

STR HOLDINGS, INC.
Form 10-K
March 27, 2019

UNITED STATES

SECURITIES AND EXCHANGE COMMISSION

Washington, D.C. 20549

FORM 10-K

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

For the fiscal year ended December 31, 2018

OR

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

For the transition period from _____ to _____ .

Commission file number 001-34529

STR Holdings, Inc.

(Exact name of registrant as specified in its charter)

Delaware **27-1023344**
(State or other jurisdiction of (I.R.S. Employer
incorporation or organization) Identification No.)

10 Water Street, Enfield, Connecticut 06082
(Address of principal executive offices) (Zip code)

Registrant's telephone number, including area code: **(860) 272-4235**

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

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Securities Registered Pursuant to Section 12(g) of the Act:

Title of each class

Common Stock \$0.01 par value per share

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

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

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

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

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

Indicate by check mark whether the registrant is a large accelerated filer, an accelerated filer, 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 <input type="radio"/>	Accelerated filer <input type="radio"/>	Non-accelerated filer <input type="radio"/>	Emerging growth company filer <input type="radio"/>	Smaller reporting company <input checked="" type="radio"/>
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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

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Indicate by check mark whether the registrant is a shell company (as defined in Rule 12b-2 of the Act). YES o NO x

The aggregate market value of the registrant's voting and non-voting common equity held by non-affiliates of the registrant as of June 30, 2018 was \$2,527,301 based on the price of the last reported sale of \$0.27 per share on the OTCQB Marketplace on that date.

On February 28, 2019, the registrant had 20,159,029 outstanding shares of Common Stock, \$0.01 par value per share.

DOCUMENTS INCORPORATED BY REFERENCE:

Portions of the registrant's Proxy Statement for the 2019 Annual Meeting of Stockholders, to be filed by the registrant on or prior to 120 days following the end of the registrant's fiscal year ended December 31, 2018, are incorporated by reference into Part III of this Annual Report on Form 10-K.

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PART I

ITEM 1. Business

Forward-Looking Statements

This Annual Report on Form 10-K contains forward-looking statements within the meaning of the Private Securities Litigation Reform Act of 1995. For a discussion of forward-looking statements, see the section captioned “Forward-Looking Statements” in Item 7, Management’s Discussion and Analysis of Financial Condition and Results of Operations.

Overview

STR Holdings, Inc. and its subsidiaries (“we”, “us”, “our” or the “Company”) commenced operations in 1944 as a plastics and industrial materials research and development company. Based upon our expertise in polymer science, we evolved into a global provider of encapsulants to the solar industry. Our pioneering background in plastics also served as the foundation for a number of other plastics products we have manufactured over the years and led to our recent entrance into the high-end food packaging business.

Recent Developments

Liquidity Needs. We continue to incur substantial losses. We incurred net losses of \$5.8 million and \$5.1 million for the years ended December 31, 2018 and 2017, respectively. As of December 31, 2018, our principal source of liquidity was \$5.6 million of cash. In addition, our credit facilities are limited to our factoring arrangement in Spain and a €2.0 million economic development loan received in March 2019 from the regional government of Asturias, Spain. Unless and until our operating results improve, we do not expect that we will be able to obtain traditional bank debt or other financing. Furthermore, tight credit in the solar manufacturing industry may delay or prevent our customers from securing funding adequate to operate their businesses and purchase our products and could lead to an increase in our bad debt levels. We have recently entered into an agreement for the sale of our Johor, Malaysia facility for RM22.5 million (approximately \$5.3 million, after realtor fees, as of December 31, 2018). The sale is subject to customary closing conditions, including the timely approval of the sale by the Johor Port Authority, and we cannot assure that we will be able to obtain the requisite approvals or that the sale will take place on a timely basis, if at all. If we do not generate sufficient cash flows from operations or obtain alternative or additional sources of capital to fund operations, we will not have sufficient liquidity to satisfy operating expenses, capital expenditures and other cash needs. This raises substantial doubt about our ability to continue as a going concern. If we are unable to timely

complete our sale of our Malaysia facility, or in executing on our strategic plans described in further detail herein, our liquidity and capital resources will be adversely affected and we may wind down or cease any or all of our operations. Any wind down or dissolution may be a lengthy, complex and costly process and, in such event, there can be no assurance that there will be any funds available for distribution to stockholders.

India Tolling Plan. At the beginning of 2017, our manufacturing operations in Asia were based in China. A review of our production in China revealed that our sales volume was shifting to customers in India. As a result, we decided to wind down our manufacturing operations in China in 2017 and entered into an agreement with a tolling partner in India. By the close of 2017, we effectively completed the wind down process in China, with only a small administrative team remaining in an office under a short-term lease, and commenced tolling operations in India. We sold our undamaged production line from STR China to this tolling partner, and in 2018 we sold an additional production line to our tolling partner to further increase its manufacturing capacity in India. The line became operational at the end of the third quarter of 2018.

We continue to reorganize our business to better align with customer geography, to reduce the cash burn related to unprofitable locations, to convert assets to cash for potential redeployment into more profitable endeavors and possible business opportunities and to evaluate other strategic alternatives. We cannot assure that any of these efforts will be successful.

High-End Food Packaging. In the fourth quarter of 2017, we initiated a significant investment through our wholly-owned subsidiary in Spain to enter the high-end food packaging business. This investment, which leverages our plastics expertise, includes the purchase of new, state-of-the-art plastics processing equipment and related building improvements along with the addition of experienced staff to pursue manufacturing and sales of high-end food packaging products. This project was supported in part by insurance proceeds we received for damage to our plastic manufacturing equipment that occurred in our China manufacturing facility in 2017. These insurance proceeds were available to the Company only if we invested in new plastics manufacturing equipment. We were advised by our insurer that our investment qualified for reimbursement under the terms of our policy and have received from them payments totaling approximately \$2.6 million. Of this reimbursement, \$0.8 million was received in October 2017 and \$1.8 million was received during 2018. To further support this project, in March 2019, we obtained a €2.0 million loan from the Regional Promotion Society (“SRP”), an agency of the government of Asturias, Spain. By the close of 2018, we had substantially completed the necessary renovations to one of our buildings in Asturias, Spain, including the construction of a tower required to accommodate our new equipment, as well as the installation and interconnection of a new, state-of-the-art multi-layer blown film extrusion line. We expect this facility and equipment to allow us to begin to manufacture competitive barrier film structures for the food packaging industry in the second quarter of 2019. As of the date of this report, the new line has been installed and placed into operation, and initial trials of fully formulated, multi-layer barrier films have been completed. The food packaging business is highly competitive having market participants with substantially more resources and experience than us. We will be a new entrant in this market and we cannot assure that we will be successful in this new endeavor.

Manufacturing Facility Fire Insurance Recoveries. During the fourth quarter of 2016, we recorded a \$0.9 million loss on disposal of fixed assets attributable to a fire in our manufacturing facility in China. During 2017, STR China received interim payments totaling RMB12.7 million (approximately \$1.9 million based upon 2017 currency conversion rates) from our local China insurance carrier related to the existing fire insurance claim. During 2017, we also received \$0.8 million in the U.S. under the master property insurance plan related to the same claim. Our U.S. entity received an additional \$1.8 million reimbursement during 2018 as we had continued to make qualifying capital investments under the packaging project. These payments complete the final settlement.

Equipment Purchase Agreement and Technology License Agreement. On January 16, 2018, we entered into an equipment purchase agreement and a technology license agreement (together, the “Agreements”) with a manufacturer of solar photovoltaic (PV) modules (the “Purchaser”).

Under the equipment purchase agreement, we agreed to purchase from a third party specialized equipment (the “Equipment”) for the production of one of our proprietary encapsulants (the “Encapsulant”), resell the Equipment to the Purchaser, install the Equipment at a facility of the Purchaser and train Purchaser personnel in the Equipment’s use. Under the technology license agreement, we granted the Purchaser the right to use the formula for the Encapsulant and certain of our production techniques to make or have made the Encapsulant for use in PV modules manufactured by the Purchaser. The license granted to the Purchaser pursuant to the technology license agreement is exclusive with respect to specified types of PV modules manufactured by the Purchaser, and nonexclusive as to all other types of PV modules. The Purchaser may also sublicense its rights under the technology license agreement to licensees of its PV module manufacturing processes.

Under the equipment purchase agreements, the Purchaser agreed to pay us up to an aggregate of \$6.0 million. Billing and payment under the Agreements follows a schedule involving certain milestones relating to the qualification of the Encapsulant and installation, acceptance and operation of the Equipment. We received the initial payment of \$1.8 million during the first quarter of 2018. For revenue recognition purposes under Accounting Standards Update (“ASU”) No. 2014-09, “Revenue from Contracts with Customers” (ASC 606), \$1.8 million was recorded as revenue during the first quarter of 2018 as initial performance obligations were satisfied. See Note 2 to the Consolidated Financial Statements.

The next milestone under the equipment purchase agreement, for which an additional \$1.8 million would be due, is the completion of product qualification for the product being licensed. We have completed our testing of the product. However, the Purchaser is in default of its obligation under the equipment purchase agreement to diligently and in good faith pursue completion of the production qualification within 120 days of receipt of the product, and has entered into discussions with us to modify the Agreements. Such discussions include a proposal for the parties to enter into a more traditional customer relationship, whereby we would serve as an encapsulant manufacturer and supplier to the Purchaser. Such arrangement would also require successful completion of product qualification. We cannot assure that the parties will enter into an alternative arrangement, or that, if entered into, such alternative arrangement will be on terms favorable to us. We also cannot assure that we will be able to meet the Purchaser’s product qualification standards under the original or any modified arrangement. If we are not otherwise successful in negotiating an alternative arrangement, and the Purchaser does not complete its product qualification or otherwise fulfill its

obligations under the Agreements, we intend to explore our legal remedies against the Purchaser. Due to the inherent uncertainties in pursuing any such remedies, and the associated costs, expense and diversion of management time and resources, any ongoing dispute with the Purchaser could adversely affect our results of operations and cash flow.

2014 Transaction with Zhenfa

In 2014, we entered into certain definitive agreements with Zhenfa Energy Group Co., Ltd., a Chinese limited liability company (“Zhenfa”), and its indirect wholly owned subsidiary, Zhen Fa New Energy (U.S.) Co., Ltd., a Nevada corporation (“Zhenfa U.S.”).

Purchase Agreement.

On August 11, 2014, we entered into a Stock Purchase Agreement (the "Purchase Agreement") with Zhenfa U.S., pursuant to which Zhenfa U.S. acquired approximately 51% of our then outstanding shares of common stock on December 15, 2014 (the "Closing Date").

Sales Service Agreement.

