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

Form 10-K

ANNUAL REPORT PURSUANT TO SECTION 13 OR 15(d) OF THE
SECURITIES EXCHANGE ACT OF 1934
For The Fiscal Year Ended December 31, 2018

Commission File Number: 0-31641

SCI ENGINEERED MATERIALS, INC.

(Exact name of registrant as specified in its charter)

Ohio	**31-1210318**
(State or other jurisdiction of incorporation or organization)	(I.R.S. Employer Identification No.)

2839 Charter Street
Columbus, Ohio 43228
(Address of principal executive offices)
Registrant's telephone number, including area code: **(614) 486-0261**

Securities registered pursuant to Section 12(b) of the Act:	None
Securities registered pursuant to Section 12(g) of the Act:	Common Stock, without par value (Title of Class)
	OTCQB (Name of each exchange on which registered)

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 15(d) of the Exchange Act. Yes☐ No ☑

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

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

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

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

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

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

The aggregate market value of the Registrant's common equity held by non-affiliates of the Registrant was approximately $4,191,160 on June 30, 2018**.** For purposes of this disclosure, shares of common stock held by persons who hold more than 10% of the outstanding shares of common stock and shares held by executive officers and directors of the registrant have been excluded because such persons may be deemed to be affiliates. This determination of executive officer or affiliate status is not necessarily a conclusive determination for other purposes.

There were 4,277,731 shares of the Registrant's Common Stock outstanding on January 31, 2019.

Documents Incorporated By Reference

Portions of our Proxy Statement for the 2018 Annual Meeting of Stockholders are incorporated by reference in Part III.

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Note Regarding Forward-Looking Statements

This Annual Report on Form 10-K contains forward-looking statements within the meaning of Section 21E of the Securities Exchange Act of 1934, as amended, and Section 26A of the Securities Act of 1933, as amended. The words "anticipate," "believe," "expect," "estimate," and "project" and similar words and expressions identify forward-looking statements, which speak only as of the date hereof. Investors are cautioned that such statements involve risks and uncertainties that could cause actual results to differ materially from historical or anticipated results due to many factors, including, but not limited to, the factors discussed in "Risk Factors." The Company undertakes no obligation to publicly update or revise any forward-looking statements.

PART I

ITEM 1. BUSINESS

Introduction

SCI Engineered Materials, Inc. ("SCI", "we" or the "Company"), formerly Superconductive Components, Inc., an Ohio corporation, was incorporated in 1987. We operate in one segment as a global supplier and manufacturer of advanced materials for Physical Vapor Deposition ("PVD") Thin Film Applications. We are focused on markets within the PVD industry including Photonics, Thin Film Solar, Glass, and Transparent Electronics. Substantially all of our revenues are generated from customers with multi-national operations. We have made a considerable resource investment in the Thin Film Solar industry and a number of customers have adopted our products. Through collaboration with end users and Original Equipment Manufacturers the Company develops innovative customized solutions enabling commercial success.

History of the Company

The late Dr. Edward Funk, Sc.D., and his late wife Ingeborg founded SCI in 1987. Dr. Funk, formerly a Professor of Metallurgy at The Ohio State University and a successful entrepreneur, envisioned significant market potential for the then newly discovered High Temperature Superconductivity ("HTS") material YBCO (T_c of 90^o K). Our first product was a 99.999% pure, co-precipitated YBCO 1-2-3 powder. Over the years we expanded our product line by adding other High T_c Powders, sintered shapes, single crystal substrates, and non-superconducting sputtering targets. At this time we are not pursuing this market but these early years of development is the foundation on which our material science experience is built.

We opened a subdivision, Target Materials Inc. ("TMI"), in 1991 to supply the increasing worldwide demand for sputtering and laser ablation targets. We became a full service manufacturer of high performance thin film materials, providing a wide selection of metals, ceramics, and alloys for sputtering targets, evaporation sources, and other PVD applications. We served the Research and Development market as well as the Industrial and Decorative Coating markets. During this time, we began to manufacture targets for the photovoltaic, flat panel display, and semiconductor industries.

SCI and TMI were merged in 2002. We continued to manufacture complex ceramic, metal, and alloy products for the photonic, photovoltaic, thin film battery, media storage, flat panel display, and semiconductor industries.

In January 2017, we received ISO 9001:2015 registration, an internationally recognized quality standard. We received ISO 9001:2008 registration in April 2010 and prior to April 2010 we were ISO 9001:2000 registered.

Throughout much of our history, we have conducted funded research primarily under grants from entities such as the Department of Energy, the National Science Foundation, NASA, and the Ohio Development Services Agency (formerly known as the Ohio Department of Development). These activities are generally limited to funded research that is consistent with our focus on near term commercial applications in our principal markets.

For more than three decades we have been developing considerable expertise in the development and manufacturing ramp-up of innovative materials, such as Transparent Conductive Oxides (TCO) for Thin Film Solar (TFS) applications and targets for thin film batteries. Today, we serve a diverse base of domestic and multi-national corporations, universities, and leading research institutions. We actively seek to partner with organizations to provide solutions for difficult material challenges.

Business

We are a supplier of materials to the PVD industry. Our customers need our materials to produce nano layers of metals and oxides for advanced material systems. Applications for PVD coatings range from everyday items to complex computer processors. Every day applications include transparent anti-scratch coatings on eyeglasses, coatings on kitchen faucets, as well as low emissivity glass for household windows. More technically advanced applications for our products include semiconductors, thin film solar, flat panel displays and photonics.

We continue to pursue niche opportunities where our core competencies give us an advantage and that fit our manufacturing capabilities. This disciplined approach enables us to focus on those opportunities that are the best fit for our capabilities and also offer the greatest long-term return. Considerations include our core strengths, resource requirements, and time-to-market.

Photonics currently represents the largest market for our materials. Our customers are continually identifying new materials that improve the utility of optical coatings. This includes improvements in their ability to focus, filter or reflect light, all of which increase the potential demand for the types and amounts of products we sell in this market. Photonic applications continue to expand as new methods are found to manipulate light waves to enhance the various applications for light.

We have developed products for the TFS market. We are well positioned in the TFS area having supplied materials to that market for over twenty years from the early stages of TFS development. We continue to increase our visibility in the global arena by attending various trade shows targeted at the solar market. During the second half of 2016 we launched a new marketing and sales strategy that involves increased direct contact with customers and entry into contiguous markets. We also have representatives for Korea, China, and Taiwan in 2018. China was the largest market for our TFS products. Orders for TFS products significantly accelerated during 2018 resulting in increased year-end backlog. Market expansion is expected to continue in 2019 and we are poised to benefit, with minimal capital additions, as TFS continues to be adopted globally. We see increased opportunities in both domestic and foreign markets.

We continued to develop TCO systems for the solar and glass markets and added domestic and international customers for these products. The solar industry is projected to have strong growth for the next few decades. The TFS market, which we serve, is expected to gain market share beyond traditional applications to include, but not limited to, roof applications with low weight flexible products, vehicles and mobile devices during that period. Given current and future market opportunities, we continue to invest in research and development, marketing, and sales.

In 2018, we began to supply target materials to the roll to roll coating industry. Roll to roll PVD coating is an emerging market in which intermediate manufacturers use our advanced materials to coat flexible substrates for a wide range of applications. In a roll to roll coating system, multiple layers of different materials can be deposited over large areas on flexible substrates without costly down time associated with breaking vacuum. These coated substrates can be used as standalone products in high volume consumer goods or can be laminated into electronic and optical components such as solar panels, architectural glass and displays. Our rotatable bonding technology, compounded with our material development capabilities position us well in this emerging market for potential growth.

Late in 2018 we announced plans to begin manufacturing thin film solar products in China beginning mid-year 2019. Under a joint agreement with publicly owned Konfoong Materials International Co., LTD (KFMI), KFMI will bond rotatable thin film solar Aluminum Zinc Oxide cylinders produced in Columbus, Ohio for thin film solar customers in China. This arrangement is intended to enable us to provide an advantage to TFS customers and also to help assure access to this growing market. We will continue to produce the ceramic portion of the end product in our facility in Columbus. We will continue to exercise control over our trade secret and proprietary property through assiduous scrutiny of our Intellectual Property. Our products for photonics and thin film solar customers in areas other than China will continue to be bonded at our manufacturing facility in Columbus.

We continue to invest in developing new products for all current markets with emphasis on accelerating time to market.

For the year ended December 31, 2018, we had total revenue of $11,361,575. This was an increase of $4,560,210, or 67.0% compared to 2017. The increase was due to increased sales of thin film solar products plus pricing and product mix in our photonics markets.

Our largest customer represented approximately 36% of total revenues in 2018 and 72% in 2017.

Marketing and Sales

Europe and Asia, as well as the Americas, have high demand for sputtering targets. We continue to expand our global marketing reach. We have a manufacturer's representative in the Korean market as well as the Taiwan and China markets. We use various distribution channels to reach end user markets, including direct sales by our employees, independent manufacturers' representatives in the United States, and independent distributors and manufacturers' representatives for international markets. Also, the internet provides tremendous reach for new customers to be able to identify us as a source of their product needs.

Our corporate website is www.sciengineeredmaterials.com. The website is designed to serve customers, suppliers and investors with additional information in an easy to use format and includes expanded mobile access. There are also social media components, including LinkedIn® and Facebook®, to enhance the Company's visibility and communication with all stakeholders. For customers and suppliers, there is expanded information about our product focus as well as a library of detailed product data sheets that continues to be updated. Investors can access current and archived information about the Company utilizing multiple electronic platforms.

Ceramics

We are capable of producing ceramic powders via several different processing techniques including solid state and precipitation. Ceramic targets can also be produced in a variety of ways depending on the end user applications. Production techniques include sintering, cold isostatic pressing and hot pressing.

Most of our products are manufactured from component chemicals and metal oxides supplied by various vendors. If we suddenly lost the services of a supplier, there could be a disruption in our manufacturing process until the supplier was replaced. We have identified several firms as potential back-up suppliers that would be capable of supplying these materials to us as necessary.

Metals

In addition to the ceramic targets previously mentioned, we produce metal sputtering targets and backing plates. The targets are often bonded to the backing plates for application in the PVD industry. These targets can be produced by casting, hot pressing and machining of metals and metal alloys depending on the application.

Applications for metal targets are highly varied from applying decorative coatings for end uses such as sink faucets to the production of various electronic, photonic and semiconductor products.

We purchase various metals of reasonable high purity (often above 99.9%) for our applications. We are not dependent on a single source for these metals and do not believe losing a vendor would materially affect our business.

We have continually added production processes and testing equipment to enable us to manufacture and qualify many product compositions that can be used as PVD materials.

Competition

We have a number of domestic and international competitors in both the ceramic and metal fields, many of whom have resources far in excess of our resources. Tosoh, Materion Corporation and Kurt Lesker are competing suppliers in regard to targets.

Suppliers

Principal suppliers in 2018 were Johnson Matthey, Sophisticated Alloys and Six Nine Metals. In every case, we have established alternate vendors that can be used to ensure availability of required materials. As volume grows, we may enter into alliances or purchasing contracts with these or other vendors.

Research and Development

We are developing sputtering targets for transparent electronic applications, which could be used to produce transparent thin film transistors via PVD processing. We have ongoing development for product improvements and new Transparent Conductive Oxide for Thin Film Solar and wide area coating applications. Much of the development for these new products is based on doping zinc oxide (ZnO). We have developed considerable expertize working with ZnO from our aluminum zinc oxide (AZO) development. We are also developing a dielectric material for semiconductor applications. We focus our research and development efforts in areas that build on our core competencies.

We are working with customers through product trials and qualifications. We continue to invest in developing new products for all of our markets including transparent conductive oxide systems for the thin film solar and display markets as well as with our transparent electronic products.

We have new materials under development that may replace the Cadmium Sulfide buffer layer in CIGS solar cells. These materials were tested at Case Western Reserve University and the results support the use of our innovative material in thin film solar applications that could lead to higher efficiencies.

We may seek funded research opportunities within our core competencies that maintain and expand technical understanding within our company.

In 2017, we had a collaborative program with Kent State University to evaluate our TCO materials in liquid crystal display applications.

We have certain proprietary knowledge and trade secrets related to the manufacture of metal and metal oxide PVD materials. This includes specific patents directly related to our products and market focus (see Intellectual Property section below).

New Product Initiatives

We continue to develop TCO target materials for the Thin Film Solar market in partnership with both original equipment manufacturers and Thin Film Solar Cell panel fabricators. A combination of Third Frontier grants and loans provided by the Ohio Development Services Agency and the Ohio Air Quality Development Authority enabled us to accelerate both our development of new products and expanding our manufacturing capacity to meet demands in an evolving marketplace. In addition, we have developed a Zinc Magnesium Oxide material that may be used as a buffer layer material in Copper Indium Gallium Diselenide (CIGS) solar cells.

Our research and development team includes two Ph.D.'s. One member of the team has a degree in Material Science and the other holds a doctorate in Physics. This diverse knowledge base is essential for our products to be successful. The applications in which we are involved require a deeper understanding than only the material properties. Our team provides knowledge in the areas of optical and electrical properties in these applications.

