 2021 are as follows:

Quarter	Total Backlog (\$ 000)	Change From Prior Year End	Change From Prior Quarter End
Q1 2021	\$ 20,866	-5%	-5%
Q2 2021	\$ 23,835	9%	14%
Q3 2021	\$ 19,498	-11%	-18%
Q4 2021	\$ 21,329	-3%	9%
Q1 2022	\$ 19,265	-10%	-10%
Q2 2022	\$ 21,929	3%	14%
Q3 2022	\$ 19,678	-8%	-10%
Q4 2022	\$ 17,767	-17%	-10%

The increase in our total backlog from the first quarter to the second quarter of both fiscal years 2022 and 2021 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. The timing of this renewal is similar to the prior fiscal year. The decrease in our total backlog from June 30, 2021 to June 30, 2022 is primarily due to the timing of other annual and multi-year contract renewals. These renewals may substantially increase backlog levels at the time the orders are received, and backlog will subsequently be drawn down as shipments are made against these orders. Our annual and multi-year contracts are expected to renew in future quarters. For example, in August 2022 we announced a \$4 million supply agreement for PMO, with a long time European customer of precision motion control systems and OEM assemblies. The new supply agreement will go into effect in the second half of our fiscal year 2023 and is expected to run for around 12-18 months.

Markets continue to experience growing demand for infrared products used in the industrial, defense and first responder sectors. Demand for infrared products continues to be fueled by interest in lenses made with our new BD6 material. With the global supply of germanium currently sourced from Russia and China, recent global events are generating renewed interest in BD6 as an alternative to germanium. 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; however, we believe that, although necessary, the terminations of certain of our management employees in our China subsidiaries, LPOIZ and LPOI, and transition to new management personnel has adversely impacted the domestic sales in China of these subsidiaries through fiscal year 2022. Our former employees, including management personnel, maintained relationships with certain of our customers in China and we expect that until our new sales and management personnel establish relationships with these customers, of which there can be no assurance, domestic sales in China may be adversely impacted. Although the recovery has taken longer than initially expected, we have begun to recapture some customers. Our sales and management team in China was enhanced in October 2021 with two key new hires, and we are beginning to see more progress in this area.

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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, 2022 and 2021:

	(unaudited)				Quarter % Change	Year-to- date % Change
	Three Months Ended		Year Ended June 30,			
	June 30,		2022	2021		
	2022	2021	2022	2021		
Revenue						
PMO	\$ 3,411,877	\$ 2,941,270	\$ 15,020,542	\$ 15,882,189	16%	-5%
Infrared Products	5,046,555	4,975,947	18,735,325	20,971,080	1%	-11%
Specialty Products	448,799	415,099	1,803,293	1,611,552	8%	12%
Total revenue	<u>\$ 8,907,231</u>	<u>\$ 8,332,316</u>	<u>\$ 35,559,160</u>	<u>\$ 38,464,821</u>	7%	-8%
Units						
PMO	398,064	323,404	1,999,200	3,139,774	23%	-36%
Infrared Products	100,715	122,127	438,508	579,563	-18%	-24%
Specialty Products	4,079	8,901	18,948	32,980	-54%	-43%
Total units	<u>502,858</u>	<u>454,432</u>	<u>2,456,656</u>	<u>3,752,317</u>	11%	-35%

Three months ended June 30, 2022 compared to three months ended June 30, 2021.

Our revenue increased by 7% in the fourth quarter of fiscal year 2022, as compared to the same quarter of the prior fiscal year, primarily as a result of an increase in demand for PMO products.

Revenue from the PMO product group for the fourth quarter of fiscal year 2022 was \$3.4 million, an increase of 16%, as compared to the same quarter of the prior fiscal year. The increase in revenue is primarily attributed to increases in sales to customers in the industrial and telecommunications markets, partially offset by a decrease in sales through our catalog and distribution channels. The decrease in sales through our catalog and distribution channels is primarily due to the termination of our distribution agreement in Europe. European customers now order directly from our enhanced direct sales force in the region. This transition will continue through the third quarter of fiscal year 2023. Sales of PMO units increased by 23%, as compared to the prior year period, and average selling prices decreased 6%. The slight decrease in average selling prices is due to a higher mix of telecommunications products unit sales, which typically have higher volumes and lower average selling prices.

Revenue generated by the infrared product group for the fourth quarter of fiscal year 2022 was \$5.0 million, an increase of 1%, as compared to same quarter of the prior fiscal year. The increase in revenue is primarily driven by sales diamond-turned infrared products, while sales of BD6-based molded infrared products decreased. The increase in sales of diamond-turned infrared products was primarily driven by a new annual contract for a customer in the industrial market, for which we shipped full production volume in the fourth quarter of fiscal 2022. Demand for BD6-based infrared products has leveled off, particularly for temperature sensing applications, demand for which was previously accelerated by COVID-19. Demand for industrial applications, firefighting and other public safety applications continues to be strong. Molded infrared products are higher in volume and lower in average selling prices than diamond-turned infrared products.

Our specialty products revenue increased by 8%, as compared to the same period of the prior fiscal year, and represented 5% of total revenue for both the fourth quarters of fiscal years 2022 and 2021. The increase was primarily driven by NRE project revenue in the fourth quarter of fiscal year 2022.

Year ended June 30, 2022 compared to year ended June 30, 2021.

Our revenue decreased by approximately \$2.9 million, or 8%, for fiscal year 2022, as compared to fiscal year 2021, with decreases in both infrared and PMO product sales.

Revenue from the PMO product group for fiscal year 2022 was \$15.0 million, a decrease of 5%, as compared to fiscal year 2021. The decrease in revenue is primarily attributed to a reduction in orders from a key customer in the telecommunications market, in China, due to a decrease in that customer's market share. This decrease was partially offset by an increase in sales through our catalog and distribution channels, as well as increases in sales to customers in the industrial and medical industries. Sales of PMO units decreased by 36%, as compared to the same period of the prior fiscal year, and average selling prices increased by 49%. The volume decrease was largely driven by a lower mix of telecommunications products, which typically have lower average

selling prices. The unit volume for telecommunications products decreased by approximately 62% for fiscal year 2022, as compared to the same period of the prior fiscal year.

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Revenue generated by the infrared product group for fiscal year 2022 was \$18.7 million, a decrease of approximately 11%, as compared to the prior fiscal year. The decrease in revenue is primarily driven by sales to customers in the industrial market, particularly for our BD6-based molded infrared products. During fiscal year 2022, sales of infrared units decreased by 24%, as compared to the prior year period. The decrease in units is due primarily due to the mix of products shipped, as the prior year period included more molded infrared lenses which are lower in volume and higher in price than the larger diamond-turned lenses. Industrial applications, firefighting cameras, and other public safety applications continue to be the primary drivers of demand for infrared products, including thermal imaging assemblies. During fiscal years 2020 and 2021, we saw an increase in demand for medical and temperature sensing applications, such as fever detection. Demand for temperature sensing applications were accelerated by COVID-19, and although the demand has leveled off since the initial spike, it remains elevated.

In fiscal year 2022, our specialty products revenue increased by \$192,000, or 12%, as compared to prior fiscal year, primarily due to higher NRE project revenue in fiscal year 2022. NRE revenue is project based and the timing of any such projects is wholly dependent on our customers and their project activity.

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:

Fiscal Quarter	Ended	DCSI (days)
Q4-2022	6/30/2022	104
Q3-2022	3/31/2022	132
Q2-2022	12/31/2021	104
Q1-2022	9/30/2021	134
Fiscal Year 2022 Average		118
Q4-2021	6/30/2021	126
Q3-2021	3/31/2021	119
Q2-2021	12/31/2020	142
Q1-2021	9/30/2020	154
Fiscal Year 2021 Average		135

Our average DCSI for fiscal year 2022 was 118, compared to 135 for fiscal year 2021. The decrease in DCSI is driven by the decrease in inventory levels, due to an increased focus on inventory management. Despite these efforts, we have experienced inventory increases at times driven by shifts in customer activity due to COVID-19, where we are sometimes given short notice to delay shipments of some products and accelerate the manufacturing and shipment of other products. As the COVID-19 impacts begin to level off, and with increasing demand for both infrared and PMO products, we expect DCSI to maintain an average of between 110 to 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)
Q4-2022	6/30/2022	54
Q3-2022	3/31/2022	55
Q2-2022	12/31/2021	49
Q1-2022	9/30/2021	59
Fiscal Year 2022 Average		54
Q4-2021	6/30/2021	51
Q3-2021	3/31/2021	53
Q2-2021	12/31/2020	63
Q1-2021	9/30/2020	60
Fiscal Year 2021 Average		57

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Our average DSO for fiscal year 2022 was 54, compared to 57 for fiscal year 2021. The improvement in fiscal year 2022 reflects our increased focus on collections, and tightening of payment terms policies. We strive to maintain a DSO of less than 60.

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.

EBITDA.

EBITDA is a 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.”

The following table adjusts net income to EBITDA for the three and twelve months ended June 30, 2022 and 2021:

	(unaudited)			
	Quarter Ended June 30,		Year Ended June 30,	
	2022	2021	2022	2021
Net loss	\$ (1,359,790)	\$ (2,913,210)	\$ (3,542,181)	\$ (3,185,251)
Depreciation and amortization	854,123	900,964	3,617,743	3,509,436
Income tax provision	534,579	(49,671)	862,907	933,915
Interest expense	78,411	48,863	229,475	215,354
EBITDA	<u>\$ 107,323</u>	<u>\$ (2,013,054)</u>	<u>\$ 1,167,944</u>	<u>\$ 1,473,454</u>
% of revenue	1%	-24%	3%	4%

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Our EBITDA for the quarter ended June 30, 2022 was approximately \$107,000, compared a loss of \$2.0 million for the same period of the prior fiscal year. The increase in EBITDA in the fourth quarter of fiscal year 2022 was primarily attributable to the increase in revenue and gross margin, coupled with the decreases in SG&A and Other expenses incurred related to the previously described events that occurred in our Chinese subsidiaries, as well as certain director and personnel matters that occurred during fiscal year 2021. In addition, there was a favorable difference of approximately \$68,000 in foreign exchange gains and losses.