In connection with the execution of the Purchase Agreement, Specialized Technology Resources, Inc., our wholly owned subsidiary, entered into a sales service agreement (the "Sales Service Agreement") with Zhenfa, whereby Zhenfa agreed, among other things, to assist us in a number of endeavors, including, without limitation, marketing and selling our products in China, acquiring local raw materials, hiring and training personnel in China, and complying with Chinese law. The Sales Service Agreement became effective on the date of Closing, for an initial term of two years, and automatically renews for one year periods unless terminated earlier. The Sales Service Agreement may also be terminated by either party at such time as Zhenfa and its affiliates own less than 10% of our outstanding common stock.

As we have substantially discontinued operations in China, Zhenfa is not currently providing us with any material services under this agreement. Any activities with Zhenfa under the Sales Service Agreement are subject to the oversight of our Special Committee of Continuing Directors.

Our Plastic Products

Solar Encapsulants. Drawing upon our considerable experience, we develop our solar encapsulant formulations internally and work in conjunction with our customers to meet their varying requirements. Our formulations offer a range of properties and processing attributes that align with the requirements of our customers' lamination processes and module constructions. Our formulations can be used in both crystalline silicon and thin-film modules.

We manufacture our encapsulants using polymer sheet and film extrusion equipment to transform raw materials purchased in the form of pellets, powders and liquids to homogenized formulations made into rolls of sheet and film. We maintain expertise and facilities necessary to formulate and validate products using a variety of raw materials in order to achieve certain physical, chemical, mechanical, barrier, optical and electrical performance characteristics. We believe there is considerable synergy in our understanding of polymeric materials, formulating, testing and processing methods, as it applies to both solar encapsulants and multi-layer barrier films for packaging applications.

Multi-layer Barrier Film Packaging. We have developed and tested various formulations and physical structures of multi-layer films for high-end packaging applications, primarily for perishable foods such as meat, fish, cheese, yogurt, fruit, cereals, snack foods, etc. We expect our multi-layer film products for these applications to be competitive due to their chemical composition and physical structure. Our equipment has been specifically designed to make films that provide the required performance, such as oxygen and water vapor exclusion (barrier), printability, sealability, puncture resistance, clarity, anti-fog capability, etc., at a unit weight lower than many competing films commonly available in the market today. We have designed our products to offer high performance while reducing packaging waste and cost for our customers and end users. We believe our equipment is significantly more configurable than most competitive equipment currently serving the packaging market, and further believe that our competitive advantages as described herein will allow us to attract and retain customers that value locally produced, consistent, high-quality products at very competitive prices. The food packaging business is highly competitive, having market participants with substantially more resources and experience than us. We will be a new entrant in this market and we cannot assure that we will be successful in this new endeavor.

Our Markets and Customers

Our solar customers are module manufacturers located primarily in Asia, Europe and North America. We typically sell our encapsulants on a purchase order basis that specifies price and delivery parameters, but such orders can be cancelled or postponed prior to production. We also provide technical support and assist our customers when they are qualifying solar modules that utilize our products, which can take from two months to more than two years. Historically, our sales strategy has focused on developing long-term relationships with solar module manufacturers and working collaboratively during their product development efforts.

Over the past several years, many of our Western solar customers continued to lose market share to lower-cost Chinese module manufacturers, with many being forced into bankruptcy or exiting the solar business as module production migrated rapidly to Asia, primarily China. We established our own manufacturing plant in China and also engaged tolling manufacturers to augment our capacity there, but in light of the obstacles detailed herein relating to the Chinese market, we conducted an orderly wind down of our China-based manufacturing operations, which was effectively completed as of the end of 2017. Given that our China factory had been manufacturing encapsulants for sale outside of China, increasingly India, we decided to serve the market in India with production through a local tolling partner, Lucent CleanEnergy, in that country.

Lucent CleanEnergy accounted for approximately 32% of our net sales, for the year ended December 31, 2018. Global Wedge, Inc. and Heckert Solar, each accounted for at least 10% of our net sales, and in the aggregate accounted for approximately 33% of our net sales, for the year ended December 31, 2017. Our top five customers accounted for approximately 62% and 49% of our net sales in 2018 and 2017, respectively. The accounts receivable from our top five customers represented 55% and 9% of our accounts receivable balance as of December 31, 2018 and December 31, 2017, respectively.

We expect to begin commercial sales of our packaging products in the second quarter of 2019 to customers primarily located on the Iberian Peninsula. Our prospective customers, with whom we have been developing relationships over the past year, are typically packaging manufacturers who will use our film as a component of a laminated product, such as a flexible foil lid or stand-up pouch, or a packager of perishable food who might use our film as a finished, protective outer layer, or a distributor who would provide our films for such applications to aggregated smaller users.

Our Operations

Facilities and Equipment

We currently operate a production facility in Llanera, Asturias, Spain. This production facility is augmented by our research, development and testing laboratory in Enfield, Connecticut, which is co-located with our corporate headquarters and our U.S. production facility. We have recently completed the installation of a new multi-layer barrier film packaging line in our Spain facility. This line has an approximate annual production capacity of 5,000 metric tonnes (mT).

We currently have total annual solar production capacity of approximately 2.6 GW at our Spain location, approximately 0.5 GW in Connecticut and approximately 1.0 GW in India with our tolling partner.

Certain of our production lines incorporate our proprietary technology and processes. We rely on third-party equipment manufacturers to produce manufacturing lines to our specifications, which we often further customize in-house. Most of our solar production lines are functionally equivalent, having the ability to manufacture all of our formulations and providing us with flexibility in meeting shifting trends in global demand.

On November 1, 2018, we received a non-binding letter of intent from a potential buyer for our Malaysia facility for RM22.5 million (approximately \$5.3 million, after realtor fees, as of December 31, 2018) and subsequently entered into a Purchase and Sale Agreement with JB Cocoa Sdn BHD effective January 10, 2019. The agreement provides that the closing of the sale is subject to various customary and regulatory approvals and conditions, including the

approval of the Johor Port Authority. The agreement further provides that if the conditions to the closing are not met and the closing does not occur within six months either party may terminate the agreement. The sale of the property is part of the Company's focus to reduce its footprint and operating costs and convert underutilized assets to cash. We cannot assure that we will be able to obtain the required approvals and otherwise meet all the conditions to closing on a timely basis, if at all. Moreover, our expected net proceeds from the sale is based upon currency exchange rates as of December 31, 2018, and may be adversely affected in certain circumstances, including without limitation, if the value of the Malaysian ringgit decreases in relation to the U.S. dollar, or if we incur unanticipated expenses in connection with the sale.

Production Process

Our solar encapsulant production process typically begins by mixing EVA or POE pellets with several additives to give the encapsulant its desired properties. The mixture is then melted, homogenized, pressurized and forced through a die to create a "polymer curtain," forming a continuous encapsulant sheet. The sheet then progresses downstream in a proprietary process and is ultimately slit to the desired width, wound into rolls and packaged for shipment to customers.

Our multi-layer barrier film packaging production process similarly entails mixing polymer pellets and additives to achieve the desired properties of the final structure. The mixture for each layer is melted, homogenized and pressurized in several extruders, then forced through a die wherein all layers are joined to create a "polymer bubble", forming a continuous multi-layer film. The bubble progresses upward through a tower and is ultimately collapsed into a flat film, slit to width and wound into rolls.

Our manufacturing quality program is ISO 9001 certified. We have a high level of automation at each of our owned facilities that includes real-time computerized monitoring of the manufacturing process. Such automation provides consistency across our facilities so we can satisfy customer orders at all of our manufacturing locations. In addition, our enterprise resource planning system allows us to efficiently plan our production by location with global, real-time visibility.

We test our products as they are produced and at a high frequency after production. The Quality Department at all of our owned manufacturing facilities and our tolling partner follow our global quality assurance program and has a mandate to disposition products that do not meet required standards.

Raw Materials

Resin is the primary raw material used in our manufacturing processes, accounting for a significant portion of our manufacturing costs. A number of additives as well as roll-packaging materials represent the remainder of our raw material costs.

We have multiple vendors for resin. Our objective has been to carry at least a five-week supply of resin to provide protection against supply interruptions resulting from inclement weather, natural disasters and strikes. The stock is distributed among our production facilities and warehouses so that a disruptive event at one location would not affect our ability to continue production. We have qualified resin suppliers local to each of our manufacturing facilities and continue to pursue qualification of additional resin suppliers.

Seasonal Trends

Our business could be adversely affected by seasonal trends, holiday seasons and weather patterns. See Item 1A,-Risk Factors for more information.

Our Competition

We face intense competition in the solar encapsulant market and have experienced a significant decline in our global market share from approximately 30% in 2010 to less than 1% in 2018. We compete with a number of encapsulant manufacturers, including Bridgestone Corporation, Hangzhou First PV Material Co., Ltd., Mitsui Chemicals Group, Inc. and SK Chemical Ltd. We have also had to compete in the past with upstream plastic resin manufacturers moving into downstream markets. These resin manufacturers have included Dow Chemical Corporation, Dow Corning Corporation and E.I. DuPont De Nemours and Company (“DuPont”). We have also had to compete with other very large conglomerates such as 3M Company. Over the years, various alternative encapsulant materials have been used in solar modules, including POE, PVB and silicone. Many of our competitors are large, global companies with substantially more financial, manufacturing and logistical resources. Also, low-cost solar module manufacturers have emerged in Asia, primarily in China, who compete with our legacy customers in Western markets. As the China solar market matures, additional encapsulant providers from China and the greater Asian markets may compete with us.

Participants in the solar industry, including our customers, are experiencing intense pressure to reduce their costs. In order to remain competitive, we expect to be subject to continuing downward pricing pressures that may negatively impact our net sales and net earnings.

We compete in the solar industry on the basis of various factors, including:

- price;
- product performance, including quality and technology;
- product innovations;
- customer service and technical support; and
- delivery timing and logistics.

The food packaging business is highly competitive, having many market participants with substantially more resources and experience than us, including Asplan and Linpac in Spain. We will be a new entrant in this market with no established customer base. Our success will be based upon our ability to successfully develop new customer relationships with customers that often will have established relationships with other competing vendors. We believe that establishing these relationships will require us to develop and offer high quality products at an attractive price, and be able to timely meet customer qualification requirements, including for fitness-for-use testing and an analysis of food preservation performance in controlled environments. Moreover, we have limited experience in manufacturing and formulating products for the packaging market, and the equipment we purchased to manufacture our packaging products is highly complex. We may therefore, experience unanticipated delays and expenses in connection with our entry into this market. We cannot assure that we will be successful in this new endeavor.

Qualification and Certification

Design certification programs for solar modules measure performance under simulated or advanced environmental conditions. In certifying their solar modules, our customers must qualify the encapsulant utilized within their product. The certification and qualification tests related to solar modules are defined in the following standards: IEC 61215 (crystalline silicon), IEC 61646 (thin-film) and UL 1703.

