Inrad Optics, Inc.
Form 10-K
April 01, 2019

UNITED STATES
SECURITIES AND EXCHANGE COMMISSION

Washington, D. C. 20549

FORM 10-K

(Mark One)

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

For the fiscal year ended: December 31, 2018

OR

o **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: 0-11668

Inrad Optics, Inc.

(Exact name of registrant as specified in its charter)

New Jersey	**22-2003247**
State or other jurisdiction of incorporation or organization	(I. R. S. Employer Identification No.)
181 Legrand Avenue, Northvale, NJ	**07647**
(Address of principal executive offices)	(Zip Code)

Registrant’s telephone number, including area code **201-767-1910**

Securities registered pursuant to Section 12(b) of the Act: **None**

Title of each class	**Name of each exchange on which registered**	**N/A**

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

Common stock, par value $.01 Per Share

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

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 o. No x.

Note – Checking the box above will not relieve any registrant required to file reports pursuant to Section 13 or 15(d) of the Exchange Act from their obligations under those Sections.

Indicate by check mark whether the registrant (1) has filed all reports required to be filed by Section 13 or 15(d) of the Securities Exchange Act of 1934 during the preceding 12 months (or for such shorter period that the registrant was required to file such reports), and (2) has been subject to such filing requirements for the past 90 days.

Yes x No o

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 x No o

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

Indicate by check mark whether the registrant is a large accelerated filer, an accelerated filer, a non-accelerated file, or a smaller reporting company. See definition of large accelerated filer, accelerated filer and smaller reporting company in Rule 12b2 of the Exchange Act. (Check one):

Large accelerated filer o Accelerated filer o Non-accelerated filer x Smaller reporting company x Emerging growth compar

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

Indicate by check mark whether the registrant is a shell company (as defined in Rule 12b-2 of the Exchange Act).

YesoNox

State the aggregate market value of the voting and non-voting common equity held by non-affiliates computed by reference to the price at which the common equity was last sold, or the average bid and asked price of such common equity, as of the last business day of the registrant's most recently completed second fiscal quarter. $9,489,437. (For purposes of determining this amount, only directors, executive officers and shareholders with voting power of 10% or more of our stock have been deemed affiliates.)

Indicate the number of shares outstanding of each of the registrant's classes of common stock, as of the latest practicable date.

Common Shares outstanding as of March 26, 2019 – 13,632,388 shares

DOCUMENTS INCORPORATED BY REFERENCE

Portions of the registrant's definitive Proxy Statement for the 2019 Annual Meeting of Shareholders, to be filed with the Commission not later than 120 days after the close of the registrant's fiscal year, have been incorporated by reference, in whole or in part, into Part III Items 10, 11, 12, 13 and 14 of this Annual Report on Form 10-K.

Inrad Optics, Inc.

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PART 1

Caution Regarding Forward Looking Statements

This Annual Report contains forward-looking statements as that term is defined in the federal securities laws. The Company wishes to insure that any forward-looking statements are accompanied by meaningful cautionary statements in order to comply with the terms of the safe harbor provided by the Private Securities Litigation Reform Act of 1995. The events described in the forward-looking statements contained in this Annual Report may not occur. Generally, these statements relate to business plans or strategies, projected or anticipated benefits or other consequences of the Company's plans or strategies, or projections involving anticipated revenues, earnings, or other aspects of the Company's operating results. The words "may", "will", "expect", "believe", "anticipate", "project", "plan", "intend", "estimate "continue", and their opposites and similar expressions are intended to identify forward-looking statements. The Company cautions you that these statements are not guarantees of future performance or events and are subject to a number of uncertainties, risks, and other influences, many of which are beyond the Company's control, that may influence the accuracy of the statements and the projections upon which the statements are based. Factors that may cause or contribute to such differences include, but are not limited to, those discussed in more detail in Item 1 (Business) and Item 1A (Risk Factors) of Part I and Item 7 (Management's Discussion and Analysis of Financial Condition and Results of Operations) of Part II of this Annual Report on Form 10-K. Any one or more of these uncertainties, risks, and other influences could materially affect the Company's results of operations and whether forward-looking statements made by the Company ultimately prove to be accurate. Readers are further cautioned that the Company's financial results can vary from quarter to quarter, and the financial results for any period may not necessarily be indicative of future results. The foregoing is not intended to be an exhaustive list of all factors that could cause actual results to differ materially from those expressed in forward-looking statements made by the Company. The Company's actual results, performance and achievements could differ materially from those expressed or implied in these forward-looking statements. The Company undertakes no obligation to publicly update or revise any forward looking statements, whether from new information, future events, or otherwise, except as otherwise required by law.

Item 1. Business

Inrad Optics, Inc. (the "Company", "Inrad", or "we"), was incorporated in New Jersey in 1973. The Company develops, manufactures and markets products and services for use in photonics industry sectors via three distinct but complementary product areas - "Crystals and Devices", "Custom Optics" and "Metal Optics."

The Company is a vertically integrated manufacturer specializing in crystal-based optical components and devices, custom optical components from both glass and metal, and precision optical and opto-mechanical assemblies. Manufacturing capabilities include solution and high temperature crystal growth, extensive optical fabrication capabilities including precision diamond turning and the ability to handle large substrates, optical coatings, as well as in-process metrology.

Inrad Optics' customers include leading corporations in the defense, aerospace, laser systems, process control and metrology sectors of the photonics industry, as well as the U.S. Government, National Laboratories and universities worldwide.

Administrative, engineering and manufacturing operations are in a 42,000 square foot building located in Northvale, New Jersey.

The products produced by Inrad Optics, Inc. fall into two main categories: Optical Components and Laser Devices/Instrumentation.

The Optical Components category is heavily focused on custom optics manufacturing. The Company specializes in high-end precision components and sub-assemblies. It develops, manufactures and delivers precision custom optics and thin film optical coating services through its Custom and Metal Optics operations. Glass, metal, and crystal substrates are processed using complex processes and techniques to manufacture components, deposit optical thin films, and assemble sub-components used in advanced photonic systems. The majority of custom optical components and optical coating services supplied are used in defense and aerospace electro-optical systems, inspection, laser, medical and process control systems..

The Laser Devices/Instrumentation category includes the growth and fabrication of crystalline materials with electro-optic (EO) and non-linear optical properties for use in both standard and custom products. This category also includes crystal based devices and associated instrumentation. The majority of crystals, crystal components and laser devices are used in laser systems, defense and security EO systems, medical lasers and research and development applications by engineers within corporations, Scientific / R&D.

The following table summarizes the Company’s net sales by product categories during the past two years. Laser Devices/Instrumentation includes all non-linear and electro-optical crystal components.