Intellectual Property

Our patent titled "Process for the removal of contaminants from sputtering target substrates" (US patent No. 10,138,545 B2) was issued on November 27, 2018. This provides a process for the removal of contaminants on a spent sputtering target used in Plasma Vapor Deposition, and a corresponding patent application is pending in China.

Our patent titled "Display having a transparent conductive oxide layer comprising metal doped zinc oxide applied by sputtering" (US patent No. 9,927,667) was issued on March 27, 2018. The transparent conductive oxides (TCOs) we developed in this patent have excellent electro-optical performance, high transmittance, high conductivity and good chemical resistance. This patent has various applications that include LCDs, micro LED, OLED, smart windows and mirrors, AR/VR goggles, e-papers, and wearable electronics, and a corresponding patent application is pending in China and Sweden. Our clients, in relevant applications, are entitled to use the patent number when referring to the devices covered by the patent and benefit from it. We believe the TCOs claimed and protected in the patent have wide and innovative applications which can put SCI in a unique position in the market as well as bring us additional business opportunities.

We also have corresponding patent applications in other jurisdictions for each of these applications, including in China, and we have an additional Provisional patent application relating to specific technology that protects our processes used in achieving superior bonding in rotatable targets. We intend to file a regular application claiming priority to this application in a timely manner.

We have received a patent for Fine-Particle Bi-Sr-Ca-Cu-O Having High Phase Purity made by a Chemical Precipitation and Low-Pressure Calcination method from the United States Patent and Trademark Office. We also have received a patent for a process to join two individual strongly linked super-conductors utilizing a melt processing technique.

We have the rights to multiple patent applications and any subsequent patents for technology related to the application of Zinc Oxide based Transparent Conductive Oxide in Displays.

We have an additional provisional patent application that is pending relating to superior bonding processes and products, and it is our intention to continue to pursue protection of this technology through the patent process in the US and other jurisdictions.

In the future, we may submit additional patent applications covering various inventions which have been developed by us. Because the publication of U.S. patent applications can be delayed for up to one year, they tend to lag behind actual discoveries and we may not be the first creator of inventions covered by pending patent applications or the first to file patent applications for such inventions. Additionally, other parties may independently develop similar technologies, duplicate our technologies or, if patents are issued to us or rights licensed by us, design around the patented aspects of any technologies we developed or licensed.

We rely on a combination of patent and trademark law, license agreements, internal procedures and nondisclosure agreements to protect our intellectual property, which may be invalidated, circumvented or challenged. In addition, the laws of some foreign countries in which our products may be produced or sold may not protect our intellectual property rights to the same extent as the laws of the United States.

Employees

We had 26 and 18 full-time employees as of December 31, 2018 and 2017, respectively. One of these employees holds a PhD in Material Science and another holds a PhD in Physics. One of these individuals has expertise in application for the Display market. We have never experienced a work stoppage and consider our relations with employees to be good. The employees do not have a bargaining unit.

Environmental Matters

We handle all materials according to federal, state and local environmental regulations and include Material Safety Data Sheets (MSDS) with all shipments to customers. We maintain a collection of MSDS sheets for all raw materials used in the manufacture of products and maintenance of equipment and insure that all personnel follow the handling instructions contained in the MSDS for each material. We contract with a reputable. fully permitted hazardous waste disposal company to dispose of the small amount of hazardous waste generated.

Collections and Write-offs

We collected receivables in an average of 42 days in 2018. We have occasionally written-off negligible amounts of accounts receivable as uncollectible. There were none in 2018 and 2017. We consider credit management critical to our success.

Seasonal Trends

We have not experienced and do not expect to experience seasonal trends in future business operations.

ITEM 1A. RISK FACTORS

We desire to take advantage of the “safe harbor” provisions of the Private Securities Litigation Reform Act of 1995. The following factors have affected or could affect actual results and could cause such results to differ materially from those expressed in any forward-looking statements made. Investors should consider carefully the following risks and speculative factors inherent in and affecting the business of SCI and an investment in our common stock.

We have limited marketing and sales capabilities.

We continue to develop our marketing in Asia. We have a manufacturing representative for the Korean market and others for the Taiwanese and Chinese markets. We must continue to develop appropriate marketing, sales, technical, customer service and distribution capabilities, or enter into agreements with third parties to provide these services to successfully market our products. A failure to develop these capabilities or obtain third-party agreements could adversely affect us.

A substantial portion of our sales has been dependent upon certain principal customers, the loss of whom could materially negatively affect the Company's total sales.

Our top two customers account for approximately 53% of our net sales for the fiscal year ended December 31, 2018. Although these customers have been on-going major customers of the Company for several years we do not have written agreements with these customers that require any minimum purchase obligations and the customers could stop buying the Company's products at any time and for any reason. A reduction, delay or cancellation of orders from these customers or the loss of these customers could significantly reduce our future revenues and profits. We cannot provide assurance that these customers or any of our other current customers will continue to place orders, that orders by existing customers will continue at current or historical levels or that we will be able to obtain orders from new customers.

Our success depends on our ability to retain key management personnel.

Our success depends in large part on our ability to attract and retain highly qualified management, administrative, manufacturing, sales, and research and development personnel. Due to the specialized nature of our business, it may be difficult to locate and hire qualified personnel. The loss of services of one of our executive officers or other key personnel, or our failure to attract and retain other executive officers or key personnel could have a material adverse effect on our business, operating results and financial condition. Dan Rooney, our chief executive officer has an employment agreement with the Company that contains non-competition provisions as well as severance payments. All other key management personnel have entered into non-competition agreements with the Company. Mr. Rooney announced his retirement effective during the second quarter of 2019. Jeremy Young, who has served as VP-Operations, assumed the role of President as of January 2, 2019 and will assume the role of chief executive officer upon Mr. Rooney's retirement. Mr. Young has an employment agreement with the Company that contains non-competition provisions as well as severance payments. Although we have been successful in planning for and retaining highly capable and qualified successor management in the past, there can be no assurance that we will be able to do so in the future.

Competition for employees is intense, and we may not be able to attract and retain the qualified and skilled employees needed to support our business.

We believe our success depends on the efforts and talent of our employees, including technical and skilled mechanical personnel. Our future success depends on our continued ability to attract, develop, motivate and retain qualified and skilled employees. Competition for highly skilled technical, risk management and financial personnel is extremely intense. We may not be able to hire and retain these personnel at compensation levels consistent with our existing compensation and salary structure. Some of the companies with which we compete for experienced employees have greater resources than we have and may be able to offer more attractive terms of employment.

In addition, we invest significant time and expenses in training our employees, which increases their value to competitors who may seek to recruit them. If we fail to retain our employees, we could incur significant expenses in hiring and training new employees, and the quality of our services and our ability to serve our customers could decline, resulting in a material adverse effect to our business.

If significant tariffs or other restrictions are placed on imports or any related counter-measures are taken by other countries, our revenue and results of operations may be materially harmed.

Import tariffs and/or other mandates imposed by sovereign governments could potentially lead to a trade war with other foreign governments, and could significantly increase the prices on raw materials that are critical to our business. We could be forced to increase prices to our customers or, if unable to do so, result in lowering our gross margin on products sold.

We have a history of operating losses and may incur losses in the future.

For the year ended December 31, 2018 we had income from operations of $934,867 compared to $49,121 for the year ended December 31, 2017. We provide no assurances that we will be able to operate profitably in the future. We continue to invest in developing new products for all of our markets including transparent conductive oxide systems within the thin film solar industry. We also have ongoing development efforts with our transparent electronic products. These efforts include accelerating time to market for those products and involve ongoing research and development expense.

During 2018 we reduced our accumulated deficit to approximately $9,548,000 at December 31, 2018. Management's plans with respect to the objective of maintaining and improving liquidity and profitability in future years include continuing to expand our business in current markets and into new markets for our products, developing new products and increasing our revenue and presence in those markets. Management believes the actions that began during the last few years and continue today provide the opportunity for maintaining and improving liquidity and profitability. However, no assurances are made that such actions will result in sustained profitability.

Our competitors have far greater financial and other resources than us.

The market for PVD materials is a substantial market with significant competition in both ceramic and metal materials. While we believe that our products enjoy certain competitive advantages in design, function, quality, and availability, considerable competition exists from well-established firms such as Materion Corporation, Kurt Lesker and Tosoh, all of which have more financial resources than us. We cannot provide assurance that developments by others will not render our products or technologies obsolete or less competitive.

Our patents and proprietary rights may not be enforceable.

We rely on a combination of patent and trademark law, license agreements, internal procedures and nondisclosure agreements to protect our intellectual property. These may be invalidated, circumvented or challenged. In addition, the laws of some foreign countries in which our products may be produced or sold may not protect our intellectual property rights to the same extent as the laws of the United States. Our failure to protect our proprietary information could adversely affect us.

Our ability to compete in our markets and to achieve future revenue growth could depend, in significant part, on our ability to protect our proprietary technology and operate without infringing upon the intellectual property rights of others. Late in 2018 we announced plans to begin manufacturing thin film solar products in China beginning midyear 2019. Under a joint agreement with publicly owned Konfoong Materials International Co., LTD (KFMI), KFMI will bond rotatable thin film solar Aluminum Zinc Oxide cylinders produced in Columbus, Ohio for thin film solar customers in China. Our products for photonics and thin film solar customers in areas other than China will continue to be bonded at our manufacturing facility in Columbus. This is the first time that we have entered into such a relationship in China and the legal regime in China for the protection of intellectual property rights is still at its early stage of development. Intellectual property protection became a national effort in China in 1979 when China adopted its first statute on the protection of trademarks. Since then, China has adopted its Patent Law, Trademark Law and Copyright Law and promulgated related regulations such as Regulation on Computer Software Protection, Regulation on the Protection of Layout Designs of Integrated Circuits and Regulation on Internet Domain Names. China has also acceded to various international treaties and conventions in this area, such as the Paris Convention for the Protection of Industrial Property, Patent Cooperation Treaty, Madrid Agreement and its Protocol Concerning the International Registration of Marks. In addition, when China became a party to the World Trade Organization in 2001, China amended many of its laws and regulations to comply with the Agreement on Trade-Related Aspects of Intellectual Property Rights. Despite many laws and regulations promulgated and other efforts made by China over the years to tighten up its regulation and protection of intellectual property rights, private parties may not enjoy intellectual property rights in China in the same way they do in many Western countries, including the US, and enforcement of such laws and regulations in China have not reached the levels reached in those countries. Both the administrative agencies and the court system in China are not well-equipped to deal with violations or handle the nuances and complexities between compliant technological innovation and non-compliant infringement.

Rights we have to patents and pending patent applications may be challenged.

During 2016 we were granted a federal trademark registration for “SCI Engineered Materials” and during 2015 we were granted a federal trademark for “the Science of Engineered Materials”.

Our patent titled “Process for the removal of contaminants from sputtering target substrates” (US patent No. 10,138,545 B2) was issued on November 27, 2018. This provides a process for the removal of contaminants on a spent sputtering target used in Plasma Vapor Deposition.

Our patent titled “Display having a transparent conductive oxide layer comprising metal doped zinc oxide applied by sputtering” (US patent No. 9,927,667) was issued on March 27, 2018. The transparent conductive oxides (TCOs) we developed in this patent have excellent electro-optical performance, high transmittance, high conductivity and good chemical resistance. This patent has various applications that include LCDs, micro LED, OLED, smart windows & mirrors, AR/VR goggles, e-papers, and wearable electronics. Our clients, in relevant applications, are entitled to use the patent number when referring to the devices covered by the patent and benefit from it. We believe the TCOs claimed and protected in the patent have wide and innovative applications which can put SCI in a unique position in the market as well as bring us additional business opportunities.

Because U.S. patent applications are maintained in secret until patents are issued, and because publications of discoveries in the scientific or patent literature tend to lag behind actual discoveries by several months, we may not be the first creator of inventions covered by issued patents or pending patent applications or the first to file patent applications for such inventions. Moreover, other parties may independently develop similar technologies, duplicate our technologies or, if patents are issued to us or rights licensed by us, design around the patented aspects of any technologies we developed or licensed. We may have to participate in interference proceedings declared by the U.S. Patent and Trademark Office to determine the priority of inventions, which could result in substantial costs. Litigation may also be necessary to enforce any patents held by or issued to us or to determine the scope and validity of others' proprietary rights, which could result in substantial costs.

The rapid technological changes of our industry may adversely affect us if we do not keep pace with advancing technology.

The PVD market is characterized by rapidly advancing technology. Our success depends on our ability to keep pace with advancing technology and processes and industry standards. We have focused our development efforts on sputtering targets. We intend to continue to develop innovative materials and integrate those advances to the thin film coatings industry. However, our development efforts may be rendered obsolete by research efforts and technological advances made by others, and materials other than those we currently use may prove more advantageous.

We are subject to anti-corruption laws in the jurisdictions in which we operate, including anti-corruption laws of China and the Federal Corrupt Practices Act (FCPA). Our failure to comply with these laws could result in penalties which could harm our reputation and have a material adverse effect on our business, results of operations and financial condition.