A successful qualification test program typically means that the tested models/types of solar modules have been subjected to and have passed the minimum requirements of the relevant standards. In addition, many PV module manufacturers often use internal validation tests that are beyond the scope and requirements of IEC and UL. These tests require suppliers to spend more time and investment to become approved suppliers for the module manufacturer's bill of materials. Qualification or certification does not guarantee any performance, but is designed to provide reasonable assurance that the solar modules of the tested model or type will perform reliably under field conditions.

Under guidelines developed by the IEC/TC82/WG2 committee in 2000, modifications to the encapsulation system for solar modules can require retesting of the solar module. Such guidelines call for various retesting if there is any change in the chemistry of the encapsulant used in the solar module.

In our food packaging business, some customers require either certification or progress toward certification and adherence to standards of the British Retail Consortium ("BRC") Global Standard for Food Safety. Certain of these standards require a period of commercial operation during which our procedures are monitored for compliance. We have prepared for and met the requirements for startup and initial production and expect to begin the production monitoring phase of certification, during which time it is permissible to manufacture and sell products to customers, beginning in the second quarter of 2019. Our packaging customers also have qualification requirements, typically accomplished at their premises, including fitness-for-use testing and an analysis of food preservation performance in controlled environments. We have performed some of these qualification tests in advance of our own production by manufacturing samples of our formulations and structures on equipment owned by our machinery vendor, and working with potential customers to make sure our products confirm their requirements, however, we have limited experience in manufacturing and formulating products for the packaging market, and the equipment we purchased to manufacture our packaging products is highly complex. We may, therefore, experience unanticipated delays and difficulties in accomplishing qualification testing and meeting customer requirements. We cannot assure that we will be successful in this new endeavor.

Employees

As of December 31, 2018, we employed approximately 63 people on a full or part-time basis. We maintain a non-unionized workforce, with the exception of some employees in our manufacturing facility in Spain, where unions

are statutory. We have not experienced any significant work stoppages during the past five years.

Executive Officers

The following table sets forth the names and ages, as of March 1, 2018, of our executive officers. The descriptions below include each such person's service as a board member or an executive officer of STR Holdings, Inc. and our predecessor.

Name	Age	Position
Robert S. Yorgensen	55	Chairman, President and Chief Executive Officer
Thomas D. Vitro	58	Vice President, Chief Financial Officer and Chief Accounting Officer

Robert S. Yorgensen. Mr. Yorgensen has been our Chairman since December 2014 and our President and Chief Executive Officer and a director of our board since January 2012. Prior to becoming our Chief Executive Officer, Mr. Yorgensen was Vice President of STR Holdings, Inc., and President of our Solar Division since 2007, and has been employed with us for over 33 years. Mr. Yorgensen has held a variety of positions with us, including Extruded Products Manager and Senior Technical Specialist of Materials RD&E and Specialty Manufacturing, Technical Specialist of Materials RD&E and Specialty Manufacturing and Project Leader of Development Engineering and Specialty Manufacturing. He holds a Bachelor of Technology, Mechanical Engineering degree from the University of Connecticut and an A.S. from Hartford State Technical College.

Thomas D. Vitro. Mr. Vitro has been our Vice President and Chief Financial Officer since December 2015 and is responsible for all finance and accounting functions of the Company. Previously, Mr. Vitro served in various positions with us between 1982 and 2013, most recently as Vice President, Finance from 2009 to 2013. Prior to that, he was the Corporate Controller from 1988 to 2009. Mr. Vitro has a Bachelor of Science in Accountancy from Bentley University and is a Certified Management Accountant.

Intellectual Property

Our intellectual property consists of multiple encapsulant and barrier film formulations, as well as several processes and sub-processes, and our trademarks “STR”, “PhotoCap” and “STR Protected”. As appropriate, we require employees, suppliers and customers to execute confidentiality agreements.

We own a number of trademarks, trade secrets and other intellectual property rights that relate to our products. We typically rely on trade secrets rather than patents to protect our proprietary manufacturing processes, proprietary formulations, methods, documentation and other technology, as well as certain other business information. Patent protection requires a costly and uncertain federal registration process that would place our confidential information in the public domain. While we enter into confidentiality agreements with our employees and third parties to protect our intellectual property rights, such confidentiality provisions related to our trade secrets could be breached and may not provide meaningful protection for our trade secrets. Also, others may independently develop technologies or products that are similar or identical to ours. In such case, our trade secrets would not prevent third parties from competing with us. See Item 1A.-Risk Factors and Item 3.-Legal Proceedings.

We have granted a third party manufacturer of PV modules the right to use the formula for one of our encapsulant products and certain of our production techniques to make or have another party make the encapsulant for use in PV modules manufactured by the third party. The license is exclusive with respect to specified types of PV modules, and nonexclusive as to all other types of PV modules. The third party manufacturer may also sublicense its rights under the technology license agreement to licensees of its PV module manufacturing processes.

Environmental Regulation

We are subject to a variety of environmental, health and safety and pollution-control laws and regulations in the jurisdictions in which we operate. The cost of compliance with these laws and regulations is not material and we do not believe the cost of compliance with these laws and regulations will be material. We use, generate and discharge hazardous substances, chemicals and wastes at some of our facilities in connection with our product development and manufacturing activities. Any failure by us to restrict adequately the discharge of such substances, chemicals or wastes could subject us to potentially significant liabilities, clean-up costs, monetary damages, fines or suspensions in our business operations. In addition, some of our facilities are located on properties with a history of use involving

hazardous substances, chemicals and wastes and may be contaminated. For example, our 10 Water Street, Enfield, Connecticut location was found to contain a presence of volatile organic compounds, and we have removed contaminated soil to remediate these conditions. The estimated remaining cost we expect to pay to monitor the property is approximately \$0.1 million. If we elect to sell, transfer or change the use of the facility, additional environmental testing would be required. We cannot assure that we will not discover further environmental contamination or that we would not be required to incur significant expenditures for environmental remediation in the future.

Available Information

Information regarding us, including corporate governance policies, ethics policies and charters for the committees of the Board of Directors can be found on our internet website at <http://www.strsolar.com> and copies of these documents are available to stockholders, without charge, upon request to Investor Relations, STR Holdings, Inc., 10 Water Street, Enfield, Connecticut 06082. The information contained in our website is not intended to be incorporated into this Form 10-K. In addition, our annual reports on Form 10-K, quarterly reports on Form 10-Q, current reports on Form 8-K and amendments to those reports filed or furnished pursuant to Section 13(a) or 15(d) of the Securities Exchange Act of 1934, as amended (the "Exchange Act") are made available free of charge on our internet website on the same day that we electronically file such material with, or furnish it to, the SEC. These filings are also available to the public from commercial document retrieval services and at the internet website maintained by the SEC at <http://www.sec.gov> that contains reports, proxy and information statements, and other information regarding issuers that file electronically with the SEC.

ITEM 1A. Risk Factors

An investment in our common stock involves a very high degree of risk. You should carefully consider the following risks, as well as the other information in this Annual Report on Form 10-K, before making an investment in us. If any of these risks, or other events that we do not currently anticipate or that we currently deem immaterial, actually occur, our business, results of operations or financial condition may be materially adversely affected. In such an event, the trading price of our common stock could decline and you could lose part or all of your investment.

Risks Related to Our Business

Our auditors have issued a “going concern” audit opinion.

Our independent auditors have indicated in their report on our December 31, 2018 financial statements that there is substantial doubt about our ability to continue as a going concern. This “going concern” opinion indicates that the financial statements have been prepared assuming we will continue as a going concern and do not include any adjustments to reflect the possible future effects on the recoverability and classification of assets, or the amounts and classification of liabilities that may result if planned events do not occur or do not occur timely and we do not continue as a going concern. Therefore, you should not rely on our consolidated balance sheet as an indication of the amount of proceeds that would be available to satisfy claims of creditors, and potentially be available for distribution to stockholders, in the event of liquidation. If we are unable to continue as a going concern we cannot assure that any funds will be available for distribution to stockholders.

We continue to incur substantial losses and cannot assure you that our actions to address our liquidity needs will be successful.

We continue to incur substantial losses. We incurred net losses of \$5.8 million and \$5.1 million for the years ended December 31, 2018 and 2017, respectively. As of December 31, 2018, our principal source of liquidity was \$5.6 million of cash. In addition, our credit facilities are limited to our factoring arrangement in Spain and a €2.0 million economic development loan received in March 2019 from the regional government of Asturias, Spain. Unless and until our operating results improve, we do not expect that we will be able to obtain traditional bank debt or other financing. Furthermore, tight credit in the solar manufacturing industry may delay or prevent our customers from securing funding adequate to operate their businesses and purchase our products and could lead to an increase in our bad debt levels. We have recently entered into an agreement for the sale of our Johor, Malaysia facility for RM22.5 million (approximately \$5.3 million, after realtor fees, as of December 31, 2018). The sale is subject to customary closing conditions, including the timely approval of the sale by the Johor Port Authority, and we cannot assure that we will be able to obtain the requisite approvals or that the sale will take place on a timely basis, if at all. If we do not generate sufficient cash flows from operations or obtain alternative or additional sources of capital to fund operations,

we will not have sufficient liquidity to satisfy operating expenses, capital expenditures and other cash needs. This raises substantial doubt about our ability to continue as a going concern. If we are unable to timely complete the sale of our Malaysia facility, or execute our strategic plans, our liquidity and capital resources will be adversely affected and we may wind down or cease any or all of our operations. Any wind down or dissolution may be a lengthy, complex and costly process and, in such event, there can be no assurance that there will be any funds available for distribution to stockholders.

We currently rely on a single product line for the majority of our net sales.

In 2018 and 2017, we derived the majority of our net sales from solar encapsulant products, for which competition remains intense. For our business to succeed, we believe we will have to successfully launch our packaging initiative. We believe that our failure to successfully launch this new product line would materially and adversely affect our business, financial condition and results of operations.

We cannot assure that we will be able to succeed in our entry into the high-end food packaging business on a timely basis, if at all.

In the fourth quarter of 2017, we initiated a significant investment through our wholly owned subsidiary in Spain to enter the high-end food packaging business. This investment, which leverages our plastics expertise, includes the purchase of new, state-of-the-art plastics processing equipment and related building improvements along with the addition of experienced staff to pursue manufacturing and sales of high-end food packaging products. The food packaging business is highly competitive, having market participants with substantially more resources and experience than us. We will be a new entrant in this market with no established customer base. Our success will be based upon our ability to successfully develop new customer relationships with customers that often will have established relationships with other competing vendors. We believe that establishing these relationships will require us to develop and offer high quality products at an attractive price, and be able to timely meet customer qualification requirements, including for fitness-for-use testing and an analysis of food preservation performance in controlled environments. Moreover, we have limited experience in manufacturing and formulating products for the packaging market, and the equipment we purchased to manufacture our packaging products is highly complex. We may, therefore, experience unanticipated delays and expenses in connection with our entry into this market. We cannot assure that we will be successful in this new endeavor. Our failure to achieve success in this market on a timely basis, if at all, would materially and adversely affect our business, financial condition and results of operations.