	Years Ended December 31,			
	2018		2017	
Category (In thousands)	**Net Sales**	**%**	**Net Sales**	**%**
Optical Components	$9,939	86.5	$8,363	84.8
Laser Devices /Instrumentation	1,550	13.5	1,496	15.2
Total	$11,489	100	$9,859	100

Products Manufactured by the Company

Optical Components

a) Custom Optics and Optical Coating Services

Manufacturing of high-performance custom optics is a major product area for Inrad Optics and is addressed in the marketplace by the Company’s Custom and Metal Optics product lines.

The Custom Optics product line focuses on products manufactured to specific customer requirements. It specializes in the manufacture of optical components, optical coatings (ultra-violet wavelengths through infra-red wavelengths) and subassemblies for the aerospace, industrial medical marketplace and military. Planar, prismatic and spherical components are fabricated from glass and synthetic crystals, including fused silica, germanium, magnesium fluoride, quartz, silicon, zinc selenide, and zinc sulfide. Components consist of cavity optics for lasers, lenses, mirrors, polarizing optics, prisms, wave plates, , x-ray mirrors, and x-ray monochromators.

Most optical components and sub-assemblies require thin film coatings on their surfaces. Depending on the design, optical coatings can refract, reflect and transmit specific wavelengths. The Custom Optics optical coating specialties include anti-reflective high laser damage resistance, highly reflective, infra-red, polarizing, and coating to complex multi-wavelength requirements on a wide range of substrate materials. Coating deposition process technologies employed included electron beam, ion and plasma assisted deposition systems and thermal.

The Metal Optics product line is a fully integrated precision metal optics and optical assembly operation which employs high precision diamond machining, polishing, and plating of aluminum, AlBeMet™, beryllium and stainless steel. The Metal Optics product line offers opto-mechanical design and assembly services as part of its manufactured deliverables and can support prototyping through production of arc-second accuracy polygons, diamond machined precision aspheric, large and small metal mirrors, low RMS surface finish polished mirrors, planar mirrors, reflective porro prisms, and thermally stable optical mirrors. Plating specialties include void-free gold and electroless nickel.

b) UV Filter Optical Components

This product line consists of crystals and crystal devices including UV filter materials of both patented and proprietary materials with unique transmission and absorption characteristics. These materials are used in critical applications in defense systems such as missile warning sensors. Such materials include nickel sulfate and other proprietary materials.

Laser Devices/Instrumentation

This product line consists of crystal-based products that are used in, or alongside, laser systems. Developing growth processes for high quality synthetic crystals is a core competency of the Crystals and Devices manufacturing team. These crystals are embedded in our value added devices and instrumentation products manufactured in our Northvale facility and include crystals for wavelength conversion, modulation and polarization, Pockels' cells, and wavelength conversion instruments. In addition to the filter materials used in the UV Filter Optical components described above, current materials produced beta barium borate (BBO), lithium niobate, potassium dideuterium phosphate, potassium dihydrogen phosphate, stilbene and zinc germanium diphosphide,. Applications for these materials include defense, homeland security, industrial processing lasers and surgical lasers.

The Crystals and Devices team is also engaged in ongoing R & D efforts to develop new materials for evolving applications. Some of the major products produced for the photonics marketplace include:

a) Crystal Components

The Company grows and fabricates electro-optic and nonlinear crystal devices for altering the intensity, polarization or wavelength of a laser beam. Other crystal components, produced as part of the Crystals and Devices product line, are used in laser research in commercial laser systems and in detection of fast neutrons.

b) Pockels' Cells and Drivers

A line of Pockels' cells and associated electronics is manufactured for sale in multiple market sectors. Pockels' cells are devices that include one or more crystal components and are used in applications that require fast switching of the polarization direction of a beam of light. These uses include Q-switching of laser cavities to generate pulsed laser light, coupling light into and out from regenerative amplifiers, and light intensity modulation. These devices are sold to medical and industrial laser original equipment manufacturers, research institutes and laser system design engineers.

Sales by Market

The photonics industry serves a broad, fragmented and expanding set of markets. As technologies are discovered, developed and commercialized, the applications for photonic systems and devices, and the components embedded within those devices, grow across traditional market boundaries. While a significant part of the Company's business remains firmly in the defense and aerospace markets, other markets served include original equipment manufacturers (OEM) in the medical and industrial laser market, and OEM customers in the metrology and process control market, university research institutes and national labs worldwide. Scanning, detection and imaging technologies for homeland security and health care markets are beginning to provide opportunities for the Company and these new sectors are expected to continue to account for potential future growth and demand for our products and capabilities.

In 2018 and 2017 the Company's product sales were made to customers in the following market areas:

	Years Ended December 31,	
	2018	2017

Market (In thousands)	Net Sales	%	Net Sales	%
Defense/Aerospace	$2,585	22.5	$3,138	31.8
Process control & metrology	5,891	51.3	4,244	43.0
Laser systems	1,550	13.5	1,030	10.5
Scientific / R&D	1,463	12.7	1,447	14.7
Total	$11,489	100	$ 9, 859	100

Defense and Aerospace

This market consists of sales to OEM defense electro-optical systems and subsystems manufacturers, manufacturers of non-military satellite-based electro-optical systems and subsystems, and direct sales to governments where the products have the same end-use.

End-use applications for the Company's products in the defense and aerospace sector include military laser systems, military electro-optical systems, satellite-based systems, and missile warning sensors and systems that protect aircraft. The dollar volume of shipments of product within this sector depends in large measure on the U.S. Defense Department budget and its priorities, that of foreign governments, the timing of their release of contracts to their prime equipment and systems contractors, and the timing of competitive awards from this customer community to the Company.

Defense/Aerospace sales represented approximately 22.5% and 31.8% of sales in 2018 and 2017, respectively. Sales decreased by approximately $553,000 or 17.6% from 2017. The decrease in 2018 is primarily due to a reduction of shipments to a few defense customers compared to the previous year.

The Company believes that the defense and aerospace sector will continue to represent a significant market for the Company's products and offers an ongoing opportunity for growth given the Company's capabilities in specialty crystal, glass and metal precision optics.

Process Control and Metrology

This market consists of capital equipment manufacturers whose products are used in the areas of manufacturing process and control, optics-based metrology, quality assurance, and inventory and product control. Examples of applications for such equipment include semiconductor fabrication and testing and inventory management and distribution systems control.

Sales in the Process Control and Metrology (PC&M) market increased by $1,647,000 or 38.8% in 2018 compared to 2017 and represented 51.3% of sales compared to 43.0% in the prior year. The increase in 2018 sales is a result of an increase in demand from the semiconductor capital equipment market. An increase in bookings in late 2017 and early 2018 to two OEM customers resulted in an increase in shipments in 2018.