We are subject to the FCPA, which generally prohibits companies and their intermediaries from making improper payments to foreign officials for the purpose of obtaining or keeping business and/or other benefits, along with various other anticorruption laws. Although we are in the process of implementing policies and procedures designed to ensure that we, our employees, distributors and other intermediaries comply with the FCPA and other anti-corruption laws to which we are subject, there is no assurance that such policies or procedures will work effectively all of the time or protect us against liability under the FCPA or other laws for actions taken by our employees, distributors and other intermediaries with respect to our business or any businesses that we may acquire. Because of our Chinese manufacturing relationship we will be encountering more government officials which may pose elevated risks of anti-corruption violations. Our manufacturing and sales activities puts us and our representatives in frequent contact with persons who may be considered "foreign officials" under the FCPA, resulting in an elevated risk of potential FCPA violations. If we are not in compliance with the FCPA and other laws governing the conduct of business with government entities (including local laws), we may be subject to criminal and civil penalties and other remedial measures, which could have an adverse impact on our business, financial condition, results of operations and liquidity. Any investigation of any potential violations of the FCPA or other anticorruption laws by U.S. or foreign authorities could have an adverse impact on our business, financial condition and results of operations.

Additional development of our products may be necessary due to uncertainty regarding development of markets.

Some of our products are in the early stages of commercialization and we believe that it will be several years before these products will have significant commercial end-use applications, and that significant development work may be necessary to improve the commercial feasibility and acceptance of these products. There can be no assurance that we will be able to commercialize any of the products currently under development.

The market for the Thin Film Battery materials is still in development. At present, we have customers for the materials we produce for Thin Film Batteries. Since we have begun producing materials for the Thin Film Battery market, we have experienced no problems securing the supplies needed to produce the materials. We do not anticipate supply problems in the near future. However, changes in production methods and advancing technologies could render our current products obsolete and new production protocols may require supplies that are less available in the marketplace, which may cause a slowing or complete halt to production as well as increased costs which we may or may not be able to pass on to our customers.

Changes in the strategies of key trade customers may adversely affect our business.

Our products are sold in a highly competitive global marketplace which continues to experience increased concentration. We may be negatively affected by changes in the strategies of our trade customers, such as inventory de-stocking, limitations on access to shelf space, delisting of our products, and other conditions.

If Thin Film Solar technology is not suitable for widespread adoption or takes longer to develop than we anticipate, our sales may not be sufficient to achieve profitability.

The Thin Film Solar energy market that we supply is at a relatively early stage of development, and the extent to which thin film solar modules and flexible products will be widely adopted is uncertain. Although the industry has experienced rapid growth, overcapacity in the market previously created difficulties for some of our current and potential customers in the Thin Film Solar industry. Adoption of our products by specific areas of this market is important to our long term growth. If the technology proves unsuitable for widespread adoption at economically attractive rates of return or if demand for Thin Film Solar modules fails to develop sufficiently or takes longer to develop than we anticipate, we may be unable to grow our business or generate sufficient sales to achieve profitability.

Our failure to comply with our debt covenants could have a material adverse effect on our business, financial condition or results of operations.

Our debt agreements contain certain covenants. A breach of any of these covenants could result in a default under the applicable agreement. In the past our lenders have granted us a waiver or amendment when we sought relief from covenants. If a default were to occur, we would likely seek a waiver of that default, attempt to reset the covenant, or refinance the instrument and accompanying obligations. If we were unable to obtain this relief, the default could result in the acceleration of the total due related to that debt obligation. If a default were to occur, we may not be able to pay our debts or borrow sufficient funds to refinance them. Any of these events, if they occur, could materially adversely affect our results of operations, financial condition, and cash flows. We retired two notes during 2018 that contained covenants.

A lack of credit and/or limited financing availability to the Company, its vendors, or end users could adversely affect our business.

Our liquidity and financial condition could be materially and adversely affected if our ability to borrow money from new or existing lenders to finance our operations is reduced or eliminated. Similar adverse effects may also result if we realize reduced credit availability from trade creditors. Additionally, many of our customers require availability of financing to facilitate the purchase of our products. As a result, a continuing period of reduced credit availability in the marketplace could have adverse effects on our business.

Environmental compliance costs and liabilities associated with our facility may have a material adverse effect on our business, financial condition, results of operations and prospects.

We are subject to various federal, state and local environmental and health and safety laws and regulations with respect to our operations. These laws and regulations address various matters, including asbestos, fuel oil management, wastewater discharges, air emissions, and hazardous wastes. The costs of complying with these laws and regulations and the penalties for non-compliance can be substantial. For example, with respect to leased property, we may be held liable for costs relating to the investigation and cleanup of our leased property from which there has been a release or threatened release of a regulated material as well as other properties affected by the release. In addition to these costs, which are typically not limited by law or regulation and could exceed the property's value, we could be liable for certain other costs, including, without limitation, governmental fines and injuries to persons, property or natural resources. Further, some environmental laws create a lien on the contaminated site in favor of the government for damages and the costs it incurs in connection with the contamination. While we are not aware of any potential environmental problems, no assurances are made that such problems and costs associated with them will not arise in the future. If any of our properties were found to violate environmental laws, we may be required to expend significant amounts of time and money to rehabilitate the property, and we may be subject to significant liability. Any environmental compliance costs and liabilities incurred may have a material adverse effect on our business, financial condition, results of operations and growth prospects.

Disaster and other adverse events may seriously harm our business.

Our manufacturing facility may suffer harm as a result of natural or man-made disasters such as storms, earthquakes, hurricanes, tornadoes, floods, fires, terrorist attacks and other conditions. Such events may disrupt our operations, harm our operations and employees, severely damage or destroy our facility, harm our business, reputation and financial performance, or otherwise cause our business to suffer in ways that cannot currently be predicted.

Our business requires us to make capital expenditures to maintain and improve our facilities.

Our facilities sometimes require capital expenditures to address ongoing required maintenance and upgrade our capabilities. In addition, we often are required to make significant capital expenditures in order to satisfy customer requirements and to produce newly developed products.

Takeover defense provisions in Ohio law and our corporate governance documents may delay or prevent takeover attempts preventing our shareholders from realizing a premium on their stock.

Various provisions of the Ohio corporation laws as well as our corporate governance documents may inhibit changes in control not approved by our Board of Directors and may have the effect of depriving our investors of an opportunity to receive a premium over the prevailing market price of our common stock in the event of an attempted hostile takeover. In addition, the existence of these provisions may adversely affect the market price of our common stock. These provisions include:

- A requirement that a special meeting of the shareholders must be called by our Board of Directors, Chairman, the President or the holders of shares with voting powers of at least fifty percent (50%);
- Advanced notice requirements for shareholder proposals and nominations; and
- The availability of “blank check preferred stock.”

Our Board of Directors can use these and other provisions to prevent, delay or discourage a change in control of the company or a change in our management. Any such delay or prevention of a change in control of management could deter potential acquirers or prevent the completion of a takeover transaction to which our shareholders could receive a substantial premium over the current market price of our common stock, which may in turn limit the price investors might be willing to pay for our common stock.

Provisions in our Articles of Incorporation and Code of Regulations provide for indemnification of officers and directors which could require us to divert funds away from our business and operations.

Our Articles of Incorporation and Code of Regulations provide for the indemnification of our officers and directors. We may be required to advance costs incurred by an officer or director to pay judgments, fines and expenses incurred by an officer or director, including reasonable attorneys’ fees, as a result of actions or proceedings in which our officers and directors are involved by reason being or having been an officer or director of our company. Funds paid in satisfaction of judgments, fines, and expenses may be funds we need for operation and growth of our business.

The market for our common stock is limited, and as such our shareholders may have difficulty reselling their shares when desired or at attractive market prices.

Our stock price, trading volume, and our listing may make it more difficult for our shareholders to resell shares when desired or at attractive prices. In 2001, our stock began trading on The Over the Counter Bulletin Board, now known as the OTC Markets. Our common stock trades in low volumes and at low prices. Some investors view low-priced stocks as unduly speculative and therefore not appropriate candidates for investment. Many institutional investors have internal policies prohibiting the purchase or maintenance of positions in low-priced stocks. This has the effect of limiting the pool of potential purchases of our common stock at present price levels. Shareholders may find greater percentage spreads between bid and asked prices, and more difficulty in completing transactions and higher transaction costs when buying or selling our common stock than they would if our stock were listed on a major stock exchange, such as The New York Stock Exchange or The NASDAQ National Market.

Our common stock has been subject to the Securities and Exchange Commission's "penny stock" regulations, which may limit the liquidity of common stock held by our shareholders.

Effective January 1, 2017, due to OTCQX rule changes, our common stock began trading on the OTC Markets' OTCQB market under the symbol "SCIA". Prior to this date our common stock traded on the OTC Markets' OTCQX Market Tier under the same symbol. Based on its trading price, our common stock is considered a "penny stock" for purposes of federal securities laws, and therefore has been subject to regulations, which affected the ability of broker-dealers to sell our securities. Broker-dealers who recommend a "penny stock" to persons (other than established customers and accredited investors) must make a special written suitability determination and receive the purchaser's written agreement to a transaction prior to sale.

If penny stock regulations apply to our common stock, it may be difficult to trade the stock because compliance with the regulations can delay and/or preclude certain trading transactions. Broker-dealers may be discouraged from effecting transactions in common stock because of the sales practice and disclosure requirements for penny stock. This could adversely affect the liquidity and/or price of our common stock, and impede the sale of the common stock in the secondary market.

The increasing costs of being a public company may strain our resources and impact our business, financial condition and results of operations.

As a public company, we are subject to reporting requirements of the Securities Exchange Act of 1934, as amended or the Exchange Act, the Sarbanes-Oxley Act of 2002, or the Sarbanes Oxley Act and the 2010 Dodd-Frank Wall Street Reform and Consumer Protection Act, or the Dodd-Frank Act. The Exchange Act requires that we file annual, quarterly and current reports with respect to our business and financial condition. The Sarbanes-Oxley Act requires that we maintain effective disclosure controls and procedures and internal controls for financial reporting. We are required to document and test our internal control procedures in order to satisfy the requirements of Section 404(b) of the Sarbanes-Oxley Act, which requires annual management assessments of the effectiveness of our internal controls over financial reporting. The Dodd-Frank Act requires us to audit our supply chain and report conflict minerals usage.

These requirements may place a strain on our systems and resources in the future and may require us to hire additional accounting and financial staff with the appropriate public company experience and technical accounting knowledge. In addition, the failure to maintain such internal controls could result in us being unable to provide timely and reliable financial information which could potentially subject us to sanctions or investigations by the Securities and Exchange Commission or events could have an adverse effect on our business, financial condition or results of operations. Although we have taken steps to maintain our internal control structure as required by the Exchange Act and the Sarbanes-Oxley Act, we cannot provide any assurances that control deficiencies will not occur in the future.

Regulation from the Dodd-Frank Wall Street Reform and Consumer Protection Act (the "Dodd-Frank Act") could adversely affect our business or financial results.

Changes in regulatory requirements, such as the reporting requirements relating to conflict minerals originating in the Democratic Republic of Congo or adjoining countries included in the Dodd-Frank Act, or evolving interpretations of existing regulatory requirements, may result in increased compliance cost, capital expenditures and other financial obligations that could adversely affect our business or financial results. We conducted an analysis of our products and found that the above SEC defined "conflict minerals", which are tantalum, tin, tungsten, and gold (3TG), can be found in our products. Therefore, the products that we manufacture are subject to the reporting obligations of Rule 13p-1.

Despite having conducted a good faith reasonable country of origin inquiry, we concluded that our supply chain remains "DRC conflict undeterminable". We have reached this conclusion because we have been unable to determine the origin of all of the 3TG used. We will continue to work with our suppliers. Should the regulations or our analysis change, it could impact the sourcing of materials that we use to manufacture our products.

Our business could be negatively impacted by cyber and other security threats or disruptions.

We face various cyber and other security threats, including attempts to gain unauthorized access to sensitive information and networks; insider threats; threats to the safety of our directors, officers and employees; threats to the security of our facilities and infrastructure; and threats from terrorist acts or other acts of aggression. Our customers and vendors face similar threats. Although we utilize various procedures and controls to monitor and mitigate the risk of these threats, there can be no assurance that these procedures and controls will be sufficient. Our security measures may also be breached due to employee error, malfeasance, system errors or vulnerabilities, or otherwise. Additionally, outside parties may attempt to fraudulently induce employees, users, or customers to disclose sensitive information in order to gain access to our data or our user's or customer's data. These threats could lead to losses of sensitive information or capabilities, harm to personnel, infrastructure or products, and/or damage to our reputation as well as our vendor's ability to perform on our contracts.

Cyber threats are evolving and include, but are not limited to, malicious software, destructive malware, attempts to gain unauthorized access to data, disruption or denial of service attacks, and other electronic security breaches that could lead to disruptions in critical systems, unauthorized release of confidential, personal or otherwise protected information (ours or that of our employees, customers or vendors), and corruption of data, networks or systems.