Our encapsulant business is dependent upon securing net sales to new customers, growing net sales to existing key customers and increasing our market share.

We estimate that our global market share has declined significantly from approximately 30% in 2010 to less than 1% in 2018. The future success of our encapsulant business depends on our ability to secure net sales to new customers, to grow net sales to existing key customers and to increase our global market share. Over the last few years, we believe our European and North American customers have lost market share to Asian module manufacturers, primarily from China, who continue to dominate the global solar market. In order to be successful in the encapsulant business, we believe that we will need to significantly increase our net sales. Our failure to do so could have a material adverse effect on our business, financial condition and results of operations.

Our business is dependent on a limited number of customers, which may cause significant fluctuations or result in declines in our net sales.

The solar module industry is relatively concentrated, and we expect this concentration to increase with consolidation. As a result, we sell substantially all of our encapsulants to a limited number of solar module manufacturers. We expect that our results of operations will, for the foreseeable future, continue to depend on the sale of encapsulants to a relatively small number of customers. Our tolling partner in India, Lucent CleanEnergy accounted for approximately 32% of our net sales for the year ended December 31, 2018. Global Wedge, Inc. and Heckert Solar, each accounted for at least 10% of our net sales, and in the aggregate accounted for approximately 33% of our net sales for the year ended December 31, 2017. Our top five customers accounted for approximately 62% and 49% of our net sales in 2018 and 2017, respectively. Furthermore, participants in the solar industry, including our customers, are experiencing intense pressure to reduce their costs. Since we are part of the overall supply chain to our customers, any cost pressures experienced by them may affect our business and results of operations. Our customers may not continue to generate net sales for us. Any one of the following events may cause material fluctuations or declines in our net sales and have a material adverse effect on our business, financial condition and results of operations:

- reduction in the price that one or more of our significant customers is willing to pay for our encapsulants;
- reduction, postponement or cancellation of orders from one or more of our significant customers;
- selection by one or more of our customers of products competitive with our encapsulants;
- loss of one or more of our significant customers and failure to obtain additional or replacement customers;
- failure of any of our significant customers to make timely payment for our products, if at all; and

- our failure to meet the production demands of our customers or maintain these customer relationships.

We cannot assure you that our India tolling plan will be successful.

In connection with the orderly wind down of our manufacturing operations in China, we moved production in Asia to a tolling partner in India. We had not worked with our tolling partner in India prior to 2017 and we cannot ensure that the tolling partner will provide us with the support we anticipate or that we can otherwise successfully manage collaboration with our tolling partner. If problems develop in our relationship with our India tolling partner, or if such party fails to perform as expected, it could lead to product defects, manufacturing and shipping delays, significant cost increases, changes in our strategies, and even failure of our initiatives, each of which may have a material adverse effect on our business, financial condition, and results of operations.

In addition, the potential execution risks associated with our India tolling plan include, among other risks: (i) price competition, (ii) customer loyalty to existing suppliers, (iii) the possibility that our tolling partner may not be able to meet production requirements at the quoted price, which may result in loss of customers, reputation and/or business volumes, (iv) political and economic uncertainties, (v) limited recourse under India laws if disputes arise under our agreements with the tolling partner or other third parties, (vi) potential inability to adequately protect our intellectual property under Indian law and (vii) other additional risks generally associated with our business, each of which may have a material adverse effect on our business, financial condition, and results of operations.

Technological changes in the solar energy industry or our failure to develop and introduce or integrate new technologies could render our encapsulants uncompetitive or obsolete, which would adversely affect our business.

The solar energy market is very competitive, rapidly evolving and characterized by continuous improvements in solar modules to increase efficiency and power output and improve aesthetics. This requires us and our customers to invest significant financial resources to develop new products and solar module technology to enhance existing modules to keep pace with evolving industry standards and changing customer requirements and to compete effectively in the future. During the past few years, we engaged in significant cost-reduction actions, including substantial reductions to our research and development and engineering personnel. The reduction of these resources may limit our ability to introduce new products or manufacturing improvements and may put us at a competitive disadvantage, which could negatively impact our ability to increase or maintain our market share and generate net sales, and negatively impact our financial condition, prospects and results of operations. Consequently, our competitors may develop encapsulant products and technologies that perform better or are more cost-effective than our products. This could cause our encapsulants to become uncompetitive or obsolete, which would adversely affect our business, financial condition and results of operations. Product development activities are inherently uncertain, and we could encounter difficulties and increased costs in commercializing new technologies. As a result, our product development expenditures may not produce corresponding benefits.

Moreover, we produce a component utilized in the manufacture of solar modules. New or existing solar technologies that do not require encapsulants as we produce them, or at all, may emerge and/or gain market share. In the event that solar module manufacturers switch from EVA to POE encapsulant products and do not find our POE products competitive, such switch could materially and adversely affect our business, financial condition and results of operations.

Also, manufacturing methods may emerge that could be more advanced or efficient than our current manufacturing capability. Such manufacturing methods could result in competitive products that are more effective and/or are less expensive to produce, resulting in decreased demand for our encapsulants or render them obsolete, which would adversely affect our business, financial condition and results of operations.

Technological changes in the packaging industry or our failure to develop and introduce or integrate new technologies could render our packaging products uncompetitive or obsolete, which would adversely affect our

business.

The packaging market is very competitive, evolving and characterized by continuous improvements and innovations. Our competitors may develop packaging products and technologies that perform better or are more cost-effective than our products. This could cause our packaging products to become uncompetitive or obsolete, which would adversely affect our business, financial condition and results of operations. Also, manufacturing methods may emerge that could be more advanced or efficient than our current manufacturing capability. Such manufacturing methods could result in competitive products that are more effective and/or are less expensive to produce, resulting in decreased demand for our packaging products or render them obsolete, which would adversely affect our business, financial condition and results of operations.

We face competition in our business from other companies producing encapsulants for solar modules and may face competition from upstream plastic resin manufacturers.

The market for encapsulants is highly competitive and continually evolving. We compete with a number of encapsulant manufacturers, many of which are large, global companies with substantially more financial, manufacturing and logistical resources and strong customer relationships. If we fail to attract and retain customers for our current and future products, we will be unable to increase our net sales and market share. Our primary encapsulant competitors include Bridgestone Corporation, Hangzhou First PV Material Co., Ltd., Mitsui Chemicals Group, Inc. and SK Chemical Ltd. We have also had to compete in the past with upstream plastic resin manufacturers moving into downstream markets. These resin manufacturers have included Dow Chemical Corporation, Dow Corning Corporation, E.I. DuPont De Nemours and Company (“DuPont”). We have also had to compete with other very large conglomerates such as 3M Company. We also expect to compete with new entrants to the encapsulant market, including those that may offer more advanced technological solutions or complementary products such as backsheet that possess advanced or more efficient manufacturing capabilities or that have greater financial resources than us. Some solar module manufacturers have encapsulant production capabilities of their own and this trend may broaden with market consolidation. Further, as the China solar market matures, we expect additional encapsulant providers from China and the greater Asian markets to compete with us. Our competitors may develop and produce or may be currently producing encapsulants that offer advantages over our products. A widespread adoption of any of these technologies could result in a rapid decline in our position in the encapsulant market and adversely affect our net sales and margins.

Excess capacity exists from time to time throughout the solar supply chain, often leading to substantial solar module price declines, which in turn cause price to become the predominant factor in the encapsulant procurement process.

Significant excess capacity has periodically existed and may exist again in the future throughout the solar supply chain resulting in a further decrease in selling prices of solar modules. Due to many module manufacturers not producing at full capacity as well as being impacted by pricing pressure, our encapsulants' value proposition has been concomitantly reduced. Our customers and potential customers have been increasingly focused on the purchase price of encapsulants. In light of recent declines in our global market share, it is a priority that we increase our market share through net sales to existing and new customers, however, we cannot assure you that we will be able to do so. In order to remain competitive, we expect to be subject to continuing downward pricing pressures that may negatively impact our net sales and net earnings. In addition, our competitors may reduce the price of their products, which may force us to further reduce the price of our encapsulant products to retain net sales.

If demand for solar energy in general and solar modules in particular does not continue to develop or takes longer to develop than we anticipate, net sales in our business may continue to stagnate or decline, which would negatively affect our financial condition and results of operations.

Our encapsulants are used in the production of solar modules; therefore our financial condition and results of operations and future growth are tied to a significant extent to the overall demand for solar energy and solar modules. The solar energy market is at a relatively early stage of development and the extent to which solar modules will be widely adopted is uncertain. Many factors may affect the viability and widespread adoption of solar energy technology and demand for solar modules, and in turn, our encapsulants, including:

- cost-effectiveness of solar modules compared to conventional and non-solar renewable energy sources and products;

- performance and reliability of solar modules compared to conventional and non-solar renewable energy sources and products;

- availability and amount of government subsidies and incentives to support the development and deployment of solar energy technology;

- rate of adoption of solar energy and other renewable energy generation technologies, such as wind, geothermal and biomass;

- seasonal fluctuations related to economic incentives and weather patterns;

- impact of fiscal issues experienced by governments, primarily in Europe;

fluctuations in economic and market conditions that affect the viability of conventional and non-solar renewable energy sources, such as increases or decreases in the prices of fossil fuels and corn or other biomass materials;

changes in global economic conditions including increases in interest rates and the availability of financing and investment capital that is required to fund solar projects.

fluctuations in capital expenditures by end users of solar modules, which tend to decrease when the overall economy slows down;

the extent to which the electric power and broader energy industries are deregulated to permit broader adoption of solar electricity generation;

- the cost and availability of polysilicon and other key raw materials for the production of solar modules;
- construction of transmission facilities in certain areas to transport new solar electricity;

- saturation in certain markets such as Europe; and

rate of adoption of solar energy in growing solar markets such as the United States, China, India, the Middle East and Africa.

If demand for solar energy and solar modules fails to develop sufficiently along our expectations, demand for our customers' products as well as demand for our encapsulants could decrease, and we may not be able to grow our business or net sales and our financial condition and results of operations may be negatively impacted.

Our relationship with our tolling partner in India is subject to significant political and economic uncertainties.

For as long as we continue to engage a third-party manufacturer located in India to toll for us, we are exposed to certain risks. If the manufacture of our products in India is disrupted, our overall capacity could be significantly reduced and net sales and/or profitability could be negatively impacted. Furthermore, changes in Indian laws and regulations, or their interpretation, or the imposition of confiscatory taxation, restrictions on currency conversion and repatriation, imports and sources of supply, devaluations of currency or the nationalization or other expropriation of private enterprises could have a material adverse effect on our business, results of operations and financial condition.

We may have limited legal recourse under the laws of China if disputes arise under our agreements with third parties.