Our EBITDA for fiscal year 2022 was approximately \$1.2 million, compared to approximately \$1.5 million for fiscal year 2021. The decrease in EBITDA for fiscal year 2022 is primarily attributable to lower revenue and gross margin, partially offset by decreased SG&A and Other expenses, due to the decreases in expenses incurred related to the previously described events that occurred in our Chinese subsidiaries, as well as certain officer, director, and personnel matters that occurred during fiscal year 2021, as discussed above.

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, and the Board has reviewed our disclosure relating to critical accounting policies and estimates in this Annual Report on Form 10-K. 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. 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. Items of which we have greater than a two-year supply are also reserved at 25% to 100%, depending on usage rates. 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 VAT related to sales are posted to the balance sheet and are not included in revenue.

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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.

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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, 2022, 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, 2022, 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, 2022 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. In connection with the events that occurred at our Chinese subsidiaries, we have adopted additional policies and procedures designed to improve our internal controls, including, without limitation, revising the reporting structure for our foreign-based finance directors, adopting Codes of Conduct applicable to our subsidiaries’ foreign-based employees, adopting an internal authority approval matrix, and hiring additional staff for our accounting departments at LPOI and LPOIZ to improve segregation of duties, among other items. Other than these modifications, there have not been any significant 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, 2022 that have materially affected, or are reasonably likely to materially affect, our internal control over financial reporting.

Item 9B. Other Information.

None.

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The information required under this item is incorporated herein by reference to our proxy statement for our fiscal year 2023 Annual Stockholders' Meeting to be filed with the SEC not later than 120 days after the end of fiscal year 2022.

Item 11. Executive Compensation.

The information required under this item is incorporated herein by reference to our proxy statement for our fiscal year 2023 Annual Stockholders' Meeting to be filed with the SEC not later than 120 days after the end of fiscal year 2022.

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 year 2023 Annual Stockholders' Meeting to be filed with the SEC not later than 120 days after the end of fiscal year 2022, 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 year 2022:

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	2,614,131	\$ 1.81	365,324
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 year 2023 Annual Stockholders' Meeting to be filed with the SEC not later than 120 days after the end of fiscal year 2022.

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 year 2023 Annual Stockholders' Meeting to be filed with the SEC not later than 120 days after the end of fiscal year 2022.

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(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
- (2) Financial Statement Schedules - None

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

Exhibit Number	Description
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 Exhibit 3.1.1 to our Annual Report on Form 10-K (File No. 000-25748) filed with the Securities and Exchange Commission on September 10, 2020, 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 exhibit 3.1.2 to our Annual Report on Form 10-K (File No. 000-25748) filed with the Securities and Exchange Commission on September 10, 2020, 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 Exhibit 3.1.3 to our Annual Report on Form 10-K \(File No. 000-25748\) filed with the Securities and Exchange Commission on September 10, 2020, and is incorporated herein by reference thereto.](#)

[3.1.4 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.](#)

[3.1.5 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.](#)

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[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 references thereto.](#)

[3.2.1 Second 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 2, 2021, and is incorporated herein by reference thereto.](#)

[4.1 Description of Securities Registered under Section 12 of the Securities Exchange Act of 1934, as amended.*](#)

[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 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.](#)

[10.3 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.](#)

[10.4 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.](#)

- [10.5](#) [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.](#)
- [10.6](#) [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.](#)
- [10.7](#) [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.](#)

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- [10.8](#) [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.](#)
- [10.9](#) [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.](#)
- [10.10](#) [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.](#)
- [10.11](#) [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.](#)
- [10.12](#) [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.](#)
- [10.13](#) [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.](#)
- [10.14](#) [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.](#)
- [10.15](#) [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.](#)
- [10.16](#) [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.](#)
- [10.17](#) [Employment Agreement between LightPath Technologies, Inc. and Mr. Sam Rubin, 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 February 26, 2020, and is incorporated herein by reference thereto.](#)
- [10.18](#) [Letter Agreement, dated November 13, 2020, by and between the Company and J. James Gaynor which was filed as Exhibit 10.1 to our Quarterly Report on Form 10-Q \(File No.: 000-27548\) filed with the Securities and Exchange Commission on February 3, 2021, and is incorporated herein by reference thereto.](#)
- [10.19](#) [Employment Agreement between LightPath Technologies, Inc. and Mr. Albert Miranda, 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 22, 2021, and is incorporated herein by reference thereto.](#)
- [10.20](#) [Eighth Amendment to Lease Agreement 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 May 17, 2021, and is incorporated herein by reference thereto.](#)

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10.21	Ninth Amendment to Lease dated as of September 21, 2021, 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 September 27, 2021, and is incorporated herein by reference thereto.
10.22	Notice of Default and Waiver dated November 8, 2021 between LightPath Technologies, Inc. and BankUnited, N.A., 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 November 9, 2021, and is incorporated herein by reference thereto.
10.23	Second Amendment to Loan Agreement dated as of December 20, 2021, 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 December 23, 2021, and is incorporated herein by reference thereto.
10.24	Sales Agreement, dated February 15, 2022, by and between LightPath Technologies, Inc. and A.G.P./Alliance Global Partners, 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 February 16, 2022, and is incorporated herein by reference thereto.
10.25	Investor Relations Consulting Agreement, dated April 11, 2022, by and between LightPath Technologies, Inc. and MZHCI, LLC, 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 May 12, 2022, and is incorporated herein by reference thereto.
10.26	Third Amendment to Loan Agreement, dated May 11, 2022, by and between LightPath Technologies, Inc. and BankUnited, N.A., 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 May 12, 2022, and is incorporated herein by reference thereto.
14.1	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.
14.2	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.
21.1	Subsidiaries of the Registrant*
23.1	Consent of MSL, P.A.*
24	Power of Attorney*
31.1	Certification of Chief Executive Officer pursuant to Rule 13a-14(a) of the Securities Exchange Act of 1934*
31.2	Certification of Chief Financial Officer pursuant to Rule 13a-14(a) of the Securities Exchange Act of 1934*
32.1	Certification of Chief Executive Officer pursuant to 18 U.S.C. Section 1350 of Chapter 63 of Title 18 of the United States Code*
32.2	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*
104	The cover page from the Company’s Annual Report on Form 10-K for the fiscal year ended June 30, 2022, formatted in iXBRL.

*filed herewith

Item 16. Form 10-K Summary.

None.

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LightPath Technologies, Inc.

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To the Board of Directors and Stockholders
of 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, 2022 and 2021, and the related consolidated statements of comprehensive income (loss), changes in stockholders’ equity, and cash flows for each of the years ended June 30, 2022 and 2021, 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, 2022 and 2021, and the results of its operations and its cash flows for each of the years ended June 30, 2022 and 2021, 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 the U.S. Federal securities laws and the applicable rules and regulations of the Securities and Exchange Commission and the PCAOB.

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

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

Critical Audit Matter

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

Inventory Allowance

As disclosed in Notes 2 and 4 of the notes to the consolidated financial statements, the Company records an estimated inventory allowance to state the Company’s inventories at the lower of cost or net realizable value. The Company relies on, among other things, past usage, sales experience, recent order and quote activity, future sales forecasts, and its strategic business plan to develop the estimate. As a result of management’s assessment, the Company recorded an inventory allowance of approximately \$1,330,000 as of June 30, 2022.

Auditing management’s estimate of the inventory allowance involved subjective evaluation and high degree of auditor judgement due to significant assumptions involved in estimating future inventory turnover and sales.

Addressing the matter involved performing procedures and evaluating audit evidence in connection with forming our overall opinion on the consolidated financial statements. We obtained an understanding and evaluated the design of internal controls that address the risks of material misstatement relating to recording inventory at the lower of cost or net realizable value. We tested the accuracy and completeness of the underlying data used in calculating the inventory allowance, including testing of a sample of inventory usage transactions, and recomputed the allowance calculation. We also evaluated the Company’s ability to accurately estimate the assumptions used to develop the estimate by comparing historical allowance amounts to the history of actual inventory write-offs. Furthermore, we reviewed management’s business plan and forecasts of future sales.