The Company believes that the optical and x-ray inspection segment of the semiconductor industry offers continued growth opportunities which match its capabilities in precision optics, crystal products, and monochromators.

Laser Systems

This market consists principally of customers who are OEM manufacturers of industrial, medical, and R&D lasers which the Company serves as an OEM supplier of standard and custom optical components and laser accessories, as well as a number of smaller customers in other markets that the Company does not list separately.

Sales in this market were 13.5% of sales in 2018 compared to 10.5% in 2017. This represented an increase of $520,000 or 50.4% from the prior year. A majority of the increase was a result of two new customers one domestic and one international as compared to the previous year.

Scientific / R&D

These sales consist of product sales directly to researchers at various educational and research institutions and through distributors into that market. Sales to customers within the Scientific / R&D market consist primarily of the Company’s legacy systems, Pockels’ cells and related repairs. Sales in 2018 increased by $16,000, or 1.1% and as a percentage of total sales to 12.7% compared to 14.7% in 2017. This was primarily attributable to increased business in 2018 from one National Lab and one research contract.

Major Customers

The Company's sales have historically been concentrated within a small number of customers, although the top customers have varied from year to year.

In 2018, the Company's sales to its top three customers accounted for 44.6% of sales. This included sales to a major OEM that manufactures process control and metrology equipment for the semiconductor industry. These customers represented 22.3% of total sales during the year.

Two other customers included a US based defense contractor of electro-optical systems for US and foreign governments and a foreign owned OEM manufacturer of process control and metrology equipment whose sales represented 12.9% and 9.4% of sales, respectively.

The same three customers represented 14.4%, 14.8%, and 5.6% of sales in 2017, respectively.

Sales to the Company's top five customers represented approximately 56.1% and 45.1% of sales, in 2018 and 2017, respectively. All these customers are OEM manufacturers either within the defense, process control and metrology or laser systems sector.

Export Sales

The Company's export sales are primarily to customers in Europe, Israel, and Asia and amounted to approximately 40%, and 32.5% of product sales in 2018 and 2017, respectively.

Long-Term Contracts

Certain of the Company's agreements with customers provide for periodic deliveries at fixed prices over a long period of time. In such cases, the Company negotiates to obtain firm price commitments, as well as cash advances from its customers for the purchase of the materials necessary to fulfill the order.

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Marketing and Business Development

The Company markets its products domestically, through the coordinated efforts of the sales, marketing and customer service teams.

The Company has moved towards a strategy of utilizing these combined sales and marketing resources for cross-selling all products across all business lines. This strategy is well suited to the diverse and fragmented markets that utilize photonic technologies.

Independent sales agents are used in major non-U.S. markets, including Canada, the United Kingdom, the European Union, Israel, and Japan.

Sales and marketing efforts are coordinated by the Vice President, Sales and Marketing, to promote our product lines through various means including participation in trade shows, internet based marketing, media and non-media advertising and promotion and management of international sales representatives and distributors.

Backlog

The Company’s order backlog at December 31, 2018 was $6,480,000. The Company’s order backlog as of December 31, 2017 was $6,512,000.

We anticipate shipping a substantial majority of the present backlog during fiscal year 2019. However, our backlog at any given date may consist of orders with delivery schedules that extend beyond 12 months into the future.

Competition

Within each product category in which the Company’s business units are active, there is competition.

Changes in the photonics industry have had an effect on suppliers of custom optics. As end users have introduced products requiring large volumes of optical components, suppliers have responded either by staying small and carving out niche product areas, or by ramping up manufacturing capacity and modernizing their manufacturing methods to meet higher volume production rates. Additionally, the availability of an increasingly large variety of inventoried inexpensive catalog optics has led some OEM manufacturers to “design in” these low-cost solutions rather than utilizing custom designed and manufactured products.

Competition for the Company’s crystal devices and instrumentation is more limited and the Company’s laser devices are considered to be high quality and generally offer a combination of features not available elsewhere. As a result of the Company’s in-house crystal growth capability, this area of the business is highly vertically integrated, providing a competitive advantage over other suppliers.

For crystal products, the market is highly competitive. Many of the Company’s competitors who supply non-linear optical crystals are located overseas, and can offer significantly reduced pricing for some crystal materials. On many occasions, the quality of the crystal component drives the ultimate performance of the component or instrument into which it is installed. Quality and technical support are considered to be valuable attributes for a crystal supplier by some, but not all, OEM customers.

Our metal optics product line has several key competitors who are larger and better equipped to compete on high volume work. There are also several large and small competitors who compete with our products on large form factor optics. The Company has made recent inroads within this competitive landscape, and is building brand awareness in the marketplace.

Although price is a principal factor in many product categories, competition is also based on product design, performance, customer confidence, quality, delivery, and customer service. Based on its performance to date, the Company believes that it can continue to compete successfully, although no assurances can be given in this regard.

Employees

As of the close of business on March 25, 2019, the Company had 58 full-time employees.

Patents and Licenses

The Company mainly relies on its manufacturing and technological expertise, know-how and trade secrets in addition to its patents, to maintain its competitive position in the industry. The Company takes precautionary and protective measures to safeguard its technical design and manufacturing processes. The Company executes nondisclosure agreements with its employees and, where appropriate, with its customers, suppliers and other associates.

Regulation

Foreign sales of certain of the Company’s products to certain countries may require export licenses from the United States Department of Commerce. Such licenses are obtained when required. All requested export licenses of Inrad Optics products have been granted or deemed not-required.

International Traffic in Arms Regulations (“ITAR”) governs much of the Company’s domestic defense sector business, and the Company is capable of handling its customers’ technical information under these regulations. Inrad Optics, Inc. is registered with the Directorate of Defense Trade Controls, and utilizes a supplier base of similarly registered companies.

There are no other federal regulations or any unusual state regulations that directly affect the sale of the Company’s products other than those environmental compliance regulations that generally affect companies engaged in manufacturing operations in New Jersey.

Availability of Reports

Our principal executive offices are located at 181 Legrand Avenue, Northvale, N.J. 07647 which also houses our manufacturing operations. Our telephone number is 201-767-1910 and our corporate website address is www.inradoptics.com. We include our website address in this annual report on Form 10-K only as an inactive textual reference and do not intend it to be an active link to our website. The information on our website is not incorporated by reference in this annual report on Form 10-K.

Our annual reports on Form 10-K, quarterly reports on Form 10-Q, current reports on Form 8-K and any amendments to such reports, as well as other documents we file with the Securities and Exchange Commission, are available free of charge on our web site at www.inradoptics.com as soon as reasonably practicable after such reports are electronically filed with, or furnished to, the Securities and Exchange Commission (“SEC”) (www.sec.gov). We will also provide electronic or paper copies of such reports free of charge, upon request made to our Corporate Secretary.