The impact of these factors is difficult to predict, but one or more of them could result in the loss of information or capabilities, harm to individuals or property, damage to our reputation, loss of business, regulatory actions and potential liability, any of which could have a material adverse effect on our financial position, results of operations and/or cash flows.

Our Articles of Incorporation authorize us to issue additional shares of stock.

We are authorized to issue up to 15,000,000 shares of common stock, which may be issued by our Board of Directors for such consideration, as they may consider sufficient without seeking shareholder approval. As of December 31, 2018, we had 4,277,731 shares outstanding and 329,988 shares underlying options that are currently exercisable resulting in 10,392,281 shares of common stock available for issue. The issuance of additional shares of common stock in the future may reduce the proportionate ownership and voting power of current shareholders.

Our Articles of Incorporation authorize us to issue up to 260,000 shares of preferred stock. The issuance of preferred stock in the future could create additional securities which would have dividend and liquidation preferences prior to the outstanding shares of common stock. These provisions could also impede a non-negotiated change in control. As of December 31, 2018, we had 24,152 shares of Series B Preferred Stock issued and outstanding.

We have not paid dividends on our common stock in the past and do not expect to do so in the future.

We have never declared or paid cash dividends on our shares of common stock and do not expect to do so in the foreseeable future. We intend to retain future earnings for use in the business. As a result, investors must rely on sales of the common stock after price appreciation, which may not occur, as the only way to realize future gains on their investments.

ITEM 1B. UNRESOLVED STAFF COMMENTS.

Not applicable.

ITEM 2. PROPERTIES.

Our office and manufacturing facilities are located at 2839 Charter Street, Columbus, Ohio, where we occupy approximately 32,000 square feet. We moved our operations into this facility in 2004. The lease on the property expires on November 30, 2024.

We are current on all operating lease liabilities.

ITEM 3. LEGAL PROCEEDINGS.

Not applicable.

ITEM 4. MINE SAFETY DISCLOSURES

Not applicable.

PART II

ITEM 5. MARKET FOR REGISTRANT'S COMMON EQUITY, RELATED STOCKHOLDER MATTERS AND ISSUER PURCHASES OF EQUITY SECURITIES.

Market for Common Stock

Effective January 1, 2017, due to OTCQX rule changes, our common stock began trading on the OTC Markets' OTCQB market under the symbol "SCIA". Prior to this date our common stock traded on the OTC Markets' OTCQX Market Tier under the same symbol.

Based on its trading price, our common stock is considered a "penny stock" for purposes of federal securities laws, and therefore has been subject to certain regulations.

Our common stock is classified as a penny stock and as such, broker dealers trading our common stock will be subject to the disclosure rules for transactions involving penny stocks, which require the broker dealer to determine if purchasing our common stock is suitable for a particular investor. The broker dealer must also obtain the written consent of purchasers to purchase our common stock. The broker dealer must also disclose the best bid and offer prices available for our stock and the price at which the broker dealer last purchased or sold our common stock. These additional burdens imposed on broker dealers may discourage them from effecting transactions in our common stock, which could make it difficult for an investor to sell their shares.

Holders of Record

As of December 31, 2018, there were approximately 260 holders of record of our common stock and 4,277,731 shares outstanding. At December 31, 2018 there were approximately 40 holders of record of Series B Preferred stock and 24,152 shares outstanding.

Dividends

We have never paid cash dividends on our common stock and do not expect to pay any dividends on our common stock in the foreseeable future. We intend to retain future earnings for use in the business.

The Board of Directors voted to authorize the payment of a cash dividend on Series B Preferred stock to shareholders of record as of December 31, 2018 to be paid in June 2019.

Equity Compensation Plan Information

The following table sets forth additional information as of December 31, 2018, concerning shares of our common stock that may be issued upon the exercise of options and rights under our existing equity compensation plans and arrangements approved by our shareholders. The information includes the number of shares covered by and the weighted average exercise price of, outstanding options and other rights, and the number of shares remaining available for future grants (excluding the shares to be issued upon exercise of outstanding options and other rights).

	Number of Securities to be issued upon exercise of outstanding options and rights (a)	Weighted-average exercise price of outstanding options and rights (b)	Number of securities remaining available for issuance under equity compensation plans (excluding securities reflected in column (a)) (c)
Equity compensation plans approved by security holders	396,941	$ 4.41	208,281

Equity compensation plans approved by shareholders include our 2011 Stock Option Plan and 2006 Stock Option Plan.

ITEM 6. SELECTED FINANCIAL DATA.

Not applicable.

ITEM 7. MANAGEMENT'S DISCUSSION AND ANALYSIS OF FINANCIAL CONDITION AND RESULTS OF OPERATIONS.

Executive Summary

For the year ended December 31, 2018, we had total revenue of $11,361,575. This was an increase of $4,560,210, or 67.0%, compared to 2017. Volume was higher in our thin film solar market as well as volume and pricing in our photonics market. Orders for thin film solar products accelerated throughout 2018. We are encouraged by developments in the global thin film solar market, led by manufacturing installations coming on line and announcements of new projects. We are actively working to extend our presence in this growing market.

Gross profit was $2,904,776, for the year ended December 31, 2018 compared to $1,577,551 for 2017. This was an increase of $1,327,225, or 84.1%. Gross profit as a percentage of revenue was 25.6% for 2018 compared to 23.2% during 2017.

Operating expenses were $1,969,909 and $1,528,430 for the years ended December 31, 2018 and 2017, respectively. This was an increase of $441,479, or 28.9%.

For the year ended December 31, 2018, we had net income of $907,869 compared to $6,091 for the year ended December 31, 2017. The impact of recently enacted tariffs imposed by the U.S. Government is currently having a limited impact on our gross profit and net income.

Customer deposits were $3,202,447 at December 31, 2018, an increase of nearly 700% from $407,956 at December 31, 2017, due to orders received from our thin film solar market and photonics market customers during 2018. Customer deposits represent cash received in advance of revenue earned. These orders are expected to ship during the first half of 2019.

We have new materials under development that may replace the Cadmium Sulfide buffer layer in CIGS solar cells. These materials were tested at Case Western Reserve University during the second half of 2017 and the results support the use of our innovative material in thin film solar applications that could lead to higher efficiencies. We are working with customers through product trials and qualifications to accelerate adoption of these materials.. We continue to invest in developing new products for all of our markets including transparent conductive oxide systems for the thin film solar and display markets as well as with our transparent electronic products. These efforts include accelerating time to market for those products and involve research and development expense.

Under a joint agreement with publicly owned Konfoong Materials International Co., LTD (KFMI), KFMI will bond rotatable thin film solar Aluminum Zinc Oxide cylinders produced in Columbus, Ohio for thin film solar customers in China. This arrangement is intended to enable us to provide an advantage to TFS customers and also to help assure access to this growing market. We will continue to produce the ceramic portion of the end product in our facility in Columbus. We will continue to exercise control over our trade secret and proprietary property through assiduous scrutiny of our Intellectual Property. Our products for photonics and thin film solar customers in areas other than China will continue to be bonded at our manufacturing facility in Columbus.

Our patent titled "Process for the removal of contaminants from sputtering target substrates" (US patent No. 10,138,545 B2) was issued on November 27, 2018. This provides a process for the removal of contaminants on a spent sputtering target used in Plasma Vapor Deposition.

Our patent titled "Display having a transparent conductive oxide layer comprising metal doped zinc oxide applied by sputtering" (US patent No. 9,927,667) was issued on March 27, 2018. The transparent conductive oxides (TCOs) we developed in this patent have excellent electro-optical performance, high transmittance, high conductivity and good chemical resistance. This patent has various applications that include LCDs, micro LED, OLED, smart windows and mirrors, AR/VR goggles, e-papers, and wearable electronics. Our clients, in relevant applications, are entitled to use the patent number when referring to the devices covered by the patent and benefit from it. We believe the TCOs claimed and protected in the patent have wide and innovative applications which can put SCI in a unique position in the market as well as bring us additional business opportunities.

RESULTS OF OPERATIONS

Year 2018 compared to Year 2017

Revenue

For the year ended December 31, 2018, we had total revenue of $11,361,575. This was an increase of $4,560,210, or 67.0%, compared to 2017. Volume was higher in our thin film solar market as well as volume and pricing in our photonics market.

Gross Profit

Gross profit was $2,904,776 for the year ended December 31, 2018 compared to $1,577,551 during 2017. This was an increase of $1,327,225, or 84.1%. Gross profit as a percentage of revenue (gross margin) was 25.6% for 2018 compared to 23.2% for 2017. The increase in gross profit and gross margin was attributed to increased revenue as well as improved product mix.

General and Administrative Expense

General and administrative expense for the years ended December 31, 2018, and 2017 were $1,256,778, and $1,021,155, respectively, an increase of 23.1%. This increase was primarily related to higher compensation of approximately $224,000. Compensation was lower in 2017 due to cost cutting measures enacted in 2016. Travel, professional and insurance expenses increased approximately $72,000. 2018 included lower non-cash stock compensation expense by approximately $67,000 compared to 2017.

Professional Fees

Included in general and administrative expense was $201,982 and $183,390 for professional fees during 2018 and 2017. These continued expenses were primarily related to SEC compliance costs for legal, accounting and stockholder relations fees.

Research and Development Expense

Research and development expense for the year ended December 31, 2018 was $351,999 compared to $330,805 for 2017, an increase of 6.4%. This increase was related to increased compensation and benefits including additional staff in addition to ongoing research. We continue to invest in developing new products for all of our markets including an innovative buffer layer for Thin Film solar cells, transparent conductive oxide systems for applications in transparent electronics and thin film solar applications.

Marketing and Sales Expense

Marketing and sales expense was $361,132 and $176,470 for the years ended December 31, 2018 and 2017, respectively. This was an increase of $184,662, or 104.6%. This increase was primarily related to higher wages and benefits of approximately $122,000, sales rep commissions of approximately $36,000, and travel expenses of approximately $12,000.

These higher marketing and sales expenses were directly related to the implementation of our growth strategy.

Stock Compensation Expense

Included in total expenses were non-cash stock based compensation costs of $149,399 and $201,574 for the years ended December 31, 2018 and 2017, respectively. This decrease was a result of stock options becoming fully vested in 2018. Compensation costs for all stock-based awards is based on the grant date fair value and recognized over the required service (vesting) period. Unrecognized non-cash stock based compensation expense was $33,750 as of December 31, 2018 and will be recognized through 2023.

Interest

Interest expense was $9,356 and $41,109 for the years ended December 31, 2018 and 2017, respectively. The improvement was due to lower principal balances on our debt and increased earned income on higher cash balances.

Income/Loss Applicable to Common Shares

Income applicable to common shares for the year ended December 31, 2018 was $885,017 compared to a loss of $18,061 for the year ended December 31, 2017. The improvement was due to higher revenue and gross profit.

Common Stock

The following schedule represents our outstanding common stock during the period of 2019 through 2028 assuming all outstanding stock options are exercised during the year of expiration. Based on outstanding shares at January 31, 2019, if each shareholder exercises his or her options, it would increase our common shares by 125,441 to 4,403,172 by December 31, 2028. Assuming all such options are exercised in the year of expiration, the effect on shares outstanding is illustrated as follows:

	Options due to expire	Potential shares outstanding	Weighted average exercise price
2024	83,722	4,361,453	$ 0.84
2028	41,719	4,403,172	$ 1.25

271,500 stock options at an exercise price of $6.00 per option expired during January 2019.

Liquidity and Capital Resources

Cash

Cash on hand at December 31, 2018 was $1,802,839 compared to $920,802 at December 31, 2017. This was an increase of $882,037 or 95.8%. The increase was primarily due to higher cash from operations and increased customer deposits.

Working Capital

At December 31, 2018 working capital was $1,672,036 compared to $724,395 at December 31, 2017, an increase of $947,641 or 130.8%. Inventories increased approximately $2,135,000 and customer deposits increased approximately $2,794,000 due to orders received from our thin film solar market as well as our photonics market during 2018. Accounts receivable increased approximately $142,000. Prepaid expenses increased approximately $475,000 due to raw material purchased in December 2018 and received in January 2019. Current debt obligations decreased approximately $236,000 during 2018.

Cash from Operations

Net cash provided by operating activities was approximately $1,653,000 for the year ended December 31, 2018 and approximately $616,000 for the year ended December 31, 2017. Included in expenses were depreciation and amortization of approximately $453,000 and $470,000 and non-cash stock based compensation cost of approximately $149,000 and $202,000 for the years ended December 31, 2018 and 2017, respectively. In addition, accrued expenses and customer deposits increased approximately $2,906,000 and $168,000, for the years ended December 31, 2018 and 2017, respectively. The increase in 2018 was due primarily to deposits received from our thin film solar and photonics customers.

Cash from Investing Activities

Cash of approximately $381,000 was used in investing activities during the year ended December 31, 2018, compared to approximately $104,000 during the year ended December 31, 2017, principally for purchases of property and equipment.