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

/s/ MSL, P.A.
Orlando, Florida
September 15, 2022

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Assets	June 30, 2022	June 30, 2021
Current assets:		
Cash and cash equivalents	\$ 5,507,891	\$ 6,774,694
Trade accounts receivable, net of allowance of \$36,313 and \$45,643	5,211,292	4,656,354
Inventories, net	6,985,427	8,659,587
Other receivables	—	137,103
Prepaid expenses and other assets	464,804	475,364
Total current assets	<u>18,169,414</u>	<u>20,703,102</u>
Property and equipment, net	11,640,463	13,279,867
Operating lease right-of-use assets	10,420,604	9,015,498
Intangible assets, net	4,457,798	5,582,881
Goodwill	5,854,905	5,854,905
Deferred tax assets, net	143,000	147,000
Other assets	27,737	27,737
Total assets	<u>\$ 50,713,921</u>	<u>\$ 54,610,990</u>

Liabilities and Stockholders' Equity

Current liabilities:		
Accounts payable	\$ 3,073,933	\$ 2,924,333
Accrued liabilities	558,750	1,067,265
Accrued payroll and benefits	2,081,212	2,810,043
Operating lease liabilities, current	965,622	799,507
Loans payable, current portion	998,692	634,846
Finance lease obligation, current portion	55,348	212,212
Total current liabilities	<u>7,733,557</u>	<u>8,448,206</u>
Deferred tax liabilities, net	541,015	—
Finance lease obligation, less current portion	11,454	66,801
Operating lease liabilities, noncurrent	9,478,077	8,461,133
Loans payable, less current portion	3,218,580	4,057,365
Total liabilities	<u>20,982,683</u>	<u>21,033,505</u>

Commitments and Contingencies

Stockholders' equity:

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; 27,046,790 and 26,985,913 shares issued and outstanding	270,468	269,859
Additional paid-in capital	232,315,003	231,438,651
Accumulated other comprehensive income	935,125	2,116,152
Accumulated deficit	(203,789,358)	(200,247,177)
Total stockholders' equity	<u>29,731,238</u>	<u>33,577,485</u>
Total liabilities and stockholders' equity	<u>\$ 50,713,921</u>	<u>\$ 54,610,990</u>

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

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

	Year Ended June 30,	
	2022	2021
Revenue, net	\$ 35,559,160	\$ 38,464,821
Cost of sales	23,744,524	25,017,051
Gross margin	11,814,636	13,447,770
Operating expenses:		
Selling, general and administrative	11,221,866	11,989,597
New product development	2,085,686	2,165,951
Amortization of intangible assets	1,125,083	1,125,083
Loss on disposal of property and equipment	9,235	8,951
Total operating expenses	<u>14,441,870</u>	<u>15,289,582</u>
Operating loss	(2,627,234)	(1,841,812)
Other income (expense):		
Interest expense, net	(229,475)	(215,354)
Other income (expense), net	177,435	(194,170)
Total other income (expense), net	<u>(52,040)</u>	<u>(409,524)</u>
Loss before income taxes	(2,679,274)	(2,251,336)
Income tax provision	862,907	933,915

Net loss	\$ (3,542,181)	\$ (3,185,251)
Foreign currency translation adjustment	(1,181,027)	1,380,260
Comprehensive loss	\$ (4,723,208)	\$ (1,804,991)
Loss per common share (basic)	\$ (0.13)	\$ (0.12)
Number of shares used in per share calculation (basic)	27,019,534	26,314,025
Loss per common share (diluted)	\$ (0.13)	\$ (0.12)
Number of shares used in per share calculation (diluted)	27,019,534	26,314,025

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

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

	Class A Common Stock		Additional Paid-in Capital	Accumulated Other Comprehensive Income	Accumulated Deficit	Total Stockholders' Equity
	Shares	Amount				
Balances at June 30, 2020	25,891,885	\$ 258,919	\$ 230,634,056	\$ 735,892	\$ (197,061,926)	\$ 34,566,941
Issuance of common stock for:						
Employee Stock Purchase Plan	8,145	81	29,897	—	—	29,978
Exercise of Stock Options & RSUs, net	1,085,883	10,859	131,833	—	—	142,692
Stock-based compensation on stock options & RSUs	—	—	642,865	—	—	642,865
Foreign currency translation adjustment	—	—	—	1,380,260	—	1,380,260
Net loss	—	—	—	—	(3,185,251)	(3,185,251)
Balances at June 30, 2021	26,985,913	\$ 269,859	\$ 231,438,651	\$ 2,116,152	\$ (200,247,177)	\$ 33,577,485
Issuance of common stock for:						
Employee Stock Purchase Plan	21,012	210	51,501	—	—	51,711
Exercise of Stock Options & RSUs, net	39,865	399	(399)	—	—	-
Stock-based compensation on stock options & RSUs	—	—	825,250	—	—	825,250
Foreign currency translation adjustment	—	—	—	(1,181,027)	—	(1,181,027)
Net loss	—	—	—	—	(3,542,181)	(3,542,181)
Balances at June 30, 2022	27,046,790	\$ 270,468	\$ 232,315,003	\$ 935,125	\$ (203,789,358)	\$ 29,731,238

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

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LIGHTPATH TECHNOLOGIES, INC.
Consolidated Statements of Cash Flows

	Year Ended June 30,	
	2022	2021
Cash flows from operating activities:		
Net loss	\$ (3,542,181)	\$ (3,185,251)
Adjustments to reconcile net loss to net cash provided by operating activities:		
Depreciation and amortization	3,617,743	3,509,436
Interest from amortization of debt costs	51,974	18,572
Loss on disposal of property and equipment	9,235	8,951
Stock-based compensation on stock options & RSUs, net	825,250	642,865
Provision for doubtful accounts receivable	7,713	(35,799)
Change in operating lease assets and liabilities	(222,047)	(187,616)
Inventory write-offs to allowance	456,538	157,399
Deferred taxes	545,015	512,000
Changes in operating assets and liabilities:		
Trade accounts receivable	(562,651)	1,568,171
Other receivables	137,103	(5,052)
Inventories	1,217,622	167,496
Prepaid expenses and other assets	10,560	137,810
Accounts payable and accrued liabilities	(1,087,746)	1,423,042
Net cash provided by operating activities	1,464,128	4,732,024
Cash flows from investing activities:		
Purchase of property and equipment	(1,626,614)	(3,158,784)
Net cash used in investing activities	(1,626,614)	(3,158,784)

Cash flows from financing activities:		
Proceeds from exercise of stock options	—	142,692
Proceeds from sale of common stock from Employee Stock Purchase Plan	51,711	29,978
Loan costs	(61,223)	—
Borrowings on loans payable	266,850	275,377
Payments on loans payable	(681,301)	(1,013,014)
Repayment of finance lease obligations	(212,211)	(278,462)
Net cash used in financing activities	(636,174)	(843,429)
Effect of exchange rate on cash and cash equivalents	(468,143)	657,495
Change in cash and cash equivalents	(1,266,803)	1,387,306
Cash and cash equivalents, beginning of period	6,774,694	5,387,388
Cash and cash equivalents, end of period	<u>\$ 5,507,891</u>	<u>\$ 6,774,694</u>
Supplemental disclosure of cash flow information:		
Interest paid in cash	\$ 157,407	\$ 199,524
Income taxes paid	\$ 267,585	\$ 1,054,232

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

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LIGHTPATH TECHNOLOGIES, INC.
Notes to 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. The Company completed its initial public offering during fiscal year 1996. On April 14, 2000, the Company acquired Horizon Photonics, Inc. (“Horizon”). On September 20, 2000, the Company acquired Geltech, Inc. (“Geltech”). 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. 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.

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, generally 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. The Company did not have any restricted cash as of June 30, 2022 or 2021.

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 and (ii) items that have not been purchased in two years. 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. Items of which we have greater than a two-year supply are also reserved at 25% to 100%, depending on usage rates. The parts identified are adjusted for recent order and quote activity to determine the final inventory allowance.

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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. The Company did not record any impairment of long-lived assets during the fiscal years ended June 30, 2022 and 2021. 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. The Company did not record any goodwill impairment during the fiscal years ended June 30, 2022 or 2021.

Leases. The Company determines if an arrangement is a lease at inception. Operating leases are included in operating lease right-of-use ("ROU") assets, other current liabilities and operating lease liabilities on the Company's consolidated balance sheet. Finance leases are included in property, plant and equipment, current portion of long-term debt and long-term debt, net of current portion on the consolidated balance sheets.

Operating lease ROU assets and operating lease liabilities are recognized based on the present value of the future minimum lease payments over the lease term at commencement date. As most of our leases do not provide an implicit rate, the Company uses an estimate of its incremental borrowing rate based on observed market data and other information available at the lease commencement date. The operating lease ROU assets also include any lease payments made and exclude lease incentives. Lease terms may include options to extend or terminate the lease when it is reasonably certain that the Company will exercise such options. The Company does not record leases on the consolidated balance sheet with a term of one year or less. The Company does not separate lease and non-lease components but rather accounts for each separate component as a single lease component for all underlying classes of assets. Variable lease payments are expensed as incurred and are not included within the operating lease ROU asset and lease liability calculation. Variable lease payments primarily include reimbursements of costs incurred by lessors for common area maintenance and utilities. Lease expense for minimum operating lease payments is recognized on a straight-line basis over the lease term.

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.

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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 approximately \$5.5 million at June 30, 2022. Of this amount, greater than 50% 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. Historically, we considered unremitted earnings held by our foreign subsidiaries to be permanently reinvested. However, during fiscal 2020, we began declaring intercompany dividends to remit a portion of the earnings of our foreign subsidiaries to the U.S. parent company. It is still our intent to reinvest a significant portion of earnings generated by our foreign subsidiaries, however we also plan to repatriate a portion of their earnings.

With respect to the funds generated by our foreign subsidiaries in China, the retained earnings of the legal entity must equal at least 50% of the registered capital before any funds can be repatriated. During fiscal 2022 and 2021, we repatriated approximately \$2.8 million and \$4 million, respectively, from LPOIZ. As of June 30, 2022, LPOIZ had approximately \$3.9 million in retained earnings available for repatriation, and LPOI did not have any earnings available for repatriation, based on earnings accumulated through December 31, 2021, the end of the most recent statutory tax year, that remained undistributed as of June 30, 2022. During fiscal year 2020 we began to accrue for the applicable Chinese withholding taxes on the portion of earnings that we intend to repatriate. As of June 30, 2022 and 2021, accrued and unpaid withholding taxes were \$40,000 and \$100,000, respectively.

Beginning in fiscal year 2019, earnings from the Company's non-U.S. subsidiaries were subject to the global intangible low-taxed income ("GILTI") inclusion pursuant to U.S. income tax rules. See Note 8, *Income Taxes*, to these Consolidated Financial Statements for additional information.

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 VAT receivables and payables on a net basis in the accompanying Consolidated Financial Statements. These amounts were not significant as of June 30, 2022 and 2021.

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.

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Fair value of financial instruments. The Company accounts for financial instruments in accordance with the Financial Accounting Standards Board's ("FASB") 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 accounts receivable, 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 finance lease obligations and loans payable approximate their carrying values, based upon current rates available to us. See Note 13, *Loans Payable*, to these Consolidated Financial Statements for additional information. Management considers these fair value estimates to be level 2 fair value measurements.