Item 1A. Risk Factors

The Company cautions investors that its performance (and, therefore, any forward looking statement) is subject to risks and uncertainties. The risks described below are not the only ones we face, but those we currently consider to be material. There may be other risks which we now consider immaterial, or which are unknown or unpredictable, with respect to our business, the markets in which we operate, our competition, the regulatory environment or otherwise that could have a material adverse effect on our business, financial condition and results of operation.

a) The Company has history of losses

While we had net income for the fiscal year December 31, 2018 of $0.7 million, we had net loss of $0.6 million, and $0.6 million, for 2017, and 2016 respectively. Our history of losses had; an adverse effect on our working capital, total assets and shareholders' equity. We are unable to predict, with certainty, whether we will continue to be profitable after 2018 and our inability to achieve and sustain profitability may negatively affect our business, financial condition, results of operations and cash flows.

b) The Company may need to raise additional capital to repay indebtedness and to fund our operations

We may need to raise additional financing to repay our outstanding indebtedness of approximately $2.8 million, as well as, to fund our current level of operations. Additional financing, which is not in place at this time, may be from the sale of equity or convertible or other debt securities in a public or private offering, or from an additional credit facility. We may be unable to raise sufficient additional capital on favorable terms, if at all, to supply the working capital needs of our existing operations or to expand our business.

c) The Company has exposure to Government Markets

Sales to customers in the defense industry represent a significant part of our business. These customers in turn generally contract with government agencies. Most governmental programs are subject to funding approval through congressional appropriations which can be modified or terminated without warning upon the determination of a legislative or administrative body. Appropriations can also be affected by legislation that addresses larger budgetary issues of the U.S. Government which could reduce available funding for most federal agencies, including the Department of Defense. It is difficult to assess how this may impact our defense industry customers and the business we do with them in the future. The loss or failure to obtain certain contracts or a loss of a major government customer could have a material adverse effect on our business, results of operations or financial condition.

d) The Company's revenues are concentrated in its largest customer accounts

For the year ended December 31, 2018, five customer accounts represented approximately 56% of total revenues and two of these customers each accounted for more than 10% of revenues. We are a supplier of custom manufactured components to OEM customers, and have a number of large customers in both the commercial and defense markets, but the relative size and identity of our largest customers change year to year. In the short term, the loss of any of these large customer accounts or a decline in demand in the markets which they represent could have a material adverse effect on our business, results of operations, and financial condition.

e) The Company depends on, but may not succeed in, developing and acquiring new products and processes

To meet the Company's strategic objectives, the Company needs to continue to develop new processes, improve existing processes, and manufacture and market new products. As a result, the Company may continue to make investments in process development and additions to its product portfolio. There can be no assurance that the Company will be able to develop and introduce new products or enhancements to its existing products and processes in a way that achieves market acceptance or other pertinent targeted results. The Company also cannot be sure that it will have the human or financial resources to pursue or succeed in such activities.

f) The Company's stock price may fluctuate widely

The Company's stock is thinly traded. Many factors, including, but not limited to, future announcements concerning the Company, its competitors or customers, as well as quarterly variations in operating results, announcements of technological innovations, seasonal or other variations in anticipated or actual results of operations, changes in earnings estimates by analysts or reports regarding the Company's industries in the financial press or investment advisory publications, could cause the market price of the Company's stock to fluctuate substantially. In addition, the Company's stock price may fluctuate widely for reasons which may be unrelated to operating results. These fluctuations, as well as general economic, political and market conditions such as recessions, military conflicts, or market or related declines, may materially affect the market price of the Company's common stock. In addition, any information concerning the Company, including projections of future operating results, appearing in investment advisory publications or on-line bulletin boards or otherwise emanating from a source other than the Company could in the future contribute to volatility in the market price of the Company's common stock.

g) The Company's business success depends on its ability to recruit and retain key personnel

The Company depends on the expertise, experience, and continuing services of certain scientists, engineers, production and management personnel, and on the Company's ability to recruit additional personnel. There is competition for the services of these personnel, and there is no assurance that the Company will be able to retain or attract the personnel necessary for its success, despite the Company's efforts to do so. The loss of the services of the Company's key personnel could have a material adverse effect on its business, results of operations, or financial condition.

h) Many of the Company's customers are in cyclical industries

The Company's business is significantly dependent on the demand its customers experience for their products. Many of their end users are in industries that historically have experienced a cyclical demand for their products. The industries include, but are not limited to, the defense electro-optics industry and the manufacturers of process control capital equipment for the semiconductor tools industry. As a result, demand for the Company's products are subject to cyclical fluctuations, and this could have a material adverse effect on our business, results of operations, or financial condition.

i) The Company's manufacturing processes require products from limited sources of supply

The Company utilizes many relatively uncommon materials and compounds to manufacture its products. Many of the materials have long lead times and the Company's suppliers could fail to deliver sufficient quantities of these necessary materials on a timely basis, or deliver contaminated or inferior quality materials, or markedly increase their prices. Any such actions could have an adverse effect on the Company's business, despite the Company's efforts to secure long term commitments from its suppliers. Adverse results might include reducing the Company's ability to meet commitments to its customers, compromising the Company's relationship with its customers, adversely affecting the Company's ability to meet expanding demand for its products, or causing the Company's financial results to deteriorate.

j) The Company faces competition

The Company encounters substantial competition from other companies positioned to serve the same market sectors. Some competitors may have financial, technical, capacity, marketing or other resources more extensive than ours, or may be able to respond more quickly than the Company to new or emerging technologies and other competitive pressures. Some competitors have manufacturing operations in low-cost labor regions such as the Far East and Eastern Europe and can offer products at lower prices than the Company. The Company may not be successful in winning orders against the Company's present or future competitors, and competition may have a material adverse effect on our business, results of operations or financial condition.

k) The Company may not be able to fully protect its intellectual property

The Company currently holds one patent for a material applicable to an important product, but does not in general rely on patents to protect its products or manufacturing processes. The Company generally relies on a combination of trade secrets and employee non-compete and nondisclosure agreements to protect its intellectual property rights. There can be no assurance that the steps the Company takes will be adequate to prevent misappropriation of the Company's technology. In addition, there can be no assurance that, in the future, third parties will not assert infringement claims against the Company. Asserting the Company's rights or defending against third-party claims could involve substantial expense, thus materially and adversely affecting the Company's business, results of operations or financial condition.

l) Data Breach and breakdown of information and communication technologies

In the course of our business, we collect and store sensitive data, including intellectual property. We could be subject to service outages or breaches of security systems which may result in disruption, unauthorized access, misappropriation, or corruption of this information. Security breaches of our network or data, including physical or electronic break-ins, vendor service outages, computer viruses, attacks by hackers or similar breaches can create system disruptions, shutdowns, or unauthorized disclosure of confidential information. Although we have not experienced an incident, if we are unable to prevent such security or privacy breaches, our operations would be disrupted or we could suffer, financial loss, property damage, reputational damage, or regulatory penalties because of lost or misappropriated information.