Cash from Financing Activities

Cash of approximately $376,000 and $321,000 was used in financing activities for principal payments to third parties for capital lease obligations and notes payable during the years ended December 31, 2018 and 2017, respectively. In July 2018, a cash payment in the amount of $24,152 was made for payment of accumulated dividends on preferred stock. In addition, $9,765 was received from the exercise of stock options.

Debt Outstanding

Total debt outstanding decreased to approximately $262,000 at December 31, 2018, from approximately $532,000 at December 31, 2017, a decrease of 50.6%. During 2018 we incurred a new capital lease obligation of approximately $105,000.

Critical Accounting Policies

The preparation of financial statements and related disclosures in conformity with accounting principles generally accepted in the United States requires management to make judgments, assumptions and estimates that affect the amounts reported in the Financial Statements and accompanying notes. Note 2 to the Financial Statements in the Annual Report on Form 10-K for the year ended December 31, 2018, describes the significant accounting policies and methods used in the preparation of the Financial Statements. Estimates are used for, but not limited to, the accounting for the allowance for doubtful accounts, inventory allowances, property and equipment depreciable lives, patents and license useful lives, revenue recognition, tax valuation allowance, stock based compensation and assessing changes in which impairment of certain long-lived assets may occur. Actual results could differ from these estimates. The following critical accounting policies are impacted significantly by judgments, assumptions and estimates used in the preparation of the Financial Statements. The allowance for doubtful accounts is based on our assessment of the collectability of specific customer accounts and the aging of the accounts receivable. If there is a deterioration of a major customer's credit worthiness or actual defaults are higher than our historical experience, our estimates of the recoverability of amounts due us could be adversely affected. Inventory purchases and commitments are based upon future demand forecasts. If there is a sudden and significant decrease in demand for our products or there is a higher risk of inventory obsolescence because of rapidly changing technology and customer requirements, we may be required to increase our inventory allowances and our gross profit could be adversely affected. Depreciable and useful lives estimated for property and equipment, licenses and patents are based on initial expectations of the period of time these assets and intangibles will provide benefit. Changes in circumstances related to a change in our business, change in technology or other factors could result in these assets becoming impaired, which could adversely affect the value of these assets.

Inflation

We believe there has not been a significant impact from inflation on our operations during the past three fiscal years.

Safe Harbor Statement under the Private Securities Litigation Reform Act of 1995

This document contains forward-looking statements that reflect the views of management with respect to future events and financial performance. These forward-looking statements are subject to certain uncertainties and other factors that could cause actual results to differ materially from such statements. See “Risk Factors” above. These uncertainties and other factors include, but are not limited to, the words “anticipates,” “believes,” “estimates,” “expects,” “plans,” “projects,” “targets” and similar expressions which identify forward-looking statements. You should not place undue reliance on these forward-looking statements, which speak only as of the date the statements were made. We undertake no obligation to publicly update or revise any forward-looking statements.

ITEM 7A. QUANTITATIVE AND QUALITATIVE DISCLOSURES ABOUT MARKET RISK.

Not applicable

ITEM 8. FINANCIAL STATEMENTS AND SUPPLEMENTARY DATA.

Our balance sheets as of December 31, 2018 and 2017, and the related statements of operations, shareholders’ equity and cash flows for the years ended December 31, 2018 and 2017, together with the Report of Independent Registered Public Accounting Firm thereon appear beginning on Page F-1.

ITEM 9. CHANGES IN AND DISAGREEMENTS WITH ACCOUNTANTS ON ACCOUNTING AND FINANCIAL DISCLOSURE.

Not applicable.

ITEM 9A. CONTROLS AND PROCEDURES.

Evaluation of Disclosure Controls and Procedures

Our management, with the participation of the Company’s Principal Executive Officer and Principal Accounting Officer, has evaluated the effectiveness of the Company’s disclosure controls and procedures (as such term is defined in Rules 13a-15(e) and 15d-15(e) under the Securities Exchange Act of 1934, as amended (the “Exchange Act”)) as of the end of the period covered by this report. In designing and evaluating the disclosure controls and procedures, management recognized that any controls and procedures, no matter how well designed and operated, can only provide reasonable assurance of achieving the desired control objectives and management is required to apply its judgment in evaluating the cost-benefit relationship of possible controls and procedures. Due to a segregation of duties material weakness described below, and based on this evaluation, the Company’s Principal Executive Officer and Principal Accounting Officer have concluded that as of December 31, 2018, the Company’s disclosure controls and procedures were not effective, at the reasonable assurance level, in recording, processing, summarizing and reporting, on a timely basis, information required to be disclosed by the Company in the reports that it files or submits under the Exchange Act and in ensuring that information required to be disclosed by the Company in the reports that it files or submits under the Exchange Act is accumulated and communicated to the Company’s management, including the Principal Executive Officer and Principal Accounting Officer, as appropriate to allow timely discussions regarding required disclosure. Until we are able to hire additional employees, we will continue to report to the Audit Committee and the Board of Directors at least monthly (and more often as necessary). We believe this will continue to mitigate this weakness. This reporting includes balance sheets, statements of operations, statements of cash flows, and other detail supporting these statements. Accordingly, we believe that the financial statements included in this report fairly present, in all material respects, our financial condition, results of operations, changes in shareholder’s equity and cash flows for all periods presented.

Inherent Limitations Over Internal Controls

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. Our internal control over financial reporting includes those policies and procedures that: (i) pertain to the maintenance of records that, in reasonable detail, accurately and fairly reflect the transactions and dispositions of our assets; (ii) provide reasonable assurance that transactions are recorded as necessary to permit preparation of financial statements in accordance with generally accepted accounting principles, and that receipts and expenditures are being made only in accordance with authorizations of management and directors; and (iii) provide reasonable assurance regarding prevention or timely detection of unauthorized acquisition, use, or disposition of assets that could have a material effect on the financial statements.

Management, including our Chief Executive Officer and Chief Financial Officer, does not expect that our internal controls will prevent or detect all errors and all fraud. A control system, no matter how well designed and operated, can provide only reasonable, not absolute, assurance that the objectives of the control system are met. Further, the design of a control system must reflect the fact that there are resource constraints, and the benefits of controls must be considered relative to their costs. Because of the inherent limitations in all control systems, no evaluation of internal controls can provide absolute assurance that all control issues and instances of fraud, if any, have been detected. Also, any evaluation of the effectiveness of controls in future periods are subject to the risk that those internal controls may become inadequate because of changes in business conditions, or that the degree of compliance with the policies or procedures may deteriorate.

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 Securities Exchange Act of 1934, as amended). Management conducted an evaluation of the effectiveness of our internal control over financial reporting based on the criteria established in the Internal Control – Integrated Framework (2013 Framework) issued by the Committee of Sponsoring Organizations of the Treadway Commission ("COSO"). Based on this evaluation, management has concluded that our internal control over financial reporting was not effective as of December 31, 2018. The matter involving internal controls over financial reporting that management considered to be a material weakness under the standards of the Public Company Accounting Oversight Board ("PCAOB") was insufficient segregation of duties consistent with control objectives. Management is aware of the risks associated with the lack of segregation of duties due to the small number of employees currently working with general administrative and financial matters. Due to our size and nature, segregation of all conflicting duties may not always be possible and may not be economically feasible. However, to the extent possible, the initiation of transactions, the custody of assets and the recording of transactions should be performed by separate individuals.

In order to remediate this weakness, we will need to hire additional employees. Although we will periodically reevaluate this situation, at this point we consider that the risks associated with such lack of segregation of duties and the potential benefits of adding employees to segregate such duties are not cost justified. Until we are able to hire additional employees, we will continue to report to the Audit Committee and the Board of Directors at least monthly (and more often as necessary). We believe this will continue to mitigate this weakness. This reporting includes balance sheets, statements of operations, statements of cash flows, and other detail supporting these statements.

This annual report does not include an attestation report of our registered public accounting firm regarding internal control over financial reporting. Our report was not subject to attestation by our registered public accounting firm pursuant to rules of the Securities and Exchange Commission that permits us to provide only management's report in this annual report.

Changes in Internal Control over Financial Reporting

There were no changes in the Company's internal control over financial reporting (as such term is defined in Exchange Act Rule 13a-15(f) and Rule 15d-15(f)) that occurred in the last fiscal quarter that materially affected, or are reasonably likely to materially affect, the Company's internal control over financial reporting.

ITEM 9B. OTHER INFORMATION

None.

PART III

ITEM 10. DIRECTORS, EXECUTIVE OFFICERS AND CORPORATE GOVERNANCE.

The information required by this item is included under the captions, "**Election of Directors**," "**Executive Officers**" and "**Section 16(a) Beneficial Ownership Reporting Compliance**" in our proxy statement relating to our 2019 Annual Meeting of Shareholders scheduled to be held on June 5, 2019, and is incorporated herein by reference.

We have a Business Conduct Policy applicable to all employees of SCI. Additionally, the Chief Executive Officer ("CEO") and all senior financial officers, including the principal financial officer, the principal accounting officer or controller, or any person performing a similar function (collectively, the "Senior Financial Officers") are bound by the provisions of our code of ethics relating to ethical conduct, conflicts of interest, and compliance with the law. The code of ethics is posted on our website at http://www.sciengineeredmaterials.com/corporate-governance.

We intend to satisfy the disclosure requirement under Item 10 of Form 8-K regarding any amendment to, waiver of, any provision of this code of ethics by posting such information on our website at the address and location specified above.

ITEM 11. EXECUTIVE COMPENSATION.

The information required by this item is included under the caption "**Executive Compensation**" in our proxy statement relating to our 2019 Annual Meeting of Shareholders scheduled to be held on June 5, 2019, and is incorporated herein by reference.

ITEM 12. SECURITY OWNERSHIP OF CERTAIN BENEFICIAL OWNERS AND MANAGEMENT AND RELATED STOCKHOLDER MATTERS.

The information required by this item is included under the captions "**Ownership of Common Stock by Directors and Executive Officers"** and "**Ownership of Common Stock by Principal Shareholders**" in our proxy statement relating to our 2019 Annual Meeting of Shareholders scheduled to be held on June 5, 2019, and is incorporated herein by reference.

ITEM 13. CERTAIN RELATIONSHIPS AND RELATED TRANSACTIONS, AND DIRECTOR INDEPENDENCE.

The information required by this item is included under the caption "**Certain Relationships and Related Transactions, and Director Independence**" in our proxy statement relating to our 2019 Annual Meeting of Shareholders scheduled to be held on June 5, 2019, and is incorporated herein by reference.

ITEM 14. PRINCIPAL ACCOUNTANT FEES AND SERVICES.

The information required by this item is included under the caption "**Fees of the Independent Public Accounting Firms for the year ended December 31, 2018"** in our proxy statement relating to our 2019 Annual Meeting of Shareholders scheduled to be held on June 5, 2019, and is incorporated herein by reference.

ITEM 15. EXHIBITS AND FINANCIAL STATEMENT SCHEDULES.

Exhibit Number	Exhibit Description
3(a)	Certificate of Second Amended and Restated Articles of Incorporation of Superconductive Components, Inc. (Incorporated by reference to Exhibit 3(a) to the Company's initial Form 10-SB, filed on September 28, 2000).
3(b)	Restated Code of Regulations of Superconductive Components, Inc. (Incorporated by reference to Exhibit 3(b) to the Company's initial Form 10-SB, filed on September 28, 2000).
3(c)	Amendment to Articles of Incorporation recording the change of the corporate name to SCI Engineered Materials, Inc. (Incorporated by reference to Exhibit 3.1 to the Company's Quarterly Report on Form 10-QSB filed November 7, 2007).
4(a)	SCI Engineered Materials, Inc. 2011 Stock Incentive Plan (Incorporated by reference to the Company's Definitive Proxy Statement for the 2011 Annual Meeting of Shareholders held on June 10, 2011, filed April 28, 2011).
4(b)	Superconductive Components, Inc. 2006 Stock Incentive Plan (Incorporated by reference to Appendix A to the Company's Definitive Proxy Statement for the 2006 Annual Meeting of Shareholders held on June 9, 2006, filed May 1, 2006).
4(c)	Description of the Material Terms of the Stock Option Grant and Cash Bonus Plan for Executive Officers (Incorporated by reference to the Company's Current Report on Form 8-K, dated June 19, 2006, filed June 23, 2006).
4(d)	Form of Incentive Stock Option Agreement under the Superconductive Components, Inc. 2006 Stock Incentive Plan (Incorporated by reference to Exhibit 10.1 to the Company's Current Report on Form 8-K dated June 19, 2006, filed June 23, 2006).
4(e)	Form of Non-Statutory Stock Option Agreement under the Superconductive Components, Inc. 2006 Stock Incentive Plan (Incorporated by reference to Exhibit 10.2 to the Company's Current Report on Form 8-K dated June 19, 2006, filed June 23, 2006).
4(f)	Description of the Material Terms of the Stock Option Grant for Executive Officers and Board of Directors (Incorporated by reference to the Company's Current Report on Form 8-K dated January 2, 2009, filed January 6, 2009).
10(a)	Employment Agreement entered into as of February 26, 2002, between Daniel Rooney and the Company (Incorporated by reference to Exhibit 10(a) to the Company's Registration Statement on Form SB-2 (Registration No. 333-131605), filed on February 6, 2006, and amended by Pre-effective Amendment No. 1 filed March 23, 2006).