While we have substantially reduced our asset base and on-going costs in China through the wind down of STR China production operations, disposition of equipment under our insurance policy, sale of surplus equipment to our India tolling partner, relocation to smaller and lower-cost offices, repatriation of approximately \$8.0 million in cash to our accounts in the United States, near-total reduction of our staffing in China, and collection of much of our long-outstanding accounts receivable, we still have a legal entity in China with a small administrative staff primarily focused on the collection of our remaining accounts receivable, some of which we anticipate will take some time to collect.

The Chinese government has enacted certain laws and regulations dealing with matters such as corporate organization and governance, foreign investment, currency control, commerce, taxation and trade. However, their experience in implementing, interpreting and enforcing these laws and regulations is limited, and our ability to enforce commercial claims or to resolve commercial disputes is unpredictable. If disputes arise under our agreements with any other parties doing business in China, including Zhenfa, we face the risk that such party may breach any such agreement or otherwise engage in conduct relating to their relationship with us that could otherwise give rise to liability under U.S. law. The resolution of these matters may be subject to the exercise of considerable discretion by agencies of the Chinese government, and forces unrelated to the legal merits of a particular matter or dispute may influence their

determination. Any rights we may have to specific performance, or to seek an injunction under Chinese law, in either of these cases, may be limited, and without a means of recourse by virtue of the Chinese legal system, we may be unable to prevent these situations from occurring. The occurrence of any such events could have a material adverse effect on our business, financial condition and results of operations.

Our potential inability to adequately protect our intellectual property during the outsource manufacturing of our products in India could negatively impact our performance.

In connection with our tolling manufacturing arrangements, we rely on third-party manufacturers to implement customary manufacturer safeguards onsite, such as the use of confidentiality agreements with employees, to protect our proprietary information and technologies during the manufacturing process. However, these safeguards may not effectively prevent unauthorized use of such information and technical knowhow, or prevent the manufacturers from retaining them. We face risks that our proprietary information may not be afforded the same protection in India as it is in countries with more comprehensive intellectual property laws, and local laws may not provide an adequate remedy in the event of unauthorized disclosure of confidential information. Costly and time-consuming litigation could be necessary to enforce and determine the scope of our proprietary rights in India, and failure to obtain or maintain trade secret protection could adversely affect our competitive business position. In the event that the third-party tolling manufacturers of our proprietary products misappropriate our intellectual property, our business, prospects and financial condition could be materially and adversely affected.

A significant reduction or elimination of government subsidies and economic incentives or a change in government policies that promote the use of solar energy could have a material adverse effect on our business and prospects.

Demand for our encapsulants depends on the continued adoption of solar energy and the resultant demand for solar modules. Demand for our products depends, in large part, on government incentives aimed to promote greater use of solar energy. In many countries in which solar modules are sold, solar energy would not be commercially viable without government incentives. This is because the cost of generating electricity from solar energy may exceed the cost of generating electricity from conventional energy sources in some regions of the world and because the capital investment associated with deploying solar modules may have a long payback period or be difficult to finance, making conventional sources available on the grid without capital investment a more widely accessible option.

The scope of government incentives for solar energy depends, to a large extent, on political and policy developments relating to environmental and energy concerns in a given country that are subject to change, which could lead to a significant reduction in, or a discontinuation of, the support for renewable energy in such country. Federal, state and local governmental bodies in many of our customers' target markets, including Germany, Italy, Spain, the United States, China, France, Japan and South Korea, have provided subsidies and economic incentives in the form of feed-in tariffs, rebates, tax credits and other incentives to end users, distributors, system integrators and manufacturers of solar energy products to promote the use of solar energy and to reduce dependency on other forms of energy. In many cases, the costs of these government subsidy programs are passed on to electricity consumers in the applicable regions. These government economic incentives could be reduced or eliminated earlier than anticipated or changed, which may result in the pull-in of demand from solar module manufacturers due to increased end-user demand being driven by the incentive to purchase a solar system prior to the enactment of the decreased feed-in tariff incentives.

It is our belief that most if not all government solar incentive programs are designed to increase the use of solar energy and are subject to periodic adjustment in light of the rate of installations resulting from the incentive and the economics of solar energy resulting from the price of the installed systems combined with the incentives. As has often happened over the past several years, the rate of incentivized installations has outpaced estimates and the price of solar panels and systems has fallen faster than anticipated. When combined, these dynamics result in a situation where the incentive is more generous than is necessary to drive more installations, and the incentive is subsequently reduced in light of these economics. Adjustments in these incentive programs, which may range from a minor adjustment to a complete shutdown, or in some cases even retroactive action, have resulted in the formation of boom-and-bust cycles within the solar industry.

Some European governments have experienced sovereign debt issues in the past and a risk exists that some of these governments will continue to reduce current subsidies provided for PV installations in conjunction with generally tighter fiscal policies. The European Commission recently eliminated the Minimum Import Price for solar panel imports from China, essentially removing all protections for domestic solar panel manufacturers domiciled in Europe. STR expects the action to increase pressure on the economics of solar module production in Europe, which may further deteriorate our solar customer base in Europe.

Policies relative to solar in China, while generally very supportive, have shifted focus and scope with some regularity over the past few years and may change with little notice again in the future. China is currently the world's largest consumption market for solar panel installations as well as production. The strength or weakness of China's economy may cause their domestic solar policy to shift in a positive or negative manner.

In the United States, recent solar installation growth has been driven by Renewable Portfolio Standards, regulatory mandates to increase production of energy from renewable sources such as wind, solar, biomass and other alternatives to fossil and nuclear electricity generation, and a 30% federal energy Investment Tax Credit (the "ITC") for both residential and commercial solar installation through December 31, 2019. The ITC ratchets down to 26% for 2020, 22% for 2021 and 10% for 2022 and later. The ITC also includes a "commence construction" clause that allows system owners to claim the associated tax credit provided construction began within the period and is finished before 2024. The United States also levied 25% import duties against Chinese solar panels under Section 301 of the Trade Act of

1974 as part of the current trade dispute with China, and 30% duties on all crystalline silicon solar panel imports, regardless of the country of origin under Section 201, in response to a petition from Suniva and SolarWorld. These duties, along with anti-dumping and countervailing duties applying to solar imports from China and Taiwan, as well as the recent Tax Cuts and Jobs Act (TCJA) reduction of the corporate income tax rate to 21%, have resulted in a noticeable spike in investment for solar panel production in the United States. Section 201 duties decline by 5% per year to a floor of 15%, while the Section 301 duties are subject to change without substantial notice as part of trade negotiations with China.

Electric utility companies, or generators of electricity from fossil fuels or other energy sources, could also lobby for changes to the relevant legislation in their markets to protect their revenue streams. Reduced growth in or the reduction, elimination or expiration of duties, government subsidies and economic incentives for solar energy, especially those in our customers' target markets, could cause our net sales to decline and negatively impact our business.

Our financial results may be adversely affected by rising commodity costs.

We are dependent upon certain raw materials, particularly resin, for the manufacture of our products. Resin comprises a significant share of our cost of sales. The prices for certain resins declined slightly in 2018 versus 2017 and also in 2017 versus 2016. However, they have been volatile in the past and if raw material prices increase, our gross margins and results of operations may be materially and adversely affected.

Deterioration of our customers' financial profile may cause additional credit risk on our accounts receivable.

A significant portion of our outstanding accounts receivable is derived from sales to a limited number of customers. The accounts receivable from our top five customers represented 55% and 9% of our accounts receivable balance as of December 31, 2018 and December 31, 2017, respectively. The accounts receivable due from our largest customer was 46% of our accounts receivable balance as of December 31, 2018. During the past several years, many solar module manufacturers became insolvent and the number of days outstanding on accounts receivable has increased significantly industry-wide. For example, in 2016, we recorded bad debt expense of approximately \$1.2 million for China Sunergy Co Ltd. ("CSUN"). We subsequently won a judgment against CSUN in the China courts that was to have enabled us to receive full payment in six equal installments over a three year period, beginning in 2018. Recent China court proceedings have further delayed payments under that judgment, and we cannot assure you that we will be successful in obtaining such payments. Moreover, many solar manufacturing companies continue to face significant liquidity and capital expenditure requirements, and as a result, our customers may have trouble making payments owed to us. If we are unable to collect our accounts receivable, or fail to receive payment of accounts receivable in a timely fashion, our financial condition and results of operations may be negatively affected.

If we are unable to attract, train and retain key personnel, our business may be materially and adversely affected.

Our future success depends, to a significant extent, on our ability to attract, train and retain management, operations and technical personnel. This may be particularly difficult in light of our financial performance. In addition, we have substantially reduced our headcount during the past few years, which limits the resources available to successfully manage and grow our business. The loss of the services of any member of our senior management team or the inability to hire or retain experienced management personnel could adversely affect our ability to execute our business plan and harm our operating results.

In periods of cost reduction, there is a risk that employees may voluntarily leave us to pursue other career opportunities. There is substantial competition for qualified technical personnel for our business, and as a result, we may be unable to continue to attract or retain qualified technical personnel necessary for the development of our business or recruit suitable replacement personnel. If we are unable to attract and retain qualified employees, our business may be materially and adversely affected.

We are dependent on a limited number of suppliers of raw materials for our products. Any interruption in the timely delivery of raw materials could impact our ability to deliver our products to our customers on time which could result in order cancellations and decreased net sales.

We purchase resins, the main component used in our manufacturing process, from a limited number of third-party suppliers. If we fail to develop or maintain our relationships with these suppliers or with our other suppliers, or if the suppliers' facilities are affected by events beyond our control, we may be unable to manufacture our products or our products may be available only for customers in lesser quantities, at a higher cost or after a delay. If we do not increase our sales volumes, which drive our demand for our suppliers' product, we may not procure at volumes sufficient to maintain favorable supplier relationships, which could lead to higher costs, lower quality and lack of availability of raw materials. We may be unable to pass along price increases relating to materials costs to our customers, in which case our gross margins could be adversely affected. In addition, we do not maintain long-term supply contracts with our suppliers. Our inventory of raw materials, including back-up supplies of resin, may not be sufficient in the event of a supply disruption. The failure of a supplier to provide materials and components, or a supplier's failure to provide materials that meet our quality, quantity and cost requirements in a timely manner, could impair our ability to manufacture our products to specifications, particularly if we are unable to obtain these materials and components from alternative sources on a timely basis or on commercially reasonable terms. If we are forced to change suppliers, our customers may require us to undertake testing to ensure that our products meet their specifications.

Problems with product quality or product performance, including defects, could result in a decrease in customers and net sales, unexpected expenses and loss of market share.

Products as complex as ours may contain undetected defects, especially when first introduced. For example, our products may contain defects that are not detected until after they are shipped or are used because we cannot test for all possible scenarios that may arise in our customers' manufacturing processes. These defects could cause us to incur significant costs, including costs to service or replace products, divert the attention of our engineering personnel from product development efforts and significantly affect our customer relationships and business reputation. If we deliver products with defects or if there is a perception that our products contain errors or defects, our credibility and the market acceptance and sales of our products could materially decline. In addition, we could be subject to product liability claims and could experience increased costs and expenses related to significant product liability claims or other legal judgments against us, or a widespread product recall by us or a solar module manufacturer.