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.

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 no new accounting pronouncements issued by the FASB that are not yet effective for the Company for the year ended June 30, 2022 that are expected to have a material impact on the Consolidated Financial Statements.

3. Revenue

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.

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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 not significant as of June 30, 2022 and 2021.

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, 2022 and 2021 was as follows:

	Year Ended June 30,	
	2022	2021
PMO	\$ 15,020,542	\$ 15,882,189
Infrared Products	18,735,325	20,971,080
Specialty Products	1,803,293	1,611,552
Total revenue	<u>\$ 35,559,160</u>	<u>\$ 38,464,821</u>

4. Inventories, net

The components of inventories include the following:

	June 30, 2022	June 30, 2021
Raw materials	\$ 3,019,156	\$ 3,908,630
Work in process	2,243,907	2,473,070
Finished goods	3,052,001	3,467,105
Allowance for obsolescence	(1,329,637)	(1,189,218)
	<u>\$ 6,985,427</u>	<u>\$ 8,659,587</u>

During fiscal 2022 and 2021, the Company evaluated all allowed items and disposed of approximately \$457,000 and \$157,000, respectively, of inventory parts and wrote them off against the allowance for obsolescence.

The value of tooling in raw materials, net of the related allowance for obsolescence, was approximately \$1.6 million and \$2.0 million at June 30, 2022 and 2021, respectively.

5. Property and Equipment, net

Property and equipment consist of the following:

	Estimated Lives (Years)	June 30, 2022	June 30, 2021
Manufacturing equipment	5 - 10	\$ 22,058,636	\$ 21,465,402
Computer equipment and software	3 - 5	978,348	918,679
Furniture and fixtures	5	352,060	362,944
Leasehold improvements	5 - 7	3,043,867	2,944,543
Construction in progress		943,793	1,529,452
Total property and equipment		27,376,704	27,221,020
Less accumulated depreciation and amortization		(15,736,241)	(13,941,153)
Total property and equipment, net		<u>\$ 11,640,463</u>	<u>\$ 13,279,867</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 initially recorded as leasehold improvements and deferred rent liability. The balances are being amortized over the corresponding lease terms, and are included in leasehold improvements and operating lease liabilities as of June 30, 2022 and 2021.

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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, 2022 and 2021, 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, 2022	June 30, 2021
Customer relationships	15	\$ 3,590,000	\$ 3,590,000
Trade secrets	8	3,272,000	3,272,000
Trademarks	8	3,814,000	3,814,000
Total intangible assets		10,676,000	10,676,000
Less accumulated amortization		(6,218,202)	(5,093,119)
Total intangible assets, net		<u>\$ 4,457,798</u>	<u>\$ 5,582,881</u>

Future amortization of identifiable intangibles is as follows:

Fiscal year ending:		
June 30, 2023		1,125,083
June 30, 2024		1,125,083
June 30, 2025		658,398
June 30, 2026		239,334
After June 30, 2026		1,309,900
		<u>\$ 4,457,798</u>

7. 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; 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.

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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.

8. Income Taxes

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

	Year Ended June 30,	
	2022	2021
Pretax income (loss):		
United States	\$ (5,129,955)	\$ (5,265,803)
Foreign	2,450,681	3,014,467

Loss before income taxes	\$ (2,679,274)	\$ (2,251,336)
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The components of the provision for income taxes are as follows:

	Year Ended June 30,	
	2022	2021
Current:		
Federal tax	\$ -	\$ -
State	3,829	18,563
Foreign	314,063	403,352
Total current	317,892	421,915
Deferred:		
Federal tax	4,000	510,069
State	-	1,931
Foreign	541,015	-
Total deferred	545,015	512,000
Total income tax provision	<u>\$ 862,907</u>	<u>\$ 933,915</u>

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

	Year Ended June 30,	
	2022	2021
U.S. federal statutory tax rate	21.0%	21.0%
Income tax provision reconciliation:		
Tax at statutory rate:	\$ (562,648)	\$ (472,782)
Net foreign income subject to lower tax rate	(297,049)	(169,276)
State income taxes, net of federal benefit	(159,950)	(196,719)
Valuation allowance	(1,255,273)	(1,400,450)
NOL expiration and adjustments	2,550,645	3,516,695
GILTI	138,611	310,431
Federal research and development and other credits	(121,990)	(74,288)
Stock-based compensation	20,472	(265,485)
Other permanent differences	11,387	(67,893)
Other, net	538,702	(246,318)
	<u>\$ 862,907</u>	<u>\$ 933,915</u>

On March 27, 2020, the Coronavirus Aid, Relief, and Economic Security Act (the “CARES Act”) was signed into law, which, among other things, is intended to provide emergency assistance to qualifying businesses and individuals. The CARES Act also suspends the limitation on the deduction of NOLs arising in taxable years beginning before January 1, 2021, permits a five-year carryback of NOLs arising in taxable years beginning after December 31, 2017 and before January 1, 2021, and generally modifies the limitation on the deduction for net interest expense to 50% of adjusted taxable income for taxable years beginning in 2019 and 2020. During fiscal 2020, as a result of the CARES Act, the Company was able to accelerate the recovery of an income tax receivable related to previously paid alternative minimum tax. The receivable amount of approximately \$107,000 as of June 30, 2020 was collected in July 2020. In addition, the Company elected to utilize the payroll tax deferral under the CARES Act, resulting in cash savings of approximately \$325,000, accrued as of June 30, 2021. Half of this amount was remitted on December 31, 2021, with the remainder deferred until December 31, 2022.

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. For both the years ended June 30, 2022 and 2021, the tax rate for LPOIZ was 15%, in accordance with an incentive program for technology companies. Historically, no deferred tax provision was recorded for LPOIZ. However, during the year ended June 30, 2022, as a result of audits performed by the Chinese taxing authorities, and the Chinese subsidiaries’ statutory audits, it was determined that a net deferred tax liability was required. Accordingly, an approximately \$541,000 net deferred tax liability related to LPOIZ was recorded in the Company’s Consolidated Financial Statements as of and for the year ended June 30, 2022.

Historically, the Company considered unremitted earnings held by its foreign subsidiaries to be permanently reinvested. However, during fiscal year 2020, the Company began declaring intercompany dividends to remit a portion of the historical earnings of its foreign subsidiaries to the U.S. parent company. It is still the Company’s intent to reinvest a significant portion of the more recent earnings generated by its foreign subsidiaries, however the Company also plans to repatriate a portion of the historical earnings of its subsidiaries. Based on its previous intent, the Company had not historically provided for future Chinese withholding taxes on the related earnings. However, during fiscal year 2020 the Company began to accrue for these taxes on the portion of historical earnings that it intends to repatriate.

During the years ended June 30, 2022 and 2021, the Company declared and paid intercompany dividends of \$2.8 million and \$4 million, respectively, from LPOIZ, payable to the Company as its parent company. Accordingly, the Company paid Chinese withholding taxes of \$280,000 and \$400,000 associated with these dividends during fiscal years 2022 and 2021, respectively. Income tax expense associated with these dividends was \$208,000 and \$500,000 for

fiscal year 2022 and 2021, respectively. As of June 30, 2022 and 2021, accrued and unpaid withholding taxes were \$40,000 and \$100,000, respectively. Other than these withholding taxes, these intercompany dividends have no impact on the Consolidated Financial Statements.

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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 if declared prior to December 31, 2019. ISP Latvia has declared an intercompany dividend to be paid to ISP, its U.S. parent company, for the full amount of earnings accumulated prior to January 1, 2018. Distributions of this dividend 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.

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:

	Year Ended June 30,	
	2022	2021
Deferred tax assets:		
Net operating loss carryforwards	\$ 12,197,277	\$ 13,585,000
Stock-based compensation	536,000	563,000
R&D and other credits	2,279,000	2,177,000
Capitalized R&D expenses	371,000	564,000
Inventories	263,973	253,000
Accrued expenses and other	267,000	347,000
Gross deferred tax assets	15,914,250	17,489,000
Valuation allowance for deferred tax assets	(14,388,277)	(15,644,000)
Total deferred tax assets	1,525,973	1,845,000
Deferred tax liabilities:		
Depreciation and other	(763,988)	(255,000)
Intangible assets	(1,160,000)	(1,443,000)
Total deferred tax liabilities	(1,923,988)	(1,698,000)
Net deferred tax assets (liabilities)	\$ (398,015)	\$ 147,000

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 \$53 million prior to the expiration of federal NOL carry-forwards from 2023 through 2037. Based on the level of historical taxable income, management has provided for a valuation adjustment against the deferred tax assets of approximately \$14.4 million at June 30, 2022, a decrease of approximately \$1.2 million as compared to June 30, 2021. The decrease 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 \$143,000 results from federal and state tax credits with indefinite carryover periods. 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, 2022, in addition to net operating loss carry forwards, the Company also has research and development and other credit carry forwards of approximately \$2.0 million, which will expire from 2023 through 2041. 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.

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9. 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.

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 \$5,000 and \$3,000 for fiscal years 2022 and 2021, 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, 2022	Available for Issuance at June 30, 2022
SICP (or Omnibus Plan)	5,115,625	2,614,131	365,324
2014 ESPP	400,000	—	277,443
	5,515,625	2,614,131	642,767

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, 2022 and 2021, the Company estimated the fair value of each stock award as of the date of grant using the following assumptions:

	Year Ended June 30,	
	2022	2021
Weighted-average expected volatility	80.8%	72.0%
Dividend yields	0%	0%
Weighted-average risk-free interest rate	2.09%	0.74%
Weighted-average expected term, in years	3.75	7.49

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, 2022 and 2021. 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.