10(b)	*	Description of Bonding Agreement between the Company and Konfoong Material International Co., Ltd. dated as of December 18, 2018.
14(a)		SCI Engineered Materials Code of Ethics for the Chief Executive Officer and Chief Financial Officer (Incorporated by reference to the Company's Current Report via the Company's website at www.sciengineeredmaterials.com).
23	*	Consent of Independent Registered Public Accounting Firm.
24	*	Powers of Attorney.
31.1	*	Rule 13a-14(a) Certification of Principal Executive Officer.
31.2	*	Rule 13a-14(a) Certification of Principal Financial Officer.
32.1	*	Section 1350 Certification of Principal Executive Officer.
32.2	*	Section 1350 Certification of Principal Financial Officer.
99.1		Press Release dated February 5, 2019, entitled "SCI Engineered Materials, Inc., Reports Record Twelve Month and Fourth Quarter Results."
101		The Company's Annual Report on Form 10-K for the year ended December 31, 2018, formatted in XBRL (eXtensible Business Reporting Language): (i) Consolidated Balance Sheets at December 31, 2018 and December 31, 2017 (ii) Consolidated Statements of Operations for the years ended December 31 2018 and 2017, (iii) Consolidated Statement of Changes in Equity for the years ended December 31, 2018 and December 2017, (iv) Consolidated Statements of Cash Flows for the years ended December 31, 2018 and 2017, and (v) Notes to Financial Statements.

* Filed herewith

SIGNATURES

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

SCI ENGINEERED MATERIALS, INC.

Date: February 5, 2019

By: /s/ Daniel Rooney
Daniel Rooney, Chairman of the Board of Directors, and Chief Executive Officer

Pursuant to the requirements of the Securities Exchange Act of 1934, this report has been signed below by the following persons on behalf of the Registrant and in the capacities indicated on the 5th day of February 2019.

Signature	***Title***
/s/ Daniel Rooney Daniel Rooney	Chairman of the Board of Directors, and Chief Executive Officer (principal executive officer)
/s/ Gerald S. Blaskie Gerald S. Blaskie	Vice President and Chief Financial Officer (principal financial officer and principal accounting officer)
Laura F. Shunk* Laura F. Shunk	Director
Edward W. Ungar* Edward W. Ungar	Director
John P. Gilliam* John P. Gilliam	Director
Emily Lu* Emily Lu	Director
Charles Wickersham* Charles Wickersham	Director

*By: /s/ Daniel Rooney
Daniel Rooney, Attorney-in-Fact

INDEX TO FINANCIAL STATEMENTS

Report of Independent Registered Public Accounting Firm

Shareholders and Board of Directors
SCI Engineered Materials, Inc.
Columbus, Ohio

Opinion on the Consolidated Financial Statements

We have audited the accompanying balance sheets of SCI Engineered Materials, Inc. (the "Company") as of December 31, 2018 and 2017, the related statements of operations, shareholders' equity, and cash flows for the years then ended, and related notes (collectively referred to as the "financial statements"). In our opinion, the financial statements present fairly, in all material respects, the financial position of the Company at December 31, 2018 and 2017, and the results of its operations and its cash flows for the years then ended, in conformity with accounting principles generally accepted in the United States of America.

Basis for Opinion

These financial statements are the responsibility of the Company's management. Our responsibility is to express an opinion on these 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 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 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 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 financial statements. We believe that our audits provide a reasonable basis for our opinion.

GBQ Partners LLC

We have served as the Company's auditor since 2014.
Columbus, Ohio
February 5, 2019

PART I. FINANCIAL INFORMATION

ITEM 1. FINANCIAL STATEMENTS

SCI ENGINEERED MATERIALS, INC.

BALANCE SHEETS

DECEMBER 31, 2018 AND 2017

ASSETS

	2018	2017
Current Assets		
Cash	$ 1,802,839	$ 920,802
Accounts receivable		
Trade, less allowance for doubtful accounts of $15,000	477,779	336,009
Other	153	-
Inventories	2,752,845	617,444
Prepaid expenses	613,425	138,175
Total current assets	5,647,041	2,012,430
Property and Equipment, at cost		
Machinery and equipment	8,017,850	7,824,563
Furniture and fixtures	127,610	132,543
Leasehold improvements	360,225	327,904
Construction in progress	138,067	22,504
	8,643,752	8,307,514
Less accumulated depreciation and amortization	(6,720,847)	(6,422,448)
	1,922,905	1,885,066
Other Assets	75,613	52,078
TOTAL ASSETS	$ 7,645,559	$ 3,949,574

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

SCI ENGINEERED MATERIALS, INC.

BALANCE SHEETS (continued)

DECEMBER 31, 2018 AND 2017

LIABILITIES AND SHAREHOLDERS' EQUITY

	2018	2017
Current Liabilities		
Capital lease obligations, current portion	$ 114,853	$ 129,500
Notes payable, current portion	-	221,105
Accounts payable	321,348	307,498
Customer deposits	3,202,447	407,956
Accrued compensation	211,227	83,314
Accrued expenses and other	125,130	138,662
Total current liabilities	3,975,005	1,288,035
Capital lease obligations, net of current portion	147,878	181,744
Total liabilities	4,122,883	1,469,779
Shareholders' Equity		
Convertible preferred stock, Series B, 10% cumulative, nonvoting, no par value, $10 stated value, optional redemption at 103%; optional shareholder conversion 2 shares for 1; 24,152 shares issued and outstanding	514,438	514,438
Common stock, no par value, authorized 15,000,000 shares; 4,277,731 and 4,185,839 shares issued and outstanding, respectively	10,275,733	10,131,307
Additional paid-in capital	2,280,060	2,289,474
Accumulated deficit	(9,547,555)	(10,455,424)
Total shareholders' equity	3,522,676	2,479,795
TOTAL LIABILITIES AND SHAREHOLDERS' EQUITY	$ 7,645,559	$ 3,949,574

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

SCI ENGINEERED MATERIALS, INC.

STATEMENTS OF OPERATIONS

YEARS ENDED DECEMBER 31, 2018 AND 2017

	2018	2017
Total revenue	$ 11,361,575	$ 6,801,365
Total cost of revenue	8,456,799	5,223,814
Gross profit	2,904,776	1,577,551
General and administrative expense	1,256,778	1,021,155
Research and development expense	351,999	330,805
Marketing and sales expense	361,132	176,470
Income from operations	934,867	49,121
Interest	9,356	41,109
Income before income taxes	925,511	8,012
Income taxes	17,642	1,921
Net income	907,869	6,091
Dividends on preferred stock	24,152	24,152
INCOME (LOSS) APPLICABLE TO COMMON STOCK	$ 883,717	$ (18,061)
Earnings per share - basic and diluted (Note 6)		
Income (loss) per common share		
Basic	$ 0.21	$ (0.00)
Diluted	$ 0.21	$ (0.00)
Weighted average shares outstanding		
Basic	4,223,865	4,138,516
Diluted	4,257,131	4,138,516

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

SCI ENGINEERED MATERIALS, INC.

STATEMENTS OF SHAREHOLDERS' EQUITY

YEARS ENDED DECEMBER 31, 2018 AND 2017

	Convertible Preferred Stock, Series B	Common Stock	Additional Paid-In Capital	Accumulated Deficit	Total
Balance 1/1/17	$ 490,286	$10,049,823	$ 2,193,536	$ (10,461,515)	$ 2,272,130
Accretion of cumulative dividends	24,152	-	(24,152)	-	-
Stock based compensation expense (Note 2K)	-	-	120,090	-	120,090
Common stock issued (Note 6)	-	81,484	-	-	81,484
Net income	-	-	-	6,091	6,091
Balance 12/31/17	$ 514,438	$10,131,307	$ 2,289,474	$ (10,455,424)	$ 2,479,795
Accretion of cumulative dividends	24,152	-	(24,152)	-	-
Stock based compensation expense (Note 2K)	-	-	14,738	-	14,738
Proceeds from exercise of stock options (Note 6)	-	9,765	-	-	9,765
Payment of cumulative dividends (Note 6)	(24,152)	-	-	-	(24,152)
Common stock issued (Note 6)	-	134,661	-	-	134,661
Net income	-	-	-	907,869	907,869
Balance 12/31/18	$ 514,438	$10,275,733	$ 2,280,060	$ (9,547,555)	$ 3,522,676

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

SCI ENGINEERED MATERIALS, INC.

STATEMENTS OF CASH FLOWS

YEARS ENDED DECEMBER 31, 2018 AND 2017

	2018	2017
CASH FLOWS FROM OPERATING ACTIVITIES		
Net income	$ 907,869	$ 6,091
Adjustments to reconcile net income to net cash provided by operating activities:		
Depreciation and accretion	450,180	460,637
Amortization	2,763	9,439
Stock based compensation	149,399	201,574
Loss on disposal of equipment	669	-
Inventory reserve	(26,259)	(11,640)
Changes in operating assets and liabilities:		
Accounts receivable	(141,923)	(64,177)
Inventories	(2,109,142)	(229,243)
Prepaid expenses	(475,250)	(78,972)
Other assets	(25,511)	(1,458)
Accounts payable	13,850	155,741
Accrued expenses and customer deposits	2,906,442	167,967
Net cash provided by operating activities	1,653,087	615,959
CASH FLOWS FROM INVESTING ACTIVITIES		
Purchases of property and equipment	(380,933)	(104,029)
Net cash used in investing activities	(380,933)	(104,029)
CASH FLOWS FROM FINANCING ACTIVITIES		
Proceeds from exercise of stock options	9,765	-
Principal payments on capital lease obligations and notes payable	(375,730)	(321,480)
Payment of cumulative dividends on preferred stock	(24,152)	-
Net cash used in financing activities	(390,117)	(321,480)
NET INCREASE IN CASH	$ 882,037	$ 190,450
CASH - Beginning of year	920,802	730,352
CASH - End of year	$ 1,802,839	$ 920,802
SUPPLEMENTAL DISCLOSURES OF CASH FLOW INFORMATION		
Cash paid during the year for:		
Interest	$ 22,931	$ 41,615
Income taxes	17,642	1,921
SUPPLEMENTAL DISCLOSURES OF NONCASH INVESTING AND FINANCING ACTIVITIES		
Property and equipment purchased by capital lease	$ 105,325	$ 103,550
Increase in asset retirement obligation	2,431	1,218

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

SCI ENGINEERED MATERIALS, INC.
NOTES TO FINANCIAL STATEMENTS

Note 1. Business Organization and Purpose

SCI Engineered Materials, Inc. ("SCI", "we" or the "Company"), formerly Superconductive Components, Inc., an Ohio corporation, was incorporated in 1987. The Company operates in one segment as a global supplier and manufacturer of advanced materials for Physical Vapor Deposition ("PVD") Thin Film Applications. The Company is focused on specific markets within the PVD industry (Photonics, Thin Film Solar, Glass, and Transparent Electronics). Substantially, all of the Company's revenues are generated from customers with multi-national operations. Through collaboration with end users and Original Equipment Manufacturers the Company develops innovative customized solutions enabling commercial success.

Note 2. Summary of Significant Accounting Policies

A. Cash - The Company considers all highly liquid investments purchased with an original maturity of three months or less to be cash.

B. Fair Value of Financial Instruments - The estimated fair value of amounts reported in the financial statements have been determined using available market information and valuation methodologies, as applicable (see Note 9).

C. Concentrations of Credit Risk - The Company's cash balances, which are at times in excess of federally insured levels, are maintained at a large regional bank and a global investment banking group, and are continually monitored to minimize the risk of loss. The Company grants credit to most customers, who are varied in terms of size, geographic location and financial strength. Customer balances are continually monitored to minimize the risk of loss.

The Company's two largest customers accounted for 36% and 17% of total revenue in 2018. These two customers represented 27% of the accounts receivable trade balance at December 31, 2018. The Company expects to collect all outstanding accounts receivables as of December 31, 2018 from these customers.

The Company's two largest customers accounted for 72% and 9% of total revenue in 2017. These two customers represented 65% of the accounts receivable trade balance at December 31, 2017. The Company subsequently collected all outstanding accounts receivables as of December 31, 2017 from these customers.

D. Accounts Receivable - The Company extends unsecured credit to customers under normal trade agreements which require payment within 30 days. The Company does not charge interest on delinquent trade accounts receivable. Unless specified by the customer, payments are applied to the oldest unpaid invoice. Accounts receivable are presented at the amount billed.

Management estimates an allowance for doubtful accounts, which was $15,000 as of December 31, 2018 and 2017. This estimate is based upon management's review of delinquent accounts and an assessment of the Company's historical evidence of collections. Specific accounts are charged directly to the reserve or bad debt expense when management obtains evidence of a customer's insolvency or otherwise determines that the account is uncollectible. There was no bad debt expense during 2018 and 2017.