We may in some cases provide a short-term warranty that we have manufactured our products to our specifications. On limited occasions, we incur costs to service our products in connection with specific product performance matters that do not meet our manufacturing specifications. Also, in isolated occasions, we have offered limited short-term performance warranties relating to our encapsulants not causing module power loss. This type of arrangement may increase or decrease in 2019. If we were to ever receive a warranty claim for such matter, we would assess the need for a warranty accrual at that time.

Minor deviations in the manufacturing process can cause substantial decreases in yield and, in some cases, cause production to be suspended. We have from time to time experienced lower-than-anticipated manufacturing yields. This typically occurs during the production of new products or during the installation and start-up of new process technologies or equipment. If we do not achieve planned yields, our cost of sales could increase, and product availability could decrease resulting in lower net sales than expected.

Regulatory changes could impact demand for our products.

Changes to existing regulations and capacity in the utility sector and the solar energy industry may present technical, regulatory and economic barriers to the purchase and use of solar modules, which in turn may significantly reduce demand for our products.

The market for power generation products is heavily influenced by government regulations and policies concerning the electric utility industry, as well as the internal policies of electric utility companies. These regulations and policies often relate to electricity pricing and technical interconnection of end-user-owned power generation. In a number of countries, these regulations and policies are being modified and may continue to be modified. End users' purchases of alternative energy sources, including solar modules, could be deterred by these regulations and policies. For example,

utility companies sometimes charge fees to larger, industrial customers for disconnecting from the electricity transmission grid or relying on the electricity transmission grid for back-up purposes. Such fees could increase the costs of using solar modules, which may lead to reduced demand for solar modules and, in turn, our encapsulants.

We anticipate that solar modules and their installation will continue to be subject to oversight and regulation in accordance with national and local ordinances relating to building codes, safety, environmental protection, utility interconnection, metering and related matters in various countries. New or revised government regulations or utility policies pertaining to solar modules may result in significant additional expenses to our customers, and their distributors and end users, which could cause a significant reduction in demand for solar modules and, in turn, our encapsulants.

The adoption of solar energy in most parts of the world will be dependent on the capacity of applicable electricity transmission grids to instantaneously accept and distribute the increased volume of electricity to end-users. For example, some countries may implement curtailment policies that limit solar electricity purchases based on transmission congestion or lack of incremental demand in excess of baseload supply, which may be cheaper for utilities to produce and much more difficult to modulate. The lack of available capacity on the transmission grid could substantially impact the adoption of solar energy, which could cause a significant reduction in demand for solar modules and, in turn, our encapsulants.

Similarly, changes to existing or new regulations to food packaging and the use of plastics in particular may require changes in our approach to the high-end food packaging market, including, changes to the design of our products, the use of certain materials within those products and customer demand.

Regulations currently exist, particularly in the European Union, to reduce the amount of plastics in the waste stream. The Company's multi-layer film products, though not specifically falling under the scope of these regulations, could be targeted in the future, which could result in reduced demand for our products as they currently exist.

We typically rely upon trade secrets and contractual restrictions, rather than patents, to protect our proprietary rights. Failure to protect our intellectual property rights may undermine our competitive position and protecting our rights or defending against third-party allegations of infringement may be costly.

Protection of proprietary processes, methods, documentation and other technology is critical to our business. Failure to protect, monitor and control the use of our intellectual property rights could cause us to lose our ability to compete and to incur significant expenses. We typically rely on trade secrets, trademarks and contractual restrictions to protect our intellectual property rights. However, the measures we take to protect our trade secrets and other intellectual property rights may be insufficient. While we enter into confidentiality agreements with our employees and third parties to protect our intellectual property rights, such confidentiality provisions related to our trade secrets could be breached and may not provide meaningful protection for our trade secrets. Also, others may independently develop technologies or products that are similar or identical to ours. In such case, our trade secrets would not prevent third parties from competing with us.

Third parties or employees may infringe or misappropriate our proprietary technologies or other intellectual property rights, which could harm our business and operating results. Policing unauthorized use of intellectual property rights can be difficult and expensive, and adequate remedies may not be available.

The sales cycle for our products can be lengthy and may result in uncertainty and delays in generating net sales.

The integration and testing of our encapsulants with prospective customers' solar modules or enhancements to existing customers' solar modules requires a substantial amount of time and resources. A customer may need up to one year and in some cases even longer, to test, evaluate and adopt our encapsulants and qualify a new solar module before ordering our encapsulants. Our customers then need additional time to begin volume production of solar modules that incorporate our encapsulants. As a result, the complete sales cycle for our encapsulants can be lengthy. We may experience a significant delay between the time we increase our expenditures for product development, sales and marketing efforts and raw materials inventory and the time we generate net sales, if any, from these expenditures.

In the case of our high-end food packaging customers, some require either certification or progress toward certification and adherence to standards of the British Retail Consortium (“BRC”) Global Standard for Food Safety. Certain of these standards require a period of commercial operation during which our procedures are monitored for compliance. Our packaging customers also have qualification requirements, typically accomplished at their premises, including fitness-for-use testing and an analysis of food preservation performance in controlled environments. We expect the sales cycle for our high-end food packaging products to include a typical customer qualification period of between two weeks to eight weeks.

As a supplier to solar module manufacturers, disruptions in any other component of the supply chain to solar module manufacturers may adversely affect our customers and consequently limit the growth of our business and net sales.

We supply a component to solar module manufacturers. If there are disruptions in any other area of the supply chain for solar module manufacturers, it could affect the overall demand for our encapsulants, which in turn would adversely affect our net sales.

We generally operate on a purchase order basis with our customers, and their ability to cancel, reduce, or postpone orders could reduce our net sales and increase our costs.

Net sales to our customers are typically made through non-exclusive, short-term purchase order arrangements that specify prices and delivery parameters. The timing of placing these orders and the amounts of these orders are at our customers’ discretion. Customers may cancel, reduce or postpone purchase orders with us prior to production on relatively short notice. If customers cancel, reduce or postpone existing orders or fail to make anticipated orders, it could result in the delay or loss of anticipated net sales, which could lead to excess raw materials inventory and unabsorbed overhead costs. Because our encapsulants have a limited shelf life from the time they are produced until they are incorporated into a solar module, we may be required to sell any excess inventory at a reduced price, or we may not be able to sell it at all and incur an inventory write-off, which could reduce our net sales and increase our costs.

Our substantial international operations and activities in emerging markets subject us to a number of risks.

Of our total net sales, approximately 79% and 98% were generated from outside the United States in each of the years ended December 31, 2018 and 2017. Our international operations are subject to a number of risks that could have a material adverse effect on our business, financial condition, results of operations or cash flow, including:

- a module manufacturer's unwillingness to purchase from foreign-owned companies;
- difficulty in enforcing agreements in foreign legal systems and in the collection of trade accounts receivable;

foreign countries may impose additional withholding taxes or otherwise tax our foreign income, impose tariffs or adopt other restrictions on foreign trade and investment, including currency exchange controls;

- protectionist laws and business practices that favor local companies;
- difficulties in securing, servicing and increasing net sales to foreign customers;
- potentially adverse tax consequences;

fluctuations in exchange rates may affect product demand and may adversely affect our profitability in U.S. dollars;

potential noncompliance with a wide variety of laws and regulations, including the U.S. Foreign Corrupt Practices Act of 1977, the Office of Foreign Assets Control and similar non-U.S. laws and regulations;

operations in parts of the world where strict compliance with anti-bribery laws may conflict with local practices and customs;

inability to obtain, maintain or enforce intellectual property rights and otherwise protect against clone or "knock off" products;

- labor strikes, especially those affecting transportation and shipping;
- risk of nationalization of private enterprises;

changes in general economic and political conditions in the countries in which we operate, including changes in the government incentives on which our module manufacturing customers and their customers rely;

- multiple, conflicting and unexpected adverse changes in foreign laws or regulatory requirements, including those with respect to local content rules, environmental protection, export duties, import duties and quotas;

disruptions in our business operations or damage to strategic assets that may not be recoverable from applicable insurance policies caused by potential unfavorable weather patterns in certain locations of the world including, but not limited to, nor'easters, blizzards, earthquakes, typhoons and hurricanes;

- terrorist attacks and acts of violence or war;

difficulty with developing staffing and simultaneously managing widespread operations as a result of, among other things, distance, language and cultural differences; and

difficulty of and costs relating to compliance with the different commercial and legal requirements of the international markets in which we operate.

Our dramatically scaled-back China entity is subject to national, regional and local regulation. The regulatory environment in China is evolving, and officials in the Chinese government exercise broad discretion in deciding how to interpret and apply regulations. It is possible that the Chinese government's current or future interpretation and application of existing or new regulations will negatively impact our China entity, result in regulatory investigations or lead to fines or penalties.

Additionally, our operations in India will require us to comply with local laws and regulatory requirements, which are complex and of which we may not always be aware, and may expose us to foreign currency exchange rate risk. Our Indian operations may also subject us to trade restrictions, reduced or inadequate protection for intellectual property rights, security breaches and other factors that may adversely affect our business. Negative developments in any of these areas could increase our costs of operations or otherwise harm our business.

We may be subject to claims that we have infringed, misappropriated or otherwise violated the patent or other intellectual property rights of a third party. The outcome of any such claims is uncertain and any unfavorable result could adversely affect our business, financial condition and results of operations.

We may be subject to claims by third parties that we have infringed, misappropriated or otherwise violated their intellectual property rights. These claims may be costly to defend, and we may ultimately be unsuccessful. An adverse determination in any such litigation could subject us to significant liability to third parties (potentially including treble damages), require us to seek licenses from third parties (which may not be available on reasonable terms, or at all), make substantial one-time or ongoing royalty payments, redesign our products or subject us to temporary or permanent injunctions prohibiting the manufacture and sale of our products, the use of our technologies or the conduct of our business. Protracted litigation could also result in our customers or potential customers deferring or limiting their purchase or use of our products until resolution of such litigation. In addition, we may have no insurance coverage in connection with such litigation and may have to bear all costs arising from any such litigation to the extent we are unable to recover them from other parties. Any of these outcomes could have a material adverse effect on our business, financial condition and results of operations.

Our business could be adversely affected by seasonal trends, incentive policy changes and construction cycles.