Item 1B. Unresolved Staff Comments

None

Item 2. Properties

Administrative, engineering and manufacturing operations are housed in a 41,935 square foot building located in Northvale, New Jersey. The lease for the Northvale facility was renewed for a term of two years from June 1, 2015 to May 31, 2017 along with an option to renew the lease for two additional one year terms running through May 31, 2019, at substantially the same terms. The Company has exercised its option to renew the Northvale lease for an additional one year term running through May 31, 2018. The Company intends to have a new lease agreement for the Northvale facility prior to May, 31, 2019.We believe that our existing facility is adequate to meet current and future projected production needs.

Item 3. Legal Proceedings

We are not party to any legal proceedings as of the date hereof.

Item 4. Mine Safety Disclosures

Not Applicable

PART II

Item 5. Market for Registrant's Common Equity and Related Stockholder Matters

a) Market Information

The Company's Common Stock, with a par value of $0.01 per share, is traded on the OTC Pink Sheets under the symbol INRD.

The following table sets forth the range of high and low closing prices for the Company's Common Stock in each fiscal quarter from the quarter ended March 31, 2017 through the quarter ended December 31, 2018, as reported by the OTC Pink Sheets. Such over-the-counter quotations reflect inter-dealer prices, without retail mark-up, mark-down or commission and may not necessarily represent actual transactions.

	Price High	Low
Quarter ended December 31, 2018	$1.34	$.70
Quarter ended September 30, 2018	1.04	.85
Quarter ended June 30, 2018	1.10	.85
Quarter ended March 31, 2018	1.34	.70
Quarter ended December 31, 2017	1.40	1.05
Quarter ended September 30, 2017	1.45	.61
Quarter ended June 30, 2017	.90	.53
Quarter ended March 31, 2017	.70	.51

As of March 22, 2019 the Company's closing stock price was $1.40 per share.

b) Shareholders

As of March 20, 2019, there were approximately 119 shareholders of record of our Common Stock based upon the Shareholders' Listing provided by the Company's Transfer Agent. As of the same date, the Company estimates that there are an additional 240 beneficial shareholders.

c) Dividends

The Company has not historically paid cash dividends. Payment of cash dividends is at the discretion of the Company's Board of Directors and depends, among other factors, upon the earnings, capital requirements, operations and financial condition of the Company. The Company does not anticipate paying cash dividends in the foreseeable future.

d) Recent Sales of Unregistered Securities

There have been no sales of unregistered securities during the past year.

Item 6. Selected Financial Data

The following data is qualified in its entirety by the financial statements presented elsewhere in this Annual Report on Form 10-K.

	As of December 31, or For the Year Ended December 31,				
	2018	2017	2016	2015	2014
Revenues	$11,488,727	$9,859,201	$9,766,525	$10,492,229	$9,726,145
Net (loss) income	706,608	(682,531)	(605,085)	(478,935)	(2,514,851)
Earnings (loss) per share					
Basic (loss) earnings per share	0.05	(0.05)	(0.05)	(0.04)	(0.21)
Diluted (loss) earnings per share	0.05	(0.05)	(0.05)	(0.04)	(0.21)
Weighted average shares					
Basic	13,561,207	13,357,622	12,926,471	12,570,867	12,221,734

Diluted	13,930,708	13,357,622	12,926,471	12,570,867	12,221,734
Total assets	6,932,425	6,542,505	6,734,632	7,074,989	7,396,415
Long-term obligations	2,744,781	2,757,738	2,770,722	2,878,906	3,048,747
Shareholders' equity	2,566,742	1,685,447	2,182,098	2,622,028	2,995,647

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

The following discussion and analysis should be read in conjunction with the Company's consolidated financial statements and the notes thereto presented elsewhere herein. The discussion of results should not be construed to imply any conclusion that such results will necessarily continue in the future.

Critical Accounting Policies

The Company's significant accounting policies are described in Note 1 of the Consolidated Financial Statements that were prepared in accordance with accounting principles generally accepted in the United States of America. In preparing the Company's financial statements, the Company made estimates and judgments that affect the results of its operations and the value of assets and liabilities the Company reports. The Company's actual results may differ from these estimates.

The Company believes that the following summarizes critical accounting policies that require significant judgments and estimates in the preparation of the Company's consolidated financial statements.

Revenue Recognition

The Company adopted the provisions of ASU 2014-09 on January 1, 2018, using the modified retrospective approach. Revenue from the Company's sales continue to generally be recognized either when products are shipped (i.e. point in time) or under certain long-term government contracts, as the Company transfers control of the product or service to its customers (i.e. over time), which approximates the previously used percentage-of-completion method of accounting. As such, the adoption of ASU 2014-09 had no material impact to the Company's financial position or results of operations.

Inventory

Inventories are stated at the lower of cost (first-in, first-out method) or net realizable value. Cost of manufactured goods includes material, labor and overhead.

The Company records a reserve for slow moving inventory as a charge against earnings for all products identified as surplus, slow moving or discontinued. Excess work-in-process costs are charged against earnings whenever estimated costs-of-completion exceed unbilled revenues.

Stock-based compensation

Stock based compensation expense is estimated at the grant date based on the fair value of the award. The Company estimates the fair value of stock options granted using the Black-Scholes option pricing model. The fair value of restricted stock units granted is estimated based on the closing market price of the Company's common stock on the date of the grant. The fair value of these awards, adjusted for estimated forfeitures, is amortized over the requisite service period of the award, which is generally the vesting period.

Income Taxes

Deferred income taxes are provided on the asset and liability method whereby deferred tax assets are recognized for deductible temporary differences and operating loss and tax credit carry forwards and deferred tax liabilities are recognized for taxable temporary differences. Temporary differences are the differences between the amounts of assets and liabilities recorded for income tax and financial reporting purposes. Deferred tax assets are reduced by a valuation allowance when, in the opinion of management, it is more likely than not that some portion or all of the deferred tax assets will not be realized. Deferred tax assets and liabilities are adjusted for the effects of changes in tax laws and rates on the date of enactment.

The Company recognizes the financial statement benefit of an uncertain tax position only after determining that the relevant tax authority would more likely than not sustain the position. For tax positions meeting the more likely than not threshold, the amount recognized in the financial statements is the largest benefit that has a greater than 50 percent likelihood of being realized upon ultimate settlement with the relevant tax authority.