Note 2. Summary of Significant Accounting Policies (continued)

E. Inventories - Inventories are stated at the lower of cost or market on an acquired or internally produced lot basis, and consist of raw materials, work-in-process and finished goods. Cost includes material, labor, freight and applied overhead. Inventory reserves are established for obsolete inventory, lower of cost or market, and excess inventory quantities based on management's estimate of net realizable value. The Company had an inventory reserve of $29,741 and $56,000 at December 31, 2018, and 2017, respectively.

F. Property and Equipment - Property and equipment are carried at cost. Depreciation is provided using the straight-line method based on the estimated useful lives of the assets. Useful lives range from three years on computer equipment to sixteen years on certain equipment. Leasehold improvements are amortized over the shorter of the estimated useful life or the term of the lease. Depreciation expense totaled $450,180 and $460,637 for the years ended December 31, 2018 and 2017, respectively. Expenditures for renewals and betterments are capitalized and expenditures for repairs and maintenance are charged to operations as incurred.

Long-lived assets are reviewed for impairment whenever events or changes in circumstances indicate that the carrying amount may not be recoverable. If the fair value is less than the carrying amount of the asset, a loss is recognized for the difference. There was no property and equipment considered impaired during 2018 or 2017.

G. Deferred Financing Costs - Deferred financing costs are amortized over the term of the related debt using the straight-line method, the result of which is not materially different from the use of the interest method. Deferred financing costs were $0 and $787 at December 31, 2018 and 2017, respectively. The related amortization of these costs for the years ended December 31, 2018 and 2017, was $787 and $9,439, respectively, and is included in interest expense on the statements of operations.

H. Intangible Assets - The Company reviews intangible assets for impairment and performs detailed testing whenever impairment indicators are present. If necessary, an impairment loss is recorded for the excess of carrying value over fair value. There were no intangible assets considered impaired during 2018 or 2017.

Our patent titled "Process for the removal of contaminants from sputtering target substrates" (US patent No. 10,138,545 B2) was issued on November 27, 2018. This provides a process for the removal of contaminants on a spent sputtering target used in Plasma Vapor Deposition.

A patent titled "Display having a transparent conductive oxide layer comprising metal doped zinc oxide applied by sputtering" (US patent No. 9,927,667) was issued on March 27, 2018. The Company holds the rights to a provisional patent and any subsequent patents for this technology related to the application of Zinc based Transparent Conductive Oxide in Displays.

Costs incurred to secure patents have been capitalized and amortized over the life of the patents. Cost and accumulated amortization of the patents at December 31, 2018 was $64,481 and $1,977, respectively and cost and accumulated amortization of the patents at December 31, 2017 was $34,935 and $0, respectively. Amortization expense related to patents was $1,977 and $0 for the years ended December 31, 2018 and 2017, respectively. Amortization expense is expected to be at least $2,744 for each of the next five years.

Note 2. Summary of Significant Accounting Policies (continued)

I. Debt Issuance Costs - In April 2015, the FASB issued guidance creating ASC Subtopic 835-30, *Interest—Imputation of Interest (Subtopic 835-30), Simplifying the Presentation of Debt Issuance Costs*. The update modifies the presentation of costs of debt issuance as a direct reduction to the face amount of the related reported debt. Debt issuance costs were $0 and $787 at December 31, 2018 and 2017, respectively. This cost was presented on a net basis against notes payable in the accompanying balance sheet.

J. Revenue Recognition - In August 2015, the FASB issued ASU No. 2015-14, "Revenue from Contracts with Customers (Topic 606) – Deferral of the Effective Date," which revises the effective date of ASU No. 2014-09, "Revenue from Contracts with Customers (Topic 606)," ("ASU 2014-09") to interim and annual periods beginning after December 15, 2017, with early adoption permitted no earlier than interim and annual periods beginning after December 15, 2016. In May 2014, the FASB issued ASU 2014-09, which amends current revenue guidance. The core principle of the guidance is that an entity should recognize revenue to depict the transfer of promised goods or services to customers in an amount that reflects the consideration to which the entity expects to be entitled in exchange for those goods or services. The Company's analysis of sales contracts under ASC 606 supports the recognition of revenue at a point in time, typically when title passes to the customer upon shipment, which is consistent with the previous revenue recognition model.

The core principle of ASC 606 is supported by five steps which are listed below:

1. Identify the contract with the customer.
2. Identify the performance obligation in the contract.
3. Determine the transaction price.
4. Allocate the transaction price to performance obligations in the contract.
5. Recognize revenue when or as the Company satisfies a performance obligation.

The Company adopted this guidance as of January 1, 2018 utilizing the modified retrospective approach method as applied to customer contracts that were not completed as of January 1, 2018. As a result financial information for reporting periods beginning on or after January 1, 2018 are presented in accordance with ASC 606, while comparative financial information has not been adjusted and continues to be reported in accordance with the Company's revenue recognition policies prior to the adoption of ASC 606. Implementation of the standard did not have a material impact on the Company's financial statements as the Company's method for recognizing revenue subsequent to the implementation of ASC 606 does not vary significantly from its revenue recognition practices under the prior revenue standard. Accordingly, there was no required cumulative adjustment to retained earnings as of January 1, 2018.

Note 2. Summary of Significant Accounting Policies (continued)

The Company enters into contracts with its customers that generally represent purchase orders specifying general terms and conditions, order quantities and per unit product price. The Company has determined that each unit of product purchased represents a separate performance obligation. The Company satisfies its performance obligations and recognizes revenue at a point in time when control of a unit of product is transferred to the customer. Revenue is measured as the amount of consideration the Company expects to receive in exchange for transferring products. For the majority of product sales, transfer of control occurs when the products are shipped from the Company's manufacturing facility to the customer. The cost of delivering products to the Company's customers is recorded as a component of cost of products sold. Those costs may include the amounts paid to a third party to deliver the products. Any freight costs billed to and paid by a customer are included in revenue.

The Company considers collectability of amounts due under a contract to be probable upon inception of a sale based on an evaluation of the credit worthiness of each customer. The Company sells its products typically under agreements with payment terms less than 45 days. The Company does not typically include extended payment terms or significant financing components in contracts with customers. The majority of the Company’s contracts have an obligation to transfer products within one year. Sales commissions are expensed when incurred and recorded within marketing and sales expenses. The Company treats shipping and handling activities that occur after control of the product transfers as fulfillment activities, and therefore, does not account for shipping and handling costs as a separate performance obligation. Customer deposits are funds received in advance from customers and are recognized as revenue when the Company has transferred control of product to the customer.

During 2018 and 2017, revenue from the Photonics market was 80% and 94% of total revenue, respectively. The balance of the revenue in each period was almost entirely from the Thin Film Solar market. The top two customers represented 53% and 81% of total revenue during 2018 and 2017, respectively. International shipments resulted in 30% and 8% of total revenue for 2018 and 2017, respectively.

K. Stock Based Compensation - Compensation cost for all stock-based awards is based on the grant date fair value and is recognized over the required service (vesting) period. Non cash stock based compensation expense was $149,399 and $201,574 for the years ended December 31, 2018 and 2017, respectively. Non cash stock based compensation expense includes $121,380 and $76,984 for stock grants awarded to the non-employee board members during 2018 and 2017, respectively. Unrecognized compensation expense was $33,750 as of December 31, 2018, and will be recognized through 2023. There was no tax benefit recorded for this compensation cost as the expense primarily relates to incentive stock options that do not qualify for a tax deduction until, and only if, a qualifying disposition occurs.

Note 2. Summary of Significant Accounting Policies (continued)

L. Research and Development - Research and development costs are expensed as incurred. Research and development expense for the years ended December 31, 2018 and 2017, was $351,999 and $330,805, respectively. The Company has new materials under development that may replace the Cadmium Sulfide buffer layer in CIGS solar cells. These materials were tested at Case Western Reserve University and the results support the use of its innovative material in thin film solar applications that could lead to higher efficiencies. The Company continues to invest in developing new products for all of its markets including transparent conductive oxide systems for the thin film solar and display markets as well as transparent electronic products. These efforts include accelerating time to market for those products and involve research and development expense.

M. Income Taxes - Income taxes are provided for by utilizing the asset and liability method which requires the recognition of deferred tax assets and liabilities for the expected future tax consequences of temporary differences between the carrying amounts and the tax bases of assets and liabilities using presently enacted tax rates. Deferred tax assets are reduced by a valuation allowance which is established when "it is more likely than not" that some portion or all of the deferred tax assets will not be recognized.

N. Use of 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 the reported amounts of revenues and expenses during the reporting period. Estimates are used for, but not limited to, the accounting for the allowance for doubtful accounts, inventory allowances, property and equipment depreciable lives, patents and licenses useful lives, revenue recognition, tax valuation, stock based compensation and assessing changes in which impairment of certain long-lived assets may occur. Actual results could differ from those estimates.

O. New Accounting Pronouncements –

Stock Compensation - In March 2016, the Financial Accounting Standards Board ("FASB") issued Accounting Standards Update ("ASU") 2016-09, Compensation – Stock Compensation (Topic 718): Improvements to Employee Share-Based Payment Accounting, which simplified certain aspects of the accounting for share-based payment transactions, including income taxes, classification of awards and classification of the statement of cash flows. ASU 2016-09 became effective for the Company in the first quarter of 2018. There was minimal impact on the financial statements.

In February 2016, the FASB issued ASU No. 2016-02, Leases (Topic 842). The new standard establishes a right-of-use (ROU) model that requires a lessee to record a ROU asset and a lease liability on the balance sheet for all leases with terms longer than 12 months. Leases will be classified as either finance or operating, with classification affecting the pattern of expense recognition in the income statement. In July 2018, the FASB issued ASU No. 2018-10, Codification Improvements to Topic 842, Leases. The amendments in ASU 2018-10 clarify, correct or remove inconsistencies in the guidance provided under ASU 2016-02 related to sixteen specific issues identified. Also in July 2018, the FASB issued ASU No. 2018-11, Targeted Improvements to Topic 842. This amendment provides the Company with an additional and optional transition method to adopt the new lease standard. Under this new transition method, the Company can apply the new lease standard at the adoption date and recognize a cumulative-effect adjustment to the opening balance of retained earnings in the period of adoption and present the accounting on a prospective or go-forward basis instead of applying to the earliest comparative period presented in the financial statements. The new lease standard will be effective for the Company beginning January 1, 2019.

Note 2. Summary of Significant Accounting Policies (continued)

The Company will elect to apply the new transition method upon adoption of the new standard. The Company will also elect the available practical expedients on adoption. The new standard will not have a material impact on the Company's income statements. The most significant impact of the new standard will be the recognition of an ROU asset and lease liability of approximately $500,000 as of January 1, 2019.

Note 3. Inventories

Inventories consist of the following at December 31:

	2018	2017
Raw materials	$1,568,487	$ 141,733
Work-in-process	1,144,080	370,318
Finished goods	70,019	161,393
	2,782,586	673,444
Reserve for obsolete inventory	(29,741)	(56,000)
	$2,752,845	$ 617,444

Note 4. Notes Payable

During 2010, the Company applied and was approved for a 166 Direct Loan to borrow up to $744,250 with the Ohio Department of Development (ODOD), now known as the Ohio Development Services Agency (ODSA). This loan was finalized in February 2011 and the term of the loan was 84 months at a fixed interest rate of 3%. There was also a 0.25% annual servicing fee charged monthly on the outstanding principal balance. A final payment of approximately $71,900 was made as scheduled during November 2018 and this loan was repaid in full.

During 2010, the Company also applied and was approved for a 166 Direct Loan through the Advanced Energy Program with the Ohio Air Quality Development Authority (OAQDA) to borrow up to approximately $1.4 million. This maximum commitment by the OAQDA was subsequently reduced to $368,906 on March 20, 2012. A final payment of approximately $50,400 was made as scheduled during February 2018 and this loan was repaid in full.

Note 4. Notes Payable (continued)

Notes payable at December 31, 2017 is included in the accompanying balance sheets as follows:

ODSA 166 Direct Loan	$ 172,081
OAQDA 166 Direct Loan	49,811
Total notes payable before debt issuance costs	221,892
Debt issuance costs at December 31	787
Total notes payable after debt issuance costs	221,105
Less current portion	221,105
Notes payable, net of current portion	$ -

In 2018, the Company entered into a line of credit with Huntington Bank for $1 million. The line of credit bears interest at 0.5 percentage points over the Prime Commercial Rate with an expiration date of October 5, 2019. At December 31, 2018, no amounts were drawn on the line of credit.

Note 5. Lease Obligations

Operating

The Company leases its facilities and certain office equipment under agreements classified as operating leases expiring at various dates through 2024. Rent expense, which includes various monthly rentals for the years ended December 31, 2018 and 2017, totaled $176,142 and $194,209, respectively. Future minimum lease payments at December 31, 2018, are as follows:

2019	$ 107,512
2020	108,123
2021	110,370
2022	112,617
2023 and beyond	217,089
Total minimum lease payments	$ 655,711

Capital

The Company also leases certain equipment under capital leases. Future minimum lease payments, by year, with the present value of such payments, as of December 31, 2018, are shown in the following table.