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Information Regarding Current Share-Based Payment Awards — A summary of the activity for share-based payment awards in the years ended June 30, 2022 and 2021 is presented below:

	Stock Options			Restricted Stock Units (RSUs)	
	Shares	Weighted- Average Exercise Price	Weighted- Average Remaining Contract	Shares	Weighted- Average Remaining Contract
June 30, 2020	942,575	\$ 1.65	6.5	2,328,303	0.9
Granted	121,933	\$ 2.97	9.7	296,386	2.3
Exercised	(225,137)	\$ 1.50		(862,804)	
Cancelled/Forfeited	(406,444)	\$ 1.75		-	
June 30, 2021	432,927	\$ 2.01	8.8	1,761,885	0.9
Granted	125,000	\$ 2.02		368,461	1.2
Exercised	-	\$ -		(45,143)	
Cancelled/Forfeited	(23,465)	\$ 1.67		(5,534)	
June 30, 2022	534,462	\$ 2.03	7.0	2,079,669	0.9
Awards exercisable/ vested as of					
June 30, 2022	215,141	\$ 1.87	7.1	1,334,978	—
Awards unexercisable/ unvested as of					
June 30, 2022	319,321	\$ 2.14	7.1	744,691	0.9
	534,462			2,079,669	

No stock options were exercised during the year ended June 30, 2022. The total intrinsic value of stock options exercised for the year ended June 30, 2021 was approximately \$344,000.

The total intrinsic value of stock options outstanding and exercisable at June 30, 2022 and 2021 was approximately \$42,000 and \$285,000, respectively.

The total fair value of stock options vested during the years ended June 30, 2022 and 2021 was approximately \$24,000 and \$142,000, respectively.

The total intrinsic value of RSUs exercised during the years ended June 30, 2022 and 2021 was approximately \$77,000 and \$2.8 million, respectively.

The total intrinsic value of RSUs outstanding and exercisable at June 30, 2022 and 2021 was approximately \$1.6 million and \$3.0 million, respectively.

The total fair value of RSUs vested during the years ended June 30, 2022 and 2021 was approximately \$395,000 and \$1.1 million, respectively.

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As of June 30, 2022, there was approximately \$1.1 million of total unrecognized compensation cost related to non-vested share-based compensation arrangements, including share options and RSUs, granted under the Omnibus Plan, through October 2018 and after that date, the SICP. The expected compensation cost to be recognized is as follows:

Fiscal Year Ending:	Stock Options	RSUs	Total
June 30, 2023	\$ 205,978	\$ 531,850	\$ 737,828
June 30, 2024	94,196	190,864	285,060
June 30, 2025	33,885	54,308	88,193
	<u>\$ 334,059</u>	<u>\$ 777,022</u>	<u>\$ 1,111,081</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 up 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, estimated using the Black-Scholes-Merton pricing model, regarding the Company's unexercisable/unvested awards as of June 30, 2022 and 2021 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, 2020	266,282	669,526	935,808	\$ 1.10
Granted	121,933	296,386	418,319	\$ 2.48
Vested	(64,636)	(367,325)	(431,961)	\$ 1.39
Cancelled/Forfeited	(1,595)	-	(1,595)	\$ 2.85
June 30, 2021	321,984	598,587	920,571	\$ 1.59
Granted	125,000	368,461	493,461	\$ 1.74
Vested	(118,696)	(216,823)	(335,519)	\$ 1.42
Cancelled/Forfeited	(8,967)	(5,534)	(14,501)	\$ 1.97
June 30, 2022	<u>319,321</u>	<u>744,691</u>	<u>1,064,012</u>	\$ 1.71

Acceleration of Vesting — The Company does not generally accelerate the vesting of any stock options or RSUs, however in the case of retirements, the Board of Directors may accelerate vesting.

Financial Statement Effects and Presentation — The following table shows total stock-based compensation expense for the years ended June 30, 2022 and 2021, which is included in selling, general and administrative expenses in the accompanying Consolidated Statements of Comprehensive Income (Loss):

	Year Ended June 30,	
	2022	2021
Stock options	\$ 144,682	\$ 76,616
RSUs	680,568	566,249
Total	<u>\$ 825,250</u>	<u>\$ 642,865</u>

[Table of Contents](#)**10. Earnings (Loss) Per Share**

Basic earnings (loss) per share is computed by dividing net income (loss) by the weighted-average number of shares of Class A common stock outstanding during each period presented. Diluted earnings (loss) per share is computed similarly to basic earnings (loss) 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 share are described in the following table:

	Year Ended June 30,	
	2022	2021
Net loss	<u>\$ (3,542,181)</u>	<u>\$ (3,185,251)</u>
Weighted-average common shares outstanding:		
Basic number of shares	27,019,534	26,314,025
Effect of dilutive securities:		
Options to purchase common stock	-	-
RSUs	-	-

Diluted number of shares	<u>27,019,534</u>	<u>26,314,025</u>
Loss per common share:		
Basic	\$ (0.13)	\$ (0.12)
Diluted	<u>\$ (0.13)</u>	<u>\$ (0.12)</u>

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

	Year Ended June 30,	
	<u>2022</u>	<u>2021</u>
Options to purchase common stock	445,397	490,703
RSUs	1,944,737	2,220,710
	<u>2,390,134</u>	<u>2,711,413</u>

11. Defined Contribution Plan

The Company provides retirement benefits to its U.S.-based employees through a defined contribution retirement plan. These benefits are offered under the Insuperity 401(k) plan (the “Insuperity Plan”). The Insuperity 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 Insuperity Plan, the Company matches 100% of the first 2% of employee contributions. As of June 30, 2022, there were 72 employees enrolled in this plan. The Company made matching contributions of approximately \$123,000 and \$111,000 during the years ended June 30, 2022 and 2021, respectively.

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12. Leases

The Company has operating leases for its manufacturing and office space. As of June 30, 2021, the Company had two lease agreements for its corporate headquarters and manufacturing facilities in Orlando, Florida. The first lease (the “Orlando Lease”) was amended effective April 30, 2021 to expand the space from approximately 26,000 square feet to approximately 58,500 square feet. The lease term was extended from April 30, 2022, to that certain date that is one hundred twenty-seven (127) months after the date the landlord completes certain work to be done at the leased premises. The commencement date is expected to be November 1, 2022, subject to completion of the build-out. Minimum rental rates for the extension term were established based on annual increases of approximately three percent (3%). 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. The second lease was entered into in April 2018 for 12,378 square feet in Orlando, Florida (the “Orlando Lease II”), which provides additional manufacturing and office space near the Company’s corporate headquarters. The commencement date of the Orlando Lease II was December 1, 2018, and it has a four-year original term with one renewal option for an additional five-year term. In October 2021, this lease was amended to reduce the square footage to approximately 3,700. This lease will expire in November 2022 and will not be renewed, as this manufacturing and office space will be relocated to the expanded space included in the Orlando Lease, as amended.

As of June 30, 2021, the Company, through its wholly-owned subsidiary, LPOI, had 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 2020, the Shanghai Lease was renewed for an additional three-year term, and now expires in October 2022. We do not expect to renew this lease.

As of June 30, 2021, the Company, through its wholly-owned subsidiary, LPOIZ, had 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 year 2019, the Company renewed the Zhenjiang Lease I and was set to expire in June 2022. During fiscal year 2018, another lease was executed for 13,000 additional square feet in this same facility (the “Zhenjiang Lease II”). In January 2022, these leases were combined and extended to December 31, 2024.

At June 30, 2021, the Company, through ISP’s wholly-owned subsidiary ISP Latvia, had two lease agreements for a manufacturing and office facility in Riga, Latvia for an aggregate of 29,000 square feet. The first lease (“Riga Lease I”) was amended in August 2020, to expand the space to approximately 24,000 square feet. The lease term was extended from December 31, 2022 to December 31, 2025. The second lease (“Riga Lease II”), for approximately 5,000 square feet, had a five-year original term with renewal options, and was set to expire in December 2019. In January 2022, these leases were extended to December 31, 2030.

The Company’s facility leases are classified as operating leases, and the Company also has finance leases related to certain equipment located in Orlando, Florida. The operating leases for facilities are non-cancelable, expiring through 2024 to 2032. The Company includes options to renew (or terminate) in the lease term, and as part of the ROU assets and lease liabilities, when it is reasonably certain that the Company will exercise that option. The Company currently has obligations under two finance lease agreements, entered into during fiscal year 2019, with terms ranging from three to five years. The leases are for computer and manufacturing equipment.

The Company’s operating lease ROU assets and the related lease liabilities are initially measured at the present value of future lease payments over the lease term. Two of our operating leases include renewal options, which were not included in the measurement of the operating lease ROU assets and related lease liabilities. As most of the Company’s leases do not provide an implicit rate, the Company used its collateralized incremental borrowing rate based on the information available at the commencement date in determining the present value of future payments. Currently, none of the Company’s leases include variable lease payments that are dependent on an index or rate. The Company is responsible for payment of certain real estate taxes, insurance and other expenses on certain of its leases. These amounts are generally considered to be variable and are not included in the measurement of the ROU asset and lease liability. The Company generally accounts for non-lease components, such as maintenance, separately from lease components. The Company’s lease agreements do not contain any material residual value guarantees or material restricted covenants. Leases with a term of 12 months or less are not recorded on the Consolidated Balance Sheet; the Company recognizes lease expense for these leases on a straight-line basis over the lease term.

The Company received tenant improvement allowances for the Orlando Lease and for Orlando Lease II. These allowances were used to construct improvements and are included in leasehold improvements and operating lease liabilities. The balances are being amortized over the corresponding lease terms.