The Company classifies interest and penalties related to income taxes as income tax expense in its Consolidated Financial Statements.

Results of Operations

The following table sets forth, for the past two years, the percentage relationship of statement of operations categories to total revenues.

	Years ended December 31,			
	2018		2017	
Revenues:				
Product sales	100.0	%	100.0	%
Costs and expenses:				
Cost of goods sold	73.0	%	80.5	%
Gross profit margin	27.0	%	19.5	%
Selling, general and administrative expenses	19.4	%	24.5	%
Operating (loss) income	7.5	%	(5.0	)%
Net (loss) income	6.1	%	(6.9	)%

Revenues

Sales were $11,489,000 in 2018, an increase of 16.5%, or $1,630,000 compared to $9,859,000 in 2017.

Sales to the defense and aerospace market decreased 17.6% to $2,585,000 from $3,138,000 in 2017 representing 22.5% and 31.8% of total sales, respectively. This primarily reflects a decrease in sales to a number of existing defense customers partially offset by sales increases to two large defense customers.

Sales in the process control and metrology market increased to $5,891,000 in 2018 from $4,244,000 in 2017, up $1,637,000 or 38.5%. These sales represented 51.3% and 43.0%, of total sales, respectively. The increase in 2018 is mainly the result of higher demand from one OEM customer in the semi-conductor business partially offset by a decrease in sales to other customers in this market.

The Company serves as an OEM supplier of standard and custom optical components and laser accessories within the non-military laser industry. Sales to this and related markets were $1,550,000 in 2018 and $1,030,000 in 2017. Overall, sales of laser devices and related products represented 13.5% of total sales in 2018, up $411,000 or 36.1%. The increase in 2018 is mainly the result of higher demand from customers who manufactures laser components and sub-systems.

Sales to customers within the Scientific / R&D market increased in 2018 to $1,463,000 from $1,447,000 in 2017, up 1.1%, mainly due to an increase in orders from one national laboratory customer and research contract. As a percentage of total sales, this market represented 12.7% and 14.7% of total sales in 2018 and 2017, respectively.

Bookings

The Company booked new orders totaling approximately $11.2 million in 2018, an increase of $1.1 million or 10.9% from $10.1 million in 2017, as a result of an increase in orders for the Company’s crystal and devices and metal optics product lines.

The Company’s backlog as of December 31, 2018 was $6.4 million compared to $6.5 million as of December 31, 2017.

Cost of Goods Sold and Gross Profit Margin

Cost of goods sold as a percentage of sales decreased to 73.0% in 2018 compared to 80.5% for the year ended December 31, 2017down by 7.5%. In 2018, cost of goods sold was $8,387,000 compared to $7,937,000 in 2017 an increase of approximately $451,000 or 5.7%.

The increase in cost of goods sold in 2018 was mainly attributable to an increase in cost related to sales as sales increased and sales mix changed.

Selling, General and Administrative Expenses

Selling, general and administrative expenses ("SG&A") were $2,234,000 in 2018 compared to $2,417,000 in 2017, a decrease of $183,000 or 7.6%. The decrease partially reflects reductions in SG&A salaries, wages and associated benefits of approximately $73,000 due to the timing of personnel changes in 2018 compared to 2017 offset by an increase in sales and marketing expenses primarily due to increased activity in trade shows in 2018 compared to 2017.

As a percentage of sales, SG&A was 19.4% of sales in 2018 compared to 24.5% in 2017, primarily due to higher sales in 2018.

Operating Income (Loss)

The Company had an operating income of $867,000 in 2018, compared to an operating loss of $494,000 in 2017.

Other Income and Expenses

Net interest expense was $159,000 in 2018 a slight decreased from $161,000 in 2017.

In addition, the Company recorded a loss of $2,000 in 2018 compare to $52,000 in 2017 as part of transactions which included the exchange of precious metals.

Income Taxes

In 2018 and 2017, the Company did not record a current provision for either state tax or federal alternative minimum tax due to carry forward losses incurred in prior years for both income tax and financial reporting purposes.

Net Income (Loss)

As a result of the foregoing, in 2018, the Company recorded a net income of $707,000 compared to a net loss of $683,000 in 2017. mainly due to the increase in sales described above.

Liquidity and Capital Resources

The Company’s primary source of liquidity is cash and cash equivalents and on-going collection of our accounts receivable. The Company’s major uses of cash in the past three years have been for operating expenses, capital expenditures and for repayment and servicing of outstanding debt and accrued interest.

As of December 31, 2018, and December 31, 2017, cash and cash equivalents were $1,186,000 and $800,000, respectively.

On April 12, 2018 the maturity dates of a $1,500,000 Subordinated Convertible Promissory Note to Clarex Limited (“Clarex”) and a $1,000,000 Subordinated Convertible Promissory Note to an affiliate of Clarex were each extended to April 1, 2021from April 1, 2019. The notes bear interest at 6%. Interest accrues yearly and is payable on maturity. Unpaid interest, along with principal, may be converted into securities of the Company as follows: the notes are convertible in the aggregate into 1,500,000 units and 1,000,000 units, respectively, with each unit consisting of one share of common stock and one warrant. Each warrant allows the holder to acquire 0.75 shares of common stock at a price of $1.35 per share. As part of the agreement to extend the maturity date of the notes, the expiration dates of the warrants were extended from April 1, 2022 to April 1, 2024.

The Company paid $187,500 and $112,500 for interest on the subordinated convertible promissory notes in 2018 and 2017, respectively. Accrued interest of $75,000 and $112,500 is included in Accounts payable and accrued liabilities as of December 31, 2018 and 2017, respectively.

In total, the Company paid $198,000 of interest in 2018 and $125,000 of interest in 2017 on its outstanding debt, including interest paid on the subordinated convertible promissory notes.

In 2018, the Company had capital expenditures of $154,000. In 2017, capital expenditures were $119,000

The Company had a net increase in cash of $386,000 for the twelve months ended December 31, 2018 compared to a net decrease in cash of $173,000 for the twelve months ended December 31, 2017.

Cash flows pertaining to our source and use of cash are presented below (in thousands):

	Years ended December 31, 2018	2017
Net cash provided by (used in) operations	$ 552	$ 30
Capital expenditures & purchase of precious metals	(155)	(121)
Proceeds on sale or disposal of plant and equipment	—	24
Purchase of patent license	—	—
Principal payments on debt obligations	(12)	(108)

Overview of Financial Condition

The Company recorded a net income of $707,000 for the twelve months ended December 31, 2018 compared to a net loss of $683,000 in the same period last year. The Company's cash and cash equivalents increased to $1,186,000 at December 31, 2018 compared to $800,000 at December 31, 2017.