2019	$ 124,987
2020	86,052
2021	69,641
2022 and beyond	-
Total minimum lease payments	280,680
Less amount representing interest	17,949
Present value of minimum lease payments	262,731
Less current portion	114,853
Capital lease obligations, net of current portion	$ 147,878

Note 5. Lease Obligations (continued)

The equipment under capital lease at December 31 is included in the accompanying balance sheets as follows:

	2018	2017
Machinery and equipment	$ 725,036	$ 706,050
Less accumulated depreciation and amortization	222,973	194,588
Net book value	$ 502,063	$ 511,462

These assets are amortized over a period of ten years using the straight-line method and amortization is included in depreciation expense.

The capital leases are structured such that ownership of the leased asset reverts to the Company at the end of the lease term. Accordingly, leased assets are depreciated using the Company's normal depreciation methods and lives. In 2018, ownership of certain assets were transferred to the Company in accordance with the terms of the leases and these assets have been excluded from the leased asset disclosure above.

Note 6. Common and Preferred Stock

Common Stock

During 2018, the non-employee board members received 67,487 shares of common stock of the Company with an aggregate value of $121,380. This was recorded as non-cash stock compensation expense in the financial statements.

During 2017, the non-employee board members received compensation of 84,406 shares and officers received 4,500 shares of common stock of the Company. The stock had an aggregate value of $81,484 and was recorded as non-cash stock compensation expense in the financial statements.

Preferred Stock

Shares of preferred stock authorized and outstanding at December 31, 2018 and 2017, were as follows:

	Shares Authorized	Shares Outstanding
Cumulative Preferred Stock	10,000	-
Voting Preferred Stock	125,000	-
Cumulative Non-Voting Preferred Stock	125,000(a)	24,152

(a) Includes 700 shares of Series A Preferred Stock and 100,000 shares of Convertible Series B Preferred Stock authorized for issuance.

In January 1996, the Company completed an offering of 70,000 shares of $10 stated value 1995 Series B 10% cumulative non-voting convertible preferred stock. The shares are convertible to common shares at the rate of $5.00 per share. At the Company’s option, the Series B shares are redeemable at 103% of the stated value plus the amount of any accrued and unpaid cash dividends.

Note 6. Common and Preferred Stock (continued)

There was 24,152 shares outstanding of Series B convertible preferred stock at December 31, 2018 and 2017. In June 2018, the Board of Directors approved a cash dividend in the amount of $24,152 to shareholders of record as of June 8, 2018 that was paid in July 2018. The Board of Directors voted to authorize the payment of a cash dividend of $24,152 on convertible preferred stock, Series B, to shareholders of record as of December 31, 2018 to be paid in June 2019. Included in accrued expenses at December 31, 2018 was the accrual of $24,152 for the dividend to be paid in 2019.

The Company had accrued dividends of $265,672 at December 31, 2018 and 2017. These amounts were included in convertible preferred stock, Series B on the balance sheet at December 31, 2018 and 2017.

Earnings Per Share

Basic income (loss) per share is calculated as income available (loss attributable) to common shareholders divided by the weighted average of common shares outstanding. Diluted earnings per share is calculated as diluted income available (loss attributable) to common stockholders divided by the diluted weighted average number of common shares outstanding. Diluted weighted average number of common shares gives effect to all dilutive potential common shares outstanding during the period using the treasury stock method and convertible preferred stock using the if-converted method. Diluted earnings per share exclude all diluted potential shares if their effect is anti-dilutive. For the year ended December 31, 2017, all convertible and preferred stock and common stock options listed in Note 7 were excluded from diluted earnings per share due to being out-of-the-money or anti-dilutive.

Following is a summary of employee and director outstanding stock options outstanding and preferred stock, Series B at December 31.

	2018	2017
Options	407,566	381,447
Preferred Stock, Series B	24,152	24,152
	431,718	405,599

The following is provided to reconcile the earnings per share calculations:

	2018	2017
Income (loss) applicable to common stock	$ 883,717	$ (18,061)
Weighted average common shares outstanding - basic	4,223,865	4,138,516
Effect of dilutions - stock options	33,266	-
Weighted average shares outstanding - diluted	4,257,131	4,138,516

Note 7. Stock Option Plans

On June 10, 2011, shareholders approved the SCI Engineered Materials, Inc. 2011 Stock Incentive Plan (the "2011 Plan"). The Company adopted the 2011 Plan as incentive to key employees, directors and consultants under which options to purchase up to 250,000 shares of the Company's common stock may be granted, subject to the execution of stock option agreements. Incentive stock options may be granted to key employees of the Company

Note 7. Stock Option Plans (continued)

and non-statutory options may be granted to directors who are not employees and to consultants and advisors who render services to the Company. Options may be exercised for periods up to 10 years from the date of grant at prices not less than 100% of fair market value on the date of grant. As of December 31, 2018, there were 41,719 stock options outstanding from the 2011 Plan which expire in May 2028.

On June 9, 2006, shareholders approved the Superconductive Components, Inc. 2006 Stock Incentive Plan. The Company adopted the 2006 Plan as incentive to key employees, directors and consultants under which options to purchase up to 600,000 shares of the Company's common stock may be granted, subject to the execution of stock option agreements. Incentive stock options may be granted to key employees of the Company and non-statutory options may be granted to directors who are not employees and to consultants and advisors who render services to the Company. Options may be exercised for periods up to 10 years from the date of grant at prices not less than 100% of fair market value on the date of grant. As of December 31, 2018, there were 365,847 stock options outstanding from the 2006 Plan which expire at various dates through November 2024.

The cumulative status at December 31, 2018 and 2017, of options granted and outstanding, as well as options which became exercisable in connection with the Stock Option Plans is summarized as follows:

Employee Stock Options

	Stock Options	Weighted Average Exercise Price	Weighted Average Contractual Term (yrs)	Aggregate Intrinsic Value
Outstanding at January 1, 2017	397,671	$ 4.39		
Exercised	(16,224)	0.84		
Outstanding at December 31, 2017	381,447	$ 4.54		
Granted	41,719	1.25		
Exercised	(21,225)	0.84		
Expired	(5,000)	3.10		
Outstanding at December 31, 2018	396,941	$ 4.41	2.2	$ -
Options exercisable at December 31, 2018	329,988	$ 5.09	1.0	$ -
Options exercisable at December 31, 2017	303,829	$ 5.03	2.0	$ -
Options expected to vest	66,953	$ 1.10	8.0	$ -

There were no Non-Employee Director Stock Options outstanding at December 31, 2018 and 2017.

Note 7. Stock Option Plans (continued)

Information related to the weighted average fair value of nonvested stock options for the year ended December 31, 2018 is as follows:

	Stock Options	Weighted Average Exercise Price
Employee Stock Options		
Nonvested options at January 1, 2018	77,618	$ 2.64
Granted	41,719	1.25
Vested	(52,384)	3.51
Nonvested options at December 31, 2018	66,953	$ 1.10

Exercise prices range from $0.84 to $6.00 for options at December 31, 2018. The weighted average option price for all options outstanding was $4.41 with a weighted average remaining contractual life of 2.2 years at December 31, 2018. The weighted average option price for all options outstanding was $4.54 with a weighted average remaining contractual life of 2.6 years at December 31, 2017.

The weighted average fair value at date of grant for options granted during 2018 was $1.25, and was established using the Black-Scholes option valuation method with the following weighted average assumptions:

Expected life in years	5.0
Interest rate	2.7%
Volatility	62.3%
Dividend yield	0%

Note 8. Income Taxes

Deferred tax assets and liabilities result from temporary differences in the recognition of income and expense for tax and financial reporting purposes. Significant components of the Company's deferred tax assets and liabilities are as follows at December 31.

	2018	2017
Deferred tax assets		
NOL carryforwards	$ 781,000	$ 1,038,000
General business credits carryforwards	288,000	244,000
Stock based compensation	92,000	64,000
UNICAP	56,000	30,000
Allowance for doubtful accounts	3,000	3,000
Reserve for obsolete inventories	6,000	12,000
Reserve for asset retirement	14,000	14,000
Property and equipment	(145,000)	(159,000)
	1,095,000	1,246,000
Valuation allowance	(1,095,000)	(1,246,000)
Net	$ -	$ -

The Tax Cuts and Jobs Act was enacted on December 22. 2017. The Act reduces the U.S, federal corporate tax rate from 35% to 21%. Accordingly, the Company modified the value of deferred tax assets and liabilities including the net operating loss carryover benefit at December 31, 2017. Prior to enactment of the new tax reform, the Company had total net deferred tax assets of $1,912,000 before full valuation reserve at December 31, 2017. Taking the new tax reform into consideration, the total net deferred tax assets was $1,246,000 before full valuation reserve at December 31, 2017.

A valuation allowance has been recorded against the realizability of the net deferred tax asset such that no value is recorded for the asset in the accompanying financial statements. The valuation allowance totaled $1,095,000 and $1,246,000 at December 31, 2018 and 2017, respectively.

The Company had net operating loss carryforwards available for federal and state tax purposes of approximately $3,700,000 and $4,900,000 at December 31, 2018 and 2017, respectively, which expire in varying amounts through 2038.

For the years ended December 31, 2018 and 2017, a reconciliation of the statutory rate and effective rate for the provisions for income taxes consists of the following:

	Percentage	
	2018	2017
Federal statutory rate	21.0%	35.0%
State/city tax	1.9	24.0
Non-deductible expense	0.6	532.6
Valuation allowance	(21.6)	(567.6)
Effective rate	1.9%	24.0%

Note 8. Income Taxes (continued)

Components of the income tax provision are as follows:

		2018		2017
Current	$	17,642	$	1,921
Deferred:				
NOL utilization/expiration under 2017 tax law		257,000		87,247
General business credits		(44,000)		(23,087)
Other temporary differences		(62,000)		(43,756)
Change in valuation allowance		(151,000)		(20,404)
Change in NOL benefit due to 2018 Tax Reform		-		691,695
Change in temporary differences due to 2018 Tax Reform		-		(25,595)
Change in valuation allowance due to 2018 Tax Reform		-		(666,100)
Total	$	17,642	$	1,921

The Company follows guidance issued by the Financial Accounting Standards Board ("FASB ASC 740") with respect to accounting for uncertainty in income taxes. A tax position is recognized as a benefit only if it is "more-likely-than-not" that the tax position would be sustained in a tax examination, with a tax examination being presumed to occur. The amount recognized is the largest amount of tax benefit that is greater than fifty percent likely of being realized on examination. For tax positions not meeting the "more-likely-than-not" test, no tax benefit is recorded.

The Company has no unrecognized tax benefits under guidance related to tax uncertainties. The Company does not anticipate the unrecognized tax benefits will significantly change in the next twelve months. Any tax penalties or interest expense will be recognized in income tax expense. No interest and penalties related to unrecognized tax benefits were accrued at December 31, 2018 and 2017.

The Company files income tax returns in the U.S. federal jurisdiction and various state and local jurisdictions. The Company is open to federal and state tax audits until the applicable statute of limitations expire. There are currently no federal or state income tax examinations underway for the Company. The tax years 2015 through 2018 remain open to examination by the major taxing jurisdictions in which the Company operates.

Note 9. Fair Value of Financial Instruments

The fair value of financial instruments represents the price that would be received to sell an asset or paid to transfer a liability (an exit price), and not the price that would be paid to acquire an asset or received to assume a liability (an entry price). Significant differences can arise between the fair value and carrying amount of financial instruments that are recognized at historical cost amounts.

The following methods and assumptions were used by the Company in estimating fair value disclosures for financial instruments:

- Cash and cash equivalents, short-term notes payable and capital lease obligations and current maturities of long-term notes payable and capital lease obligations: Amounts reported in the balance sheet approximate fair market value due to the short maturity of these instruments.

Note 9. Fair Value of Financial Instruments (continued)

- Long-term note payable and capital lease obligations: Amounts reported in the balance sheet approximate fair value as the interest rates on the obligations range from 3.9% to 6.2%, which approximates current fair market rates.

Note 10. Asset Retirement Obligation

Included in machinery and equipment is various production equipment, which per the Company's building lease, is required to be removed upon termination of the related lease. Included in accrued expenses in the accompanying balance sheet is the asset retirement obligation that represents the expected present value of the liability to remove this equipment. There are no assets that are legally restricted for purposes of settling this asset retirement obligation.

Following is a reconciliation of the aggregate retirement liability associated with the Company's obligation to dismantle and remove the machinery and equipment associated with its lease:

Balance at January 1, 2017	$ 65,578
Increase in present value of the obligation (accretion expense in the corresponding amount charged against earnings)	1,218
Balance at December 31, 2017	$ 66,796
Increase in present value of the obligation (accretion expense in the corresponding amount charged against earnings)	2,431
Balance at December 31, 2018	$ 69,227

Note 11. Purchase Commitment

The Company entered into a purchase commitment in the amount of $168,885 for an in-plant office structured mezzanine. Work on the structure is expected to begin in January 2019 and be completed late first quarter or early second quarter of 2019.