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The components of lease expense were as follows:

	Year Ended June 30,	
	2022	2021
Operating lease cost	\$ 668,054	\$ 682,980
Finance lease cost:		
Depreciation of lease assets	162,057	207,931
Interest on lease liabilities	19,571	44,248
Total finance lease cost	181,628	252,179
Total lease cost	\$ 849,682	\$ 935,159

Supplemental balance sheet information related to leases was as follows:

		Classification	June 30, 2022	June 30, 2021
Assets:				
Operating lease assets	Operating lease assets		\$ 10,420,604	\$ 9,015,498
Finance lease assets	Property and equipment, net ⁽¹⁾		61,566	477,102
Total lease assets			\$ 10,482,170	\$ 9,492,600
Liabilities:				
Current:				
Operating leases	Operating lease liabilities, current		\$ 965,622	\$ 799,507
Finance leases	Finance lease liabilities, current		55,348	212,212
Noncurrent:				
Operating leases	Operating lease liabilities, less current portion		9,478,077	8,461,133
Finance leases	Finance lease liabilities, less current portion		11,454	66,801
Total lease liabilities			\$ 10,510,501	\$ 9,539,653

(1) Finance lease assets are recorded net of accumulated depreciation of approximately \$418,000 and \$477,000 as of June 30, 2022 and 2021, respectively.

Lease term and discount rate information related to leases was as follows:

Lease Term and Discount Rate		June 30, 2022
Weighted Average Remaining Lease Term (in years)		
Operating leases		10.1
Finance leases		0.9
Weighted Average Discount Rate		
Operating leases		3.0%
Finance leases		7.6%

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Supplemental cash flow information:

	Year Ended June 30,	
	2022	2021
Cash paid for amounts included in the measurement of lease liabilities:		
Operating cash used for operating leases	\$ 870,911	\$ 869,668
Operating cash used for finance leases	\$ 19,571	\$ 44,247
Financing cash used for finance leases	\$ 212,211	\$ 278,462

Future maturities of lease liabilities were as follows as of June 30, 2022:

Fiscal year ending:	Finance Leases	Operating Leases
June 30, 2023	59,647	\$ 721,901
June 30, 2024	11,811	1,204,323

June 30, 2025	—	1,225,047
June 30, 2026	—	1,193,987
June 30, 2027	—	1,163,610
Thereafter	—	6,928,833
Total future minimum payments	71,458	12,437,701
Less imputed interest	(4,656)	(1,994,002)
Present value of lease liabilities	\$ 66,802	\$ 10,443,699

13. Loans Payable

BankUnited Loans

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. On September 9, 2021, the Company entered into a letter agreement with BankUnited (the “Letter Agreement”). The Letter Agreement: (i) reduces the fixed charge coverage ratio to 1.0 for the quarter ending September 30, 2021 and to 1.1 for the quarter ended December 31, 2021; (ii) modifies the calculation for both the fixed charge coverage ratio and the total leverage ratio to provide for adjustments related to expenses incurred in connection with the events at LPOI and LPOIZ, which expenses must be approved by BankUnited; (iii) terminates the Guidance Line; and (iv) requires approval from BankUnited prior to our being able to draw upon the Revolving Line, subject to our compliance with the fixed charge coverage ratio for the quarters ending September 30, 2021 and December 31, 2021. The Letter Agreement also granted the Company a waiver of default arising prior to the Letter Agreement for its failure to comply with the fixed charge coverage ratio measured on June 30, 2021. Based on the waiver, the Company was no longer in default of the Amended Loan Agreement. Finally, in connection with the Letter Agreement, the Company paid BankUnited a fee equal to \$10,000.

On November 5, 2021, the Company entered into a letter agreement with BankUnited (the “Second Letter Agreement”). In accordance with the Second Letter Agreement, the parties agreed to initiate discussions regarding a possible modification, forbearance, or other resolution of the Amended Loan Agreement (as defined below), which resolution would occur on or before December 31, 2021. On December 20, 2021, the Company entered into the Second Amendment to the Loan Agreement dated February 26, 2019 (the “Second Amendment”), which further amended the Loan Agreement with BankUnited. In accordance with the Second Amendment, the parties agreed to the following terms, among others: (i) a maturity date of April 15, 2023 with respect to the Term Loan (as defined in the Amended Loan Agreement); (ii) an increased monthly payment amount of \$100,000 commencing on November 1, 2022; (iii) beginning on December 20, 2021, each facility will bear interest at BankUnited’s then-prime rate of interest minus fifty (50) basis points (4.25% as of June 30, 2022), as adjusted from time to time, (iv) the Term Loan will bear a higher interest rate commencing on August 1, 2022; (v) an exit fee equal to 4% of the outstanding principal balance of the Term Loan on April 15, 2023 (to the extent the Term Loan is still outstanding on such date and has not been refinanced with another lender); and (vi) a fee of \$50,000 payable upon execution of the Second Amendment. The Second Amendment also granted us a waiver of compliance for the Financial Covenants (as set forth in the Amended Loan Agreement) for the periods ended December 31, 2021, March 31, 2022 and June 30, 2022.

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On May 11, 2022, the Company entered into the Third Amendment to the Loan Agreement dated February 26, 2019 (the “Third Amendment”; and, together with the First Amendment, the Letter Agreement and the Second Letter Agreement, the “Amended Loan Agreement”), which further amended the Loan Agreement with BankUnited. In accordance with the Third Amendment, the parties agreed to the following terms, among others: (i) an amended maturity date of April 15, 2024 with respect to the Term Loan (as defined in the Amended Loan Agreement); and (ii) an amended exit fee equal to (a) 2% of the outstanding principal balance of the Term Loan on September 30, 2022, (b) 1% of the outstanding principal balance on December 31, 2022, (c) 1% of the outstanding principal balance on March 31, 2023, and (d) 4% of the outstanding principal balance on April 15, 2024 (to the extent the Term Loan is still outstanding on the respective dates and has not been refinanced with another lender).

BankUnited Revolving Line

Pursuant to the Amended Loan Agreement, BankUnited agreed to make loan advances to the Company under the BankUnited Revolving Line up to a maximum aggregate principal amount outstanding not to exceed \$2,000,000, which proceeds could have been used for working capital and general corporate purposes. The BankUnited Revolving Line expired on February 26, 2022. No amounts were outstanding under the BankUnited Revolving Line as of June 30, 2021 or February 26, 2022.

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 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 should the BankUnited Revolving Line not be renewed beyond February 26, 2022. Management expects the BankUnited Revolving Line to be renewed. Pursuant to the Second Amendment, the maturity date of the Term Loan was April 15, 2023, and pursuant to the Third Amendment, the maturity date of the Term Loan is April 15, 2024. The Term Loan initially bore interest at a per annum rate equal to 2.75% above the 30-day LIBOR. However, pursuant to the Second Amendment, beginning on December 20, 2021, each facility bears interest at BankUnited’s then-prime rate of interest minus fifty (50) basis points (4.25% as of June 30, 2022), as adjusted from time to time. Equal monthly principal payments of approximately \$48,446, plus accrued interest, are due and payable, in arrears, on the first day of each month during the term. Pursuant to the Second Amendment, the monthly payment, including principal and interest, will increase to \$100,000, commencing November 1, 2022. Upon maturity, all principal and interest shall be immediately due and payable. As of June 30, 2022, the applicable interest rate on the BankUnited Term Loan was 4.25%.

Guidance Line

The Amended Loan Agreement provided BankUnited, in its sole discretion, could 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 could have been used for capital expenditures and approved business acquisitions. The Guidance Line terminated on September 9, 2022 in accordance with the Letter Agreement. There were no amounts outstanding under the Guidance Line at June 30, 2021 or on September 9, 2022.

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.

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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. The Letter Agreement granted the Company a waiver of default arising prior to the Letter Agreement from its failure to comply with the fixed charge coverage ratio measured on June 30, 2021. The Second Amendment to the Amended Loan Agreement granted us a waiver of compliance for the Financial Covenants (as set forth in the Amended Loan Agreement) through June 30, 2022. Based on the waivers, the Company is no longer in default of the Amended Loan Agreement. As of June 30, 2022, the Company was in compliance with all other covenants.

We may prepay any or all of the BankUnited Loans in whole or in part at any time, without penalty or premium other than the exit fees, as discussed above. 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 related to the BankUnited Loans were recorded as a discount on debt and are being amortized over the term. Amortization of approximately \$52,000 and \$19,000 for each the years ended June 30, 2022 and 2021, respectively, is included in interest expense.

Equipment Loan

In December 2020, ISP Latvia entered into an equipment loan with a third party (the "Equipment Loan"), which party is also a significant customer, and which the Equipment Loan is subordinate to the BankUnited Loans, and collateralized by certain equipment. The initial advance under the Equipment Loan was 225,000 EUR (or USD \$275,000), payable in equal installments over 60 months, the proceeds of which were used to make a prepayment to a vendor for equipment to be delivered at a future date. The Equipment Loan bears interest at a fixed rate of 3.3%. An additional 225,000 EUR (or USD \$267,000) was drawn in September 2021, which proceeds were paid to the vendor for the equipment, payable in equal installments over 52 months.

Future maturities of loans payable are as follows:

	<u>BankUnited Term Loan</u>	<u>Equipment Loan</u>	<u>Unamortized Debt Costs</u>	<u>Total</u>
Fiscal year ending:				
June 30, 2023	\$ 896,758	\$ 103,005	(58,775)	\$ 940,988
June 30, 2024	3,027,355	103,005	—	3,130,360
June 30, 2025	—	103,005	—	103,005
June 30, 2026	—	42,919	—	42,919
After June 30, 2026	—	—	—	—
Total payments	<u>\$ 3,924,113</u>	<u>\$ 351,934</u>	<u>\$ (58,775)</u>	<u>4,217,272</u>
Less current portion				(998,692)
Non-current portion				<u>\$ 3,218,580</u>

Liquidity

The Company generally relies on cash from operations and equity offerings, and commercial debt, to the extent available, to satisfy its liquidity needs and to meet its payment obligations, including payments due under the BankUnited Term Loan. The Company has commenced discussions with other lenders, and anticipates refinancing its debt obligations with a new lender prior to the maturity date of the Term Loan, of which there can be no assurances. If the Company is unable to refinance the credit facility with other commercial lenders prior to maturity, it may need to raise additional equity financing, source financing through non-commercial lenders or further reduce certain operating expenses and capital expenditures in order to repay the credit facility and all charges related thereto upon its maturity on April 14, 2024. In February 2022, the Company filed a shelf registration statement to facilitate the issuance of its Class A common stock, warrants exercisable for shares of its Class A common stock, and/or units up to an aggregate offering price of \$75.8 million from time to time. In connection with the filing of the shelf registration statement, the Company also included a prospectus supplement relating to an at-the-market equity program under which the Company may issue and sell shares of its Class A common stock up to an aggregate offering price of \$25.2 million from time to time, decreasing the aggregate offering price available under its shelf registration statement to \$50.6 million. The shelf registration statement was declared effective by the SEC on March 1, 2022. The Company has not issued any shares of its Class A common stock pursuant to the at-the-market equity program.