The Company's management expects that future cash flows from operations and its existing cash reserves will provide adequate liquidity for the Company's operations and working capital requirements through at least March 31, 2020.

Contractual Obligations

The following table describes our contractual obligations as of December 31, 2018 (in thousands).

Contractual Obligations	Total	Less than 1 Year	1-3 Years	4-5 Years	Greater Than 5 Years
Convertible notes payable, including interest	$2,988	$ 150	$ 300	$2,538	$ —
Notes payable-other, including interest	340	23	69	46	202
Total contractual cash obligations	$3,328	$ 173	$ 369	$2,584	$ 202

Off-Balance Sheet Arrangements

The Company did not have any off-balance sheet arrangements at December 31, 2018 and 2017.

Item 7A. Quantitative and Qualitative Disclosures about Market Risk

N/A

Item 8. Financial Statements and Supplementary Data

The financial statements and supplementary financial information required to be filed under this Item are presented commencing on page 21 of the Annual Report on Form 10-K, and are incorporated herein by reference.

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

Item 9A. Controls and Procedures

None

a) Evaluation of Disclosure Controls and Procedures

The Company’s management, including the Chief Executive Officer and the Chief Financial Officer, has evaluated the effectiveness of the design and operation of the Company’s disclosure controls and procedures (as defined in Exchange Act Rules 13a-15(e) and 15d-15(e)) as of the end of the period covered by this Annual Report on Form 10-K. Based upon that evaluation, the Company’s Chief Executive Officer and Chief Financial Officer have concluded that the disclosure controls and procedures as of December 31, 2018 are effective to ensure that information required to be disclosed in the reports the Company files or submits under the Exchange Act is recorded, processed, summarized and reported within the time periods specified in the SEC’s rules and forms and that such information is accumulated and communicated to the Company's management, including the Chief Executive Officer and the Chief Financial Officer, to allow timely decisions regarding disclosure.

b) Management’s Annual Report on Internal Control over Financial Reporting

Our management is responsible for establishing and maintaining an adequate system of internal control over financial reporting. Our internal control over financial reporting includes those policies and procedures that:

- pertain to the maintenance of records that, in reasonable detail, accurately and fairly reflect the transactions and dispositions of our assets;
- provide reasonable assurance that transactions are recorded as necessary to permit preparation of our financial statements in accordance with generally accepted accounting principles in the United States, and that our receipts and expenditures are being made only in accordance with authorizations of our management and directors; and
- provide reasonable assurance regarding prevention or timely detection of unauthorized acquisition, use or disposition of our assets that could have a material effect on the financial statements.

Due to its inherent limitations, internal control over financial reporting may not prevent or detect misstatements. Projections of any evaluation of effectiveness to future periods are subject to the risk that controls may become inadequate because of changes in conditions, or that the degree of compliance with the policies or procedures may deteriorate. All internal control systems, no matter how well designed, have inherent limitations. Therefore, even those systems determined to be effective can provide only reasonable assurance with respect to financial statement preparation and presentation. Because of the inherent limitations of internal control, there is a risk that material misstatements may not be prevented or detected on a timely basis by internal control over financial reporting. However, these inherent limitations are known features of the financial reporting process. Therefore, it is possible to design into the process safeguards to reduce, though not eliminate, this risk.

Management assessed the effectiveness of the Company’s system of internal control over financial reporting as of December 31, 2018. In making this assessment, management used the framework in Internal Control — Integrated Framework (2013) issued by the Committee of Sponsoring Organizations of the Treadway Commission (“COSO”).

Based on our assessment and the criteria set forth by COSO, management has concluded that the Company maintained effective internal control over financial reporting as of December 31, 2018.

c) Changes in Internal Control over Financial Reporting

There have been no changes in the Company’s internal control over financial reporting identified in connection with the evaluation that occurred during the Company’s last fiscal quarter that have materially affected, or that are reasonably likely to materially affect, the Company’s internal controls over financial reporting.

Item 9B Other Information

None

PART III

Item 10. Directors, Executive Officers and Corporate Governance

The information required under this item is incorporated by reference to the Company’s Proxy Statement for the 2019 Annual Meeting of Stockholders which we anticipate will be filed within 120 days after our fiscal year ended December 31, 2018.

Item 11. Executive Compensation

The information required under this item is incorporated by reference to the Company’s Proxy Statement for the 2019 Annual Meeting of Stockholders which we anticipate will be filed within 120 days after our fiscal year ended December 31, 2018.

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

The information required under this item is incorporated by reference to the Company’s Proxy Statement for the 2019 Annual Meeting of Stockholders which we anticipate will be filed within 120 days after our fiscal year ended December 31, 2018.

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

The information required under this item is incorporated by reference to the Company's Proxy Statement for the 2019 Annual Meeting of Stockholders which we anticipate will be filed within 120 days after our fiscal year ended December 31, 2018.

Item 14. Principal Accountant Fees and Services

The information required under this item is incorporated by reference to the Company's Proxy Statement for the 2019 Annual Meeting of Stockholders which we anticipate will be filed within 120 days after our fiscal year ended December 31, 2018.

PART IV

Item 15. Exhibits and Financial Statement Schedules

(a) (1) Financial Statements.

Reference is made to the Index to Financial Statements and Financial Statement Schedule commencing on Page 20

(a) (2) Financial Statement Schedule.

Reference is made to the Index to Financial Statements and Financial Statement Schedule on Page 20. All other schedules have been omitted because the required information is not present or is not present in amounts sufficient to require submission of the schedule, or because the information required is included in the Financial Statements or Notes thereto.

(a) (3) Exhibits.