We may be subject to industry-specific seasonal fluctuations in the future, particularly in climates that experience colder weather during the winter months. There are various reasons for periodic fluctuations, mostly related to economic incentives and weather patterns. A change in government incentives may result in the pull-in of demand from solar module manufacturers due to increased end-user demand driven by the incentive to purchase a solar system prior to the enactment of the decreased feed-in tariff. As a result, we may see atypical net sales during one reporting period as compared to another. In addition, our Spanish operation tends to have lower net sales during the third quarter of the year due to the European summer vacation, which occurs in August. Our net sales are also typically lower in December, as module manufacturers often defer purchases of our encapsulants to the next calendar year due to reduced consumption during the holiday period and the desire to reduce year-end inventory. Solar module customers

will sometimes make purchasing decisions toward the end of the year in order to take advantage of tax credits or for budgetary reasons. In addition, construction activity is typically slower in colder months, especially in light of dangerous or difficult conditions brought about by ice and snow and frozen ground.

Fluctuations in exchange rates could have an adverse effect on our results of operations, even if our underlying business results improve or remain steady.

Our reporting currency is the U.S. dollar, and we are exposed to foreign exchange rate risk because a significant portion of our net sales and costs are currently denominated in foreign currencies, primarily euros and to a lesser extent Indian rupee and Chinese renminbi, which we convert to U.S. dollars for financial reporting purposes. We currently do not engage in any hedging activities with respect to currency fluctuations. Changes in exchange rates on the translation of the earnings in foreign currencies into U.S. dollars are directly reflected in our financial results. To the extent the value of the U.S. dollar increases against these foreign currencies and our prices do not offset such increase, it will negatively impact our net sales, even if our results of operations have improved or remained steady. While the currency of our net sales and costs is generally matched, to the extent our costs and net sales are not denominated in the same currency for a particular location, we could experience further exposure to foreign currency fluctuations. We cannot predict the impact of future exchange rate fluctuations on our results of operations and may incur net foreign currency losses in the future.

We are a holding company with no business operations of our own and depend on our subsidiaries for cash.

We are a holding company with no significant business operations of our own. Our operations are conducted through our subsidiaries. Dividends from, and cash generated by, our subsidiaries are our principal sources of cash to repay any future indebtedness, fund operations and pay any stockholder dividends. Accordingly, our ability to repay any indebtedness, fund operations and pay any dividends to our stockholders is dependent on the earnings and the distributions of funds from our subsidiaries.

Compliance with environmental and health and safety regulations can be expensive, and noncompliance with these regulations may result in adverse publicity, potentially significant liabilities, monetary damages and fines.

We are required to comply with federal, state, local and foreign laws and regulations regarding protection of the environment and health and safety. If more stringent laws and regulations are adopted in the future, the costs of compliance with these new laws and regulations could be substantial. If we do not comply with such present or future laws and regulations or related permits, we may be required to pay substantial fines, suspend production or cease operations. We use, generate and discharge hazardous substances, chemicals and wastes in our product development and manufacturing activities. In addition, some of our facilities are located on properties with a history of use involving hazardous substances, chemicals and wastes and may be contaminated. We have performed environmental investigations and remediation activities at our 10 Water Street, Enfield, Connecticut location. During our investigations, the Enfield site was found to contain the presence of various contaminants. Any failure by us to control the use of, to remediate the presence of, or to restrict adequately the discharge of, such substances, chemicals or wastes could subject us to potentially significant liabilities, clean-up costs, monetary damages, fines or suspensions in our business operations. See Item 1,-Business,-Environmental Regulation. We cannot assure that we will not discover further environmental contamination or that we would not be required to incur significant expenditures for environmental remediation in the future.

We may undertake acquisitions, investments, joint ventures or other strategic alliances, which may have a material adverse effect on our ability to manage our business, and such undertakings may be unsuccessful.

Acquisitions, joint ventures and strategic alliances may expose us to new operational, regulatory, market and geographic risks as well as risks associated with additional capital requirements.

These risks include, among other things:

- our inability to integrate new operations, personnel, products, services and technologies;
- unforeseen or hidden liabilities, including exposure to lawsuits associated with newly acquired companies;
 - the diversion of resources from our existing business;
 - disagreement with joint venture or strategic alliance partners;
 - contravention of regulations governing cross-border investment;

failure to comply with laws and regulations, as well as industry or technical standards of the overseas markets into which we expand;

our inability to generate sufficient net sales to offset the costs and expenses of acquisitions, strategic investments, joint ventures or other strategic alliances;

- potential loss of, or harm to, employee or customer relationships;
- diversion of our management's time; and
- disagreements as to whether opportunities belong to us or the joint venture.

Any of these events could disrupt our ability to manage our business, which in turn could have a material adverse effect on our financial condition and results of operations. Such risks could also result in our failure to derive the intended benefits of the acquisitions, strategic investments, joint ventures or strategic alliances, and we may be unable to recover our investment in such initiatives.

Unanticipated changes in our tax provisions, the adoption of a new U.S. tax legislation, or exposure to additional income tax liabilities could affect our financial results.

We are subject to income taxes in the United States and the foreign jurisdictions in which we operate. Our tax liabilities are affected by the amounts we charge for intercompany transactions. We are subject to potential tax examinations in these various jurisdictions. Tax authorities may disagree with our intercompany charges, cross-jurisdictional transfer pricing or other tax positions and assess additional taxes. We regularly assess the likely outcomes of these examinations in order to determine the appropriateness of our tax provision in accordance with ASC 740, Income Taxes. However, there can be no assurance that we will accurately predict the outcomes of these potential examinations, and the amounts ultimately paid upon resolution of examinations could be materially different from the amounts previously included in our income tax expense and therefore, could have a material impact on our tax provision, net earnings, and cash flows. In addition, our future effective tax rate could be adversely affected by changes to our operating structure, changes in the mix of earnings, changes in the valuation of deferred tax assets and liabilities, changes in tax laws, and the discovery of new information in the course of our tax return preparation process.

We have received financial incentives from government bodies in certain foreign jurisdictions that are based on the maintenance of various requirements. If such requirements are not maintained, we may lose the financial incentives, which could negatively impact our results of operations and financial condition.

We have received financial incentives from government entities in certain foreign jurisdictions based on the maintenance of various requirements. For example, our Spanish subsidiary received grants for solar encapsulant production equipment that required us to maintain a specific level of employment and use of assets. All applicable requirements have expired as of June 30, 2016. Should the Company exit its investment in Spain, conditions of certain financial incentives could be audited and if found to be non-compliant, the Company could be required to refund a portion of previously granted incentives, which could negatively impact our results of operations and financial condition.

The loan that we have obtained from the Spanish regional government in support of our high-end packaging business includes restrictions on our ability to move cash to our accounts in the United States or elsewhere without prior approval of the SRP.

Zhenfa's ownership of a significant portion of our outstanding common stock may expose us to greater regulatory scrutiny.

At various times during recent years, the governments of the United States and China have had disagreements over political and economic issues. Controversies may arise in the future between these two countries. Any political or

trade controversies between the United States and China could adversely affect our ability to successfully conduct our business in China, the market price of our common stock and our ability to access the capital markets in the United States. Also, as a result of recent controversies involving Chinese controlled companies, it is possible that such companies have come under increased scrutiny in the United States and other countries. If we become subject to enhanced regulatory review and oversight, responding to such review and oversight may be expensive and time consuming and may have a material adverse effect on our operations, even if we otherwise have complied with all legal and regulatory requirements.

Certain of our directors and officers may be located outside of the United States.

Certain of our directors and officers are not United States citizens or may reside outside of the United States. It may not be possible for our stockholders to effect service of process upon such directors and officers within the United States, to bring action against such directors or officers or to enforce against such directors or officers court judgments based on the civil liabilities provisions of the federal securities laws of the United States. Further, it is unclear if extradition treaties now in effect between the United States and China (and, for that matter, any other country that one of our directors or officers may be a citizen of or reside in) would permit effective enforcement of criminal penalties against our directors outside of the United States under the United States Federal securities laws or otherwise.

Risks Related to Our Indebtedness

We may not be able to generate sufficient cash flow to service our indebtedness and other obligations and liquidity needs.

On March 13, 2019, our wholly owned Spanish subsidiary, Specialized Technology Resources España S.A.U. (“STR Spain”) obtained a €2.0 million (approximately \$2.3 million as of December 31, 2018) loan (the “STR Spain Loan”) from the Regional Promotion Society (“SRP”), an agency of the government of Asturias, Spain. STR Spain is required to use the loan proceeds to help finance the launch and operation of its food packaging business. In connection with this loan, we have also agreed to provide STR Spain with resources to support the STR Spain Loan and the continuity of the packaging initiative. STR Spain also has a factoring agreement to sell, with recourse, certain European, U.S. and other foreign company-based receivables. As of December 31, 2018, €0.3 million (approximately \$0.4 million as of December 31, 2018) was outstanding under the factoring agreement. Our business may not be able to generate sufficient cash flow from operations, and unless our results improve, we do not expect that future borrowings will be available to us in amounts sufficient to enable us to pay our indebtedness and to fund our other obligations and liquidity needs.

Our outstanding indebtedness contain covenants that limit our operating flexibility, and could adversely affect our operations and financial results and prevent us from fulfilling our obligations.

The STR Spain Loan contains covenants that limit the operating flexibility of STR Spain, and prohibit STR Spain from making distributions to us, as sole shareholder, without the prior approval of the lender. These covenants may, among other things,

- make it more difficult for us to satisfy our obligations;
- increase our vulnerability to general adverse economic and industry conditions;

limit our flexibility in planning for, or reacting to, changes in our business and the markets in which we participate;

- place us at a competitive disadvantage compared to our competitors that have less debt;

limit our ability to borrow additional funds for working capital, capital expenditures, expansion efforts, strategic transactions or other general corporate purposes;

- place us at a competitive disadvantage compared to our competitors;
- make certain investments; or
- sell or otherwise transfer or dispose of our packaging assets.

If there were an event of default under the STR Spain Loan, the lender could cause all amounts outstanding with respect to that debt to be due and payable immediately. Our assets or cash flow may not be sufficient to fully repay borrowings under the STR Spain Loan if accelerated upon an event of default, and there is no assurance that we would be able to repay, refinance or restructure the payments on such debt.

Our indebtedness is subject to floating interest rates, which may expose us to higher interest payments.

As of the date of this report, all of our indebtedness is subject to floating interest rates, which makes us more vulnerable to changes in prevailing interest rates. A significant increase in prevailing rates of interest could materially

and adversely affect our business, financial condition and results of operations.

Risks Related to Owning Our Common Stock

We currently have fewer than 300 stockholders of record and, therefore, are eligible to terminate the registration of our common stock under the Exchange Act.

As a public company with fewer than 300 stockholders of record, we currently register our shares of common stock under the Exchange Act, on a voluntary basis. Section 12(g)(4) of the Exchange Act allows for the registration of any class of securities to be terminated 90 days after a company files a certification with the SEC that the number of holders of record of such class of security is fewer than 300 persons. Upon the effectiveness of the termination of registration under Section 12, we would not be required to comply with certain disclosure requirements under the Exchange Act, including, but not limited to, proxy statement filings and filings by insiders to disclose the acquisition and disposition of our securities. In addition, upon the filing of the certification with the SEC, our obligation to file annual, quarterly and current reports under Section 12(g) of the Exchange Act would be immediately suspended. If we cease filing periodic and current reports for any reason, investors would have limited access to information about our business, which may reduce the value of our common stock and also affect your ability to sell our common stock.