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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. In addition, greater than 50% of the Company's cash and cash equivalents is held by its foreign subsidiaries and, although the Company regularly repatriates cash, it may not be readily available to repay its liabilities in the U.S. The Company will also continue efforts to keep costs under control as it seeks renewed sales growth. The Company's efforts are directed toward generating positive cash flow and profitability. If these efforts are not successful, the Company may need to raise additional capital. Should capital not be available to the Company 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.

14. Contingencies

Legal

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.

In April 2021, the Company terminated several employees of its China subsidiaries, LPOIZ and LPOI, including the General Manager, the Sales Manager, and the Engineering Manager, after determining that they had engaged in malfeasance and conduct adverse to our interests, including efforts to misappropriate certain of our proprietary technology, diverting sales to entities owned or controlled by these former employees and other suspected acts of fraud, theft and embezzlement. In connection with such terminations, the Company's China subsidiaries have engaged in certain legal proceedings with the terminated employees.

The Company has incurred various expenses associated with its investigation into these matters prior and subsequent to the termination of the employees and the associated legal proceedings. These expenses, which included legal, consulting and other transitional management fees, totaled \$718,000 during the year ended June 30, 2021. During the year ended June 30, 2022, approximately \$400,000 of related expenses were incurred. Such expenses were recorded as "Selling, general and administrative" expenses in the accompanying Consolidated Statements of Comprehensive Income (Loss).

The Company also identified a further liability in the amount of \$210,000, which may be incurred in the future due to the actions of these employees. This amount has been accrued as of June 30, 2021, pending further investigation, and included in "Other Expense, net" in the accompanying Consolidated Statement of Comprehensive Income (Loss). During fiscal 2022 it was determined that LPOIZ would not be responsible for this amount, and the accrual was reversed with the benefit included in "Other income (expense), net" in the accompanying Consolidated Statement of Comprehensive Income (Loss) for the year ended June 30, 2022.

Knowing that employee transitions in international subsidiaries can lead to lengthy legal proceedings that can interrupt the subsidiary's ability to operate, compounded by the fact that our officers could not travel to China to oversee the transitions because of the travel restrictions imposed by COVID-19, the Company chose to enter into severance agreements with certain of the employees at the time of termination. Pursuant to the severance agreements, LPOIZ and LPOI agreed to pay such employees severance of approximately \$485,000 in the aggregate, to be paid over a six-month period. After the execution of the severance agreements, we discovered additional wrongdoing by the terminated employees. As a result, LPOIZ and LPOI have not yet paid the severance payments and have disputed the employees' rights to such payments. However, based on the likelihood that the courts in China will determine that the Company's subsidiaries will ultimately be obligated to pay these amounts, we have accrued for these payments as of June 30, 2021. Such expenses were recorded as "Selling, general and administrative" expenses in the accompanying Consolidated Statement of Comprehensive Income (Loss) for the year ended June 30, 2021. As of June 30, 2022, approximately \$430,000 remains accrued; legal action is ongoing and our obligation to pay these amounts has been awarded to the former employees by the Chinese Labor Court. We continue to seek legal options.

The Company has transitioned the management of LPOI and LPOIZ to a new management team without any significant detrimental effects on the ability of those subsidiaries to operate. Management does not expect any material adverse impact to the business operations of LPOI or LPOIZ as a result of the transition.

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The Company expects to incur additional legal fees and consulting expenses in future periods as all legal options and remedies are pursued; however, such future fees are expected to be at lower levels than have been incurred to date.

Although the Company has taken steps to minimize the business impacts from the termination of the management employees and transition to new management personnel, the Company experienced some short-term adverse impacts on LPOIZ's and LPOI's domestic sales in China and results of operations in the three-month period ended June 30, 2021, which continued throughout fiscal year 2022. The Company has not experienced, nor does management anticipate, any material adverse impact on LPOIZ's or LPOI's production and supply of products to its other subsidiaries for their customers.

COVID-19

The Company's business, results of operations financial condition, cash flows, and the stock price of its Class A common stock can be adversely affected by pandemics, epidemics, or other public health emergencies, such as the recent outbreak of the coronavirus ("COVID-19"), which has spread from China to many other countries across the world, including the United States. In March 2020, the World Health Organization (the "WHO") declared COVID-19 as a pandemic. The COVID-19 pandemic has resulted in governments around the world implementing increasingly stringent measures to help control the spread of the virus, including "stay at home" orders, travel restrictions, business curtailments, school closures, and other measures.

To date, the Company has not experienced any significant direct financial impact of COVID-19 to its business. However, the COVID-19 pandemic continues to impact economic conditions, which could impact the short-term and long-term demand from customers and, therefore, has the potential to negatively impact the Company's results of operations, cash flows, and financial position in the future. Management is actively monitoring this situation and any impact on our financial condition, liquidity, and results of operations. However, given the daily evolution of the COVID-19 pandemic and the global responses to curb its spread, we are not presently able to estimate the effects of the COVID-19 pandemic on our future results of operations, financial, or liquidity in fiscal year 2023 or beyond.

Impact of Russian-Ukraine Conflict

In February 2022, Russian military forces invaded Ukraine. This conflict has resulted in significant economic disruption and continues to adversely impact the broader global economy, including certain of our customers and suppliers. Given the dynamic nature of this situation, the Company cannot reasonably estimate the impact of the Russian-Ukraine conflict on its financial condition, results of operations or cash flows into the foreseeable future.

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 \$935,000 and \$2.1 million as of June 30, 2022 and 2021, respectively. During the years ended June 30, 2022 and 2021, we also recognized net foreign currency transaction losses of approximately \$3,000 and \$1,000, 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:

	<u>China</u>		<u>Latvia</u>	
	<u>June 30, 2022</u>	<u>June 30, 2021</u>	<u>June 30, 2022</u>	<u>June 30, 2021</u>
Assets	\$19.6 million	\$20.1 million	\$12.7 million	\$11.3 million
Net assets	\$15.7 million	\$16.6 million	\$10.0 million	\$9.0 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. The Company also 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, however, at higher, inflationary prices largely due to the war in the Ukraine, although there can be no assurance in this regard.

In fiscal year 2022, the Company had sales to three customers that comprised an aggregate of approximately 35% of its annual revenue, and 13% of its June 30, 2022 accounts receivable. Sales to these customers as a percentage of our fiscal year 2022 revenue include one customer at 19%, another customer at 9%, and the third customer at 7%. One of these customers comprised 7% of accounts receivable, a second customer comprised 6% of accounts receivable and the other customer had no accounts receivable balance as of June 30, 2022. In fiscal year 2021, the Company had sales to three customers that comprised an aggregate of approximately 38% of its annual revenue, and 31% of its June 30, 2021 accounts receivable. Sales to these customers as a percentage of our fiscal year 2021 revenue include one customer at 18%, another customer at 10%, and the third customer at 10%. One of these customers comprised 21% of accounts receivable, a second customer comprised 10% of accounts receivable and the other customer had no accounts receivable balance as of June 30, 2021. 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 year 2022, 61% of the Company's net revenue was derived from sales outside of the U.S., with 95% of foreign sales derived from customers in Europe and Asia. In fiscal year 2021, 68% of the Company's net revenue was derived from sales outside of the U.S., with 95% of foreign sales derived from customers in Europe and Asia.

End of Consolidated Financial Statements

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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.

Date: September 15, 2022

LIGHTPATH TECHNOLOGIES, INC.

By: /s/ Shmuel Rubin

Shmuel Rubin
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.

/s/ SHMUEL RUBIN

September 15, 2022

/s/ ALBERT MIRANDA

September 15,
2022

Shmuel Rubin
President & Chief Executive Officer
(Principal Executive Officer)

Albert Miranda
Chief Financial Officer
(Principal Financial Officer)

/s/ LOUIS LEEBURG

Louis Leeburg
Director (Chairman of the Board)

September 11, 2022

/s/ SOHAIL KHAN

Sohail Khan
Director

September 11,
2022

/s/ M. SCOTT FARIS

M. Scott Faris
Director

September 14, 2022

/s/ JOSEPH MENAKER

Joseph Menaker
Director

September 12,
2022

/s/ CRAIG DUNHAM

Craig Dunham
Director

September 11, 2022

/s/ DARCIE PECK

Darcie Peck
Director

September 13,
2022

/s/ S. ERIC CREVISTON

S. Eric Creviston
Director

September 12, 2022

DESCRIPTION OF THE REGISTRANT'S SECURITIES REGISTERED PURSUANT TO SECTION 12 OF THE SECURITIES EXCHANGE ACT OF 1934, AS AMENDED

The following is a summary of all material characteristics of the capital stock of LightPath Technologies, Inc., a Delaware corporation ("LightPath," the "Company," "we," "us," or "our") as set forth in our Certificate of Incorporation, as amended (the "Certificate of Incorporation") and our Amended and Restated Bylaws, as further amended (the "Bylaws"), and as registered under Section 12 of the Securities Exchange Act of 1934, as amended (the "Exchange Act"). The summary does not purport to be complete and is qualified in its entirety by reference to our Certificate of Incorporation and our Bylaws, each of which are incorporated by reference as exhibits to the Annual Report on Form 10-K of which this Exhibit 4.1 is a part, and to the provisions of the Delaware General Corporate Law (the "DGCL"). We encourage you to review complete copies of our Certificate of Incorporation and our Bylaws, and the applicable provisions of the Delaware General Corporate Law (the "DGCL") for additional information.