Exhibit No.	Description of Exhibit
3.1	Restated Certificate of Incorporation of Photonics Products Group, Inc. (incorporated by reference to Exhibit 3.1 to the Company's Registration Statement on Form S-1 filed with the Securities and Exchange Commission on August 25, 2004)
3.2	By-Laws of Photonic Products Group, Inc. (incorporated by reference to Exhibit 3.2 to the Company's Registration Statement on Form S-1 filed with the Securities and Exchange Commission on August 25, 2004)
3.3	Certificate of Amendment to Restated Certificate of Incorporation of Photonics Products Group, Inc., dated June 2, 2010 (incorporated by reference to Exhibit 3.1 to the Company's Current Report on Form 8-K filed with the Securities and Exchange Commission on June 7, 2010).
3.4	Certificate of Amendment to Restated Certificate of Incorporation of Photonics Products Group, Inc., dated January 23, 2012 (incorporated by reference to Exhibit 3.1 to the Company's Current Report on Form 8-K filed with the Securities and Exchange Commission on January 23, 2012).
4.1	Specimen Common Stock Certificate (incorporated by reference to Exhibit 4.1 to the Company's Registration Statement on Form S-1 filed with the Securities and Exchange Commission on August 25, 2004)
4.2	Subordinated Convertible Promissory Note dated July 25, 2014 held by Clarex, Ltd. (incorporated by reference to Exhibit 4.4 to the Company's Annual Report on Form 10-K filed with the Securities and Exchange Commission on April 13, 2015)
4.3	Subordinated Convertible Promissory Note dated July 25, 2014 held by Welland, Ltd. (incorporated by reference to Exhibit 4.5 to the Company's Annual Report on Form 10-K filed with the Securities and Exchange Commission on April 13, 2015)
10.1	2000 Equity Compensation Program (incorporated by reference to Exhibit 10.1 to the Company's Registration Statement on Form S-1 filed with the Securities and Exchange Commission on August 25, 2004)
10.2	2010 Equity Compensation Program (incorporated by reference to Exhibit B to the Company's Proxy Statement for the 2010 Meeting of Stockholders filed with the Securities and Exchange Commission on April 30, 2010)
10.3	Proposal to Renew and Extend Lease dated June 1, 2015 between Inrad Optics, Inc. ("Tenant") and S & R Costa Realty, LLP ("Landlord") (incorporated by reference to Exhibit 10.3 to the Company's Annual Report on Form 10-K filed with the Securities and Exchange Commission on March 30, 2016)
14.1	

	Code of Ethics (incorporated by reference to Exhibit 14.1 to the Company's Annual Report on Form 10-K filed with the Securities and Exchange Commission on March 31, 2006)
21.1	List of Subsidiaries (incorporated by reference to Exhibit 21.1 to the Company's Annual Report on Form 10-K filed with the Securities and Exchange Commission on March 31, 2006)
23.1*	Consent of PKF O'Connor Davies, LLP Independent Registered Public Accounting Firm
31.1*	Certification of Chief Executive Officer pursuant to Section 302 of the Sarbanes-Oxley Act of 2002
31.2*	Certification of Chief Financial Officer pursuant to Section 302 of the Sarbanes-Oxley Act of 2002
32.1**	Certification of Chief Executive Officer pursuant to 18 U.S.C. Section 1350, as adopted pursuant to Section 906 of the Sarbanes-Oxley Act of 2002
32.2**	Certification of Chief Financial Officer pursuant to 18 U.S.C. Section 1350, as adopted pursuant to Section 906 of the Sarbanes-Oxley Act of 2002
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 Extension Presentation Linkbase Document

* Filed herewith ** Furnished herewith

Item 16. Form 10-K Summary.

None.

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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.

INRAD OPTICS, INC.

By:/s/ Amy Eskilson
Amy Eskilson
Chief Executive Officer

Dated: April 1, 2019

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

Signature	**Title**	**Date**
/s/ Jan M. Winston Jan M. Winston	Chairman of the Board of Directors	April 1, 2019
/s/ Dennis G. Romano. Dennis G. Romano	Director	April 1, 2019
/s/ Luke P. LaValle, Jr. Luke P. LaValle, Jr.	Director	April 1, 2019
/s/ N.E. Rick Strandlund N.E. Rick Strandlund	Director	April 1, 2019
/s/ William J. Foote William J. Foote	Director	April 1 ,2019
/s/ Amy Eskilson Amy Eskilson	President, Chief Executive Officer and Director (Principal Executive Officer)	April 1, 2019
/s/ Elias T. Kabous Elias T. Kabous	Chief Financial Officer, Secretary and Treasurer (Principal Financial and Accounting Officer)	April 1, 2019

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INRAD OPTICS, INC. AND SUBSIDIARIES

INDEX TO THE CONSOLIDATED FINANCIAL STATEMENTS

AS OF AND FOR THE YEARS ENDED DECEMBER 31, 2018 AND 2017

CONTENTS

REPORT OF INDEPENDENT REGISTERED PUBLIC ACCOUNTING FIRM

To the Shareholders and Board of Directors

Inrad Optics, Inc. and Subsidiaries

Northvale, New Jersey

Opinion on the Consolidated Financial Statements

We have audited the accompanying consolidated balance sheets of Inrad Optics, Inc. and Subsidiaries (the “Company”) as of December 31, 2018 and 2017, and the related consolidated statements of operations, shareholders’ equity and cash flows for each of the two years in the period ended December 31, 2018, and the related notes (collectively referred to as the “consolidated financial statements”). In our opinion, the consolidated financial statements present fairly, in all material respects, the financial position of the Company as of December 31, 2018 and 2017, and the results of its operations and its cash flows for each of the two years in the period ended December 31, 2018, in conformity with accounting principles generally accepted in the United States of America.

Basis for Opinion

These consolidated financial statements are the responsibility of the Company’s management. Our responsibility is to express an opinion on the Company’s consolidated financial statements based on our audits. We are a public accounting firm registered with the Public Company Accounting Oversight Board (United States) (PCAOB) and are required to be independent with respect to the Company in accordance with 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 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 audit, 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 financial statements, whether due to error or fraud, and performing procedures that respond to those risks. Such procedures included examining, on a test basis, evidence regarding the amounts and disclosures in the consolidated financial statements. Our audits also included evaluating the accounting principles used and significant estimates made by management, as well as evaluating the overall presentation of the consolidated financial statements. We believe that our audits provide a reasonable basis for our opinion.

/s/ PKF O'Connor Davies, LLP
We have served as the Company's auditor since 2017.

New York, New York
April 1, 2019

INRAD OPTICS, INC. AND SUBSIDIARIES

CONSOLIDATED BALANCE SHEETS

	December 31,	
	2018	2017
Assets		
Current Assets:		
Cash and cash equivalents	$1,185,553	$799,953
Accounts receivable (net of allowance for doubtful accounts of $15,000 in 2018 and 2017)	1,296,487	1,034,398
Inventories, net	3,015,883	3,196,001
Other current assets	180,893	127,900
Total Current Assets	5,678,816	5,158,252
Plant and Equipment:		
Plant and equipment at cost	14,696,966	14,726,638
Less: Accumulated depreciation and amortization	(14,069,880)	(14,013,850)
Total plant and equipment	627,086	712,788
Precious Metals	562,347	563,760
Intangible Assets, net of accumulated amortization	32,156	70,219
Other Assets	32,020	37,486
Total Assets	$6,932,425	$6,542,505
Liabilities and Shareholders' Equity		
Current Liabilities:		
Current portion of long-term notes payable -other	$12,960	$12,486
Accounts payable and accrued liabilities	835,015	1,217,157
Customer advances	772,927	869,677
Total Current Liabilities	1,620,902	2,099,320

&n