Our common stock is traded on the OTCQB Market which could limit the liquidity of our common stock, and hinder our ability to raise additional capital as well as having other negative results.

We are quoted on the OTCQB marketplace under the symbol “STRI.” Stocks traded on the OTCQB marketplace generally have a more limited trading volume and exhibit a wider spread between the bid/ask quotations than stock traded on national exchanges. Many institutional investors have investment policies that prohibit them from trading in stocks on the OTCQB marketplace. The OTCQB marketplace affords our stockholders fewer corporate governance protections than if we were listed on a national exchange, such as requirements concerning the independence of our board of directors. As a result, we and our investors could face adverse consequences, including:

- limited availability of market quotations for our securities;
- reduced liquidity for our securities;
- increased volatility in the market price and trading volume for our securities;
- a limited amount of news and analyst coverage; and
- a decreased ability to issue additional securities or obtain additional financing in the future.

Our common stock is classified as a “penny stock” and trading of our shares may be restricted by the SEC’s penny stock regulations.

Rules 15g-1 through 15g-9 promulgated under the Securities Exchange Act of 1934, as amended (the “Exchange Act”), impose sales practice and disclosure requirements on certain brokers-dealers who engage in transactions involving a “penny stock.” The SEC has adopted regulations which generally define “penny stock” to be any equity security that has a market price of less than \$5.00 per share or an exercise price of less than \$5.00 per share, other than securities registered on certain national securities exchanges, provided that current price and volume information with respect to transactions in such securities is provided by the exchange or system. Our common stock is covered by the penny stock rules, which impose additional sales practice requirements on broker-dealers who sell to persons other than established customers and “accredited investors.” The penny stock rules require a broker-dealer, prior to a transaction in a penny stock not otherwise exempt from the rules, to deliver a standardized risk disclosure document in a form prepared by the SEC which provides information about penny stocks and the nature and level of risks in the penny stock market. The broker-dealer also must provide the customer with current bid and offer quotations for the penny stock, the compensation of the broker-dealer and its salesperson in the transaction, and monthly account statements showing the market value of each penny stock held in the customer’s account. In addition, the penny stock rules require that, prior to a transaction in a penny stock that is not otherwise exempt, the broker-dealer must make a special written determination that the penny stock is a suitable investment for the purchaser and receive the purchaser’s written

agreement to the transaction. These disclosure requirements may have the effect of reducing the level of trading activity in the secondary market for stock that is subject to these penny stock rules. Consequently, these penny stock rules may affect the ability of broker-dealers to trade our securities. We believe that the penny stock rules may discourage investor interest in and limit the marketability of our common shares.

We expect that our stock price may continue to fluctuate significantly, which could cause the value of your investment to decline, and you may not be able to sell your shares at or above your purchase price.

Over the past few years the market prices of many companies in the solar industry have been extremely volatile. This market volatility, as well as general economic, market or political conditions, could reduce the market price of our common stock regardless of our operating performance. The trading price of our common stock is likely to continue to be volatile and subject to wide price fluctuations in response to various factors, including:

- actual or anticipated fluctuations in our financial and operating results, including our cash balance;
 - market conditions in the broader stock market;
 - potential short selling interest in our common stock;
 - the amount of public float that trades regularly;

- introduction of new products by us or our competitors;
- issuance of new or changed securities analysts' reports or recommendations;
- investor perceptions of us and the solar energy industry;
- sales, or anticipated sales, of large blocks of our stock;
- potential action of corporate raiders or other potential acquirers of us if our stock price is undervalued;
 - additions or departures of key personnel;
 - regulatory or political developments;
 - litigation and governmental investigations; and
 - changing economic conditions.

These and other factors may cause the market price and demand for our common stock to fluctuate substantially, which may limit or prevent investors from readily selling their shares of common stock and may otherwise negatively affect the liquidity of our common stock. In addition, in the past, when the market price of a stock has been volatile, holders of that stock have sometimes instituted securities class action litigation against the company that issued the stock or have become activist stockholders. If any of our stockholders brings a lawsuit against us, or becomes active with demands, we could incur substantial costs defending the lawsuit and responding to various requests. These events clearly could also divert the time and attention of our management from our business, which could significantly harm our profitability and reputation.

As a public company, we are subject to financial and other reporting and corporate governance requirements that may be difficult for us to satisfy.

We are required to file with the SEC annual and quarterly information and other reports that are specified in Section 13 of the Exchange Act. We are required to ensure that we have the ability to prepare financial statements that are fully compliant with all SEC reporting requirements on a timely basis. We are also subject to other reporting and corporate governance requirements and certain provisions of the Sarbanes-Oxley Act of 2002 and the regulations promulgated thereunder, which impose significant compliance obligations upon us. If we fail to maintain the requirements with respect to our internal accounting and audit functions, our ability to report our operating results on a

timely and accurate basis could be negatively affected.

We have implemented the standards required by Section 404 of the Sarbanes-Oxley Act of 2002 (“Section 404”), and failure to maintain effective internal control over financial reporting in accordance with Section 404 could have a material adverse effect on us.

We have documented and tested our internal control procedures to satisfy the requirements of Section 404, which requires an annual management assessment of the effectiveness of our internal control over financial reporting. If we are unable to maintain adequate internal control over financial reporting, we may be unable to report our financial information on a timely basis and may suffer adverse regulatory consequences or violations of applicable stock exchange listing rules. There could also be a negative reaction in the financial markets due to a loss of investor confidence in us and the reliability of our financial statements.

If a substantial number of shares are sold in a short period of time, the market price of our common stock could decline.

If our stockholders sell substantial amounts of our common stock in the public market, the market price of our common stock could decrease significantly. The perception in the public market that such stockholders might sell shares of common stock could also depress the market price of our common stock. As of February 28, 2019, we had 20,152,029 shares of our common stock outstanding, some of which are owned by our directors, executive officers and affiliates. Subject to vesting requirements, these shares are eligible for sale in the public market. A decline in the price of shares of our common stock might impede our ability to raise capital through the issuance of additional shares of our common stock or other equity securities.

If securities or industry analysts do not publish research or reports about our business, if they adversely change their recommendations regarding our stock or if our results of operations do not meet their expectations, our stock price and trading volume could decline.

The trading market for our common stock may be influenced by the research and reports that industry or securities analysts publish about us or our business. If one or more of these analysts fail to publish reports on us regularly, we could lose visibility in the financial markets, which in turn could cause our stock price or trading volume to decline. Moreover, if one or more analysts downgrade our stock, or if our results of operations do not meet their expectations, our stock price could decline.

Some provisions of Delaware law and our certificate of incorporation and bylaws may deter third parties from acquiring us and diminish the value of our common stock.

Our certificate of incorporation and bylaws provide for, among other things:

• restrictions on the ability of our stockholders to call a special meeting and the business that can be conducted at such meeting;

- restrictions on the ability of our stockholders to remove a director or fill a vacancy on the Board of Directors;

• our ability to issue preferred stock with terms that the Board of Directors may determine, without stockholder approval;

- the absence of cumulative voting in the election of directors;

• a prohibition of action by written consent of stockholders unless such action is recommended by all directors then in office; and

- advance notice requirements for stockholder proposals and nominations.

These provisions in our certificate of incorporation and bylaws may discourage, delay or prevent a transaction involving a change of control of us that is in the best interest of our minority stockholders. Even in the absence of a takeover attempt, the existence of these provisions may adversely affect the prevailing market price of our common stock if they are viewed as discouraging future takeover attempts.

Zhenfa beneficially owns a significant interest in our common stock. As a result, it is able to exert significant influence over us, and Zhenfa's interests may conflict with the interests of our other stockholders.

Based solely upon filings made by Zhenfa with the SEC, Zhenfa controls approximately 46% of the voting power of our common stock as of December 31, 2018 and is able to exert substantial influence over us, including the election of our directors and most matters requiring board or stockholder approval, including business strategies, mergers, business combinations, acquisitions or dispositions of significant assets, issuances of common stock, incurrence of debt or other financing and the payment of dividends. A controlling or significant stockholder may have the effect of making it difficult for a third party to seek, or may discourage or delay a third party from seeking, to acquire a majority of our outstanding common stock, which could adversely affect the market price of our stock. Zhenfa maintains separate business operations from us. As a result, Zhenfa's interests may not always be consistent with the interests of our other stockholders. To the extent that conflicts of interest may arise among us, Zhenfa and its affiliates, those conflicts may be resolved in a manner adverse to our other stockholders.

ITEM 1B. Unresolved Staff Comments

Not applicable.

ITEM 2. Properties

Our principal executive offices are located at 10 Water Street, Enfield, Connecticut, 06082. This facility also headquarters our research and development function and has manufacturing capacity. Our other facilities are principally manufacturing facilities.

The following table summarizes information regarding our significant owned facilities as of December 31, 2018:

Location	Square Feet	Owned/Leased	Manufacturing Status
Johor, Malaysia*	142,270	Owned	Idle
Asturias, Spain	105,000	Owned	Active
Enfield, Connecticut	69,500	Owned	Active

* Subject to sale pursuant to a pending Purchase and Sale Agreement

From time to time, we evaluate our production requirements and may close or consolidate existing facilities or open new facilities.

ITEM 3. Legal Proceedings

From time to time, we are and have been a party to litigation that arises in the ordinary course of our business.

In October 2016, a complaint was filed by Solaria Energia y Medio Ambiente S.A. (“Solaria”) against the Company and its Spanish subsidiary, STR Spain, in the Court of the First Instance No. 8 in Oviedo, Spain, relating to a product quality claim in connection with a non-encapsulant product that STR Spain purchased from a vendor in 2005 and 2006 and resold to Solaria. The Company stopped selling this product in 2006. Solaria was seeking approximately €3.3 million (approximately \$3.8 million as of December 31, 2018), plus interest, in damages. A trial was held on April 6, 2017, in Oviedo, Asturias, Spain. On January 9, 2019, the judge issued a ruling dismissing Solaria’s case, and the appeal period ended on February 8, 2019 with no appeal filed. The Company now considers the matter closed.

In 2016, the Company filed suit against CEEG (Nanjing) Renewable Energy Co., Ltd. (“NRE”), the parent company of our former customer CSUN in Nanjing Jiangning District People’s Court, China (the “Nanjing Court”). In a hearing held on August 10, 2016, the Nanjing Court found NRE delinquent in making payment against bona fide invoices dating back to April 2015 and ordered NRE to pay the Company the amount of RMB8.8 million for encapsulant sold to CSUN, court