General

Our authorized capital stock consists of 55,000,000 shares, divided into 50,000,000 shares of common stock, par value \$0.01 per share (the "Common Stock"), and 5,000,000 shares of preferred stock, par value \$0.01 per share ("Preferred Stock"). Under our Certificate of Incorporation, our board of directors (our "Board") has the authority to issue such shares of Common Stock and Preferred Stock in one or more classes or series, with such voting powers, designations, preferences and relative, participating, optional or other special rights, if any, and such qualifications, limitations or restrictions thereof, if any, as shall be provided for in a resolution or resolutions adopted by our Board and filed as designations.

Class A Common Stock

Of the 50,000,000 shares of Common Stock authorized in our Certificate of Incorporation, our Board has designated 44,500,000 shares as Class A common stock, par value \$0.01 per share (the "Class A Common Stock"). As of September 9, 2022, 27,071,929 shares of our Class A Common Stock were outstanding. 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 our Class A Common Stock.

Holders of our Class A Common Stock are entitled to one vote for each share held of record on all matters submitted to a vote of stockholders, including the election of directors, and are entitled to receive dividends when and as declared by our Board out of funds legally available therefore for distribution to stockholders and to share ratably in the assets legally available for distribution to stockholders in the event of the liquidation or dissolution, whether voluntary or involuntary, of LightPath. We have not paid any dividends and do not anticipate paying any dividends on our Class A Common Stock in the foreseeable future. It is our present policy to retain earnings, if any, for use in the development of our business. Our Class A Common Stockholders do not have cumulative voting rights in the election of directors and have no preemptive, subscription, or conversion rights. Our Class A Common Stock is not subject to redemption by us.

As of September 9, 2022, we have reserved for issuance 2,079,669 shares of our Class A Common Stock underlying outstanding restricted stock units, 534,462 shares of our Class A Common Stock for issuance upon the exercise of outstanding stock options, 365,324 shares of our Class A Common Stock for issuance under the 2018 Stock and Incentive Compensation Plan, and 261,156 shares of our Class A Common Stock for issuance under our 2014 Employee Stock Purchase Plan.

The transfer agent and registrar for our Class A Common Stock is Computershare Trust Company, N.A.

Preferred Stock

Of the 5,000,000 shares of Preferred Stock authorized, our Board 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, our Board 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 expired on February 28, 2021; 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 5,000,000 shares of Preferred Stock, 4,498,450 shares of our Preferred Stock remain available for designation by our Board. Accordingly, our Board is empowered, without stockholder approval, to issue Preferred Stock with dividend, liquidation, conversion, voting or other rights that could adversely affect the voting power or other rights of the holders of Common Stock. The issuance of Preferred Stock could have the effect of restricting dividends on the Class A Common Stock, diluting the voting power of the Class A Common Stock, impairing the liquidation rights of the Class A Common Stock, or delaying or preventing a change in control of us, all without further action by our stockholders.

Options

As of September 9, 2022, we had 534,462 shares of our Class A Common Stock underlying stock options outstanding, having a weighted-average exercise price of approximately \$2.03 per share.

Certain Provisions of our Certificate of Incorporation, our Bylaws, and the DGCL

Certain provisions in our Certificate of Incorporation and Bylaws, as well as certain provisions of the DGCL, may be deemed to have an anti-takeover effect and may delay, deter, or prevent a tender offer or takeover attempt that a stockholder might consider to be in its best interests, including attempts that might result in a premium being paid over the market price of the shares held by stockholders. These provisions contained in our Certificate of Incorporation and Bylaws include the items described below.

- *Classified Board.* Our Certificate of Incorporation provides that our Board is to be divided into three classes, as nearly equal in number as possible, with directors in each class serving three-year terms. Provisions of this type may serve to delay or prevent an acquisition of us or a change in our directors and officers.
- *No Written Consents.* Our Certificate of Incorporation and Bylaws provide that all stockholder actions must be effected at a duly called meeting of stockholders and not by written consent.
- *Special Meetings of Stockholders.* Our Bylaws provide that special meetings of our stockholders may be called only by the Chairman of the Board, President, or a majority of our Board.
- *Stockholder Advance Notice Procedures.* Our Bylaws provide that stockholders seeking to present proposals before a meeting of stockholders or to nominate candidates for election as directors at a meeting of stockholders must provide timely notice in writing and also specify requirements as to the form and content of a stockholder's notice. These provisions may delay or preclude stockholders from bringing matters before a meeting of our stockholders or from making nominations for directors at a meeting of stockholders, which could delay or deter takeover attempts or changes in our management.
- *No Cumulative Voting.* Our Certificate of Incorporation does not include a provision for cumulative voting for directors. Under cumulative voting, a minority stockholder holding a sufficient percentage of a class of shares could be able to ensure the election of one or more directors.
- *Exclusive Forum.* Our Bylaws provide that unless we consent in writing to the selection of an alternative forum, the courts in the State of Delaware are, to the fullest extent permitted by applicable law, the sole and exclusive forum for any claims, including claims in the right of the Company, brought by a stockholder (i) that are based upon a violation of a duty by a current or former director or officer or stockholder in such capacity or (ii) as to which the DGCL confers jurisdiction upon the Court of Chancery of the State of Delaware.
- *Undesignated Preferred Stock.* Because our Board has the power to establish the preferences and rights of the shares of any additional series of Preferred Stock, it may afford holders of any Preferred Stock preferences, powers, and rights, including voting and dividend rights, senior to the rights of holders of our Class A Common Stock, which could adversely affect the holders of our Class A Common Stock and could discourage a takeover of us even if a change of control of LightPath would be beneficial to the interests of our stockholders.

These and other provisions contained in our Certificate of Incorporation and Bylaws are expected to discourage coercive takeover practices and inadequate takeover bids. These provisions are also designed to encourage persons seeking to acquire control of us to first negotiate with our Board. However, these provisions could delay or discourage transactions involving an actual or potential change in control of us, including transactions in which stockholders might otherwise receive a premium for their shares over then current prices. Such provisions could also limit the ability of stockholders to remove current management or approve transactions that stockholders may deem to be in their best interests.

In addition, we are subject to the provisions of Section 203 of the DGCL. Section 203 of the DGCL prohibits a publicly-held Delaware corporation from engaging in a "business combination" with an "interested stockholder" for a period of three years after the person became an interested stockholder, unless:

- The board of directors of the corporation approved the business combination or other transaction in which the person became an interested stockholder prior to the date of the business combination or other transaction;
- Upon consummation of the transaction that resulted in the person becoming an interested stockholder, the person owned at least 85% of the voting stock of the corporation outstanding at the time the transaction commenced, excluding for purposes of determining the number of shares outstanding, shares owned by persons who are directors and also officers of the corporation and shares issued under which employee participants do not have the right to determine confidentially whether shares held subject to the plan will be tendered in a tender or exchange offer; or
- on or subsequent to the date the person became an interested stockholder, the board of directors of the corporation approved the business combination and the stockholders of the corporation authorized the business combination at an annual or special meeting of stockholders by the affirmative vote of at least 66-2/3% of the outstanding voting stock of the corporation that is not owned by the interested stockholder.

A "business combination" includes mergers, asset sales, and other transactions resulting in a financial benefit to the interested stockholder. Subject to certain exceptions, an "interested stockholder" is a person who, together with affiliates and associates, owns, or within the prior three years did own, 15% or more of a corporation's voting stock.

Section 203 of the DGCL could depress our stock price and delay, discourage, or prohibit transactions not approved in advance by our Board, such as takeover attempts that might otherwise involve the payment to our stockholders of a premium over the market price of our Class A Common Stock.

Subsidiaries

GelTech 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

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, 333-223028 and 333-262768) and Form S-1 (No. 333-213860) of LightPath Technologies, Inc., of our report dated September 15, 2022, relating to the consolidated financial statements, which appear in this Annual Report on Form 10-K.

/s/ MSL, P.A.

Orlando, Florida
September 15, 2022

POWER OF ATTORNEY

KNOW ALL BY THESE PRESENTS, that the undersigned constitutes and appoints Shmuel Rubin and Albert Miranda, 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, 2022, 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 on this 14th day of September 2022 by the following persons.

/s/ Louis Leeburg
Louis Leeburg
Director (Chairman of the Board)

/s/ Sohail Khan
Sohail Khan
Director

/s/ M. Scott Faris
M. Scott Faris
Director

/s/ S. Eric Creviston
S. Eric Creviston
Director

/s/ Shmuel Rubin
Shmuel Rubin
President & CEO

/s/ Craig Dunham
Craig Dunham
Director

/s/ Darcie Peck
Darcie Peck
Director

/s/ Joseph Menaker
Joseph Menaker
Director

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

I, Shmuel Rubin, certify that:

1. I have reviewed this annual report on Form 10-K for the year ended June 30, 2022 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.

Dated: September 15, 2022

/s/ Shmuel Rubin

Shmuel Rubin
President and Chief Executive Officer

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

I, Albert Miranda, certify that:

1. I have reviewed this annual report on Form 10-K for the year ended June 30, 2022 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.

Dated: September 15, 2022

/s/ Albert Miranda

Albert Miranda
Chief Financial Officer

**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, 2022 (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 15, 2022

/s/ Shmuel Rubin

Shmuel Rubin,
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.

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, 2022 (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 15, 2022

/s/ Albert Miranda

Albert Miranda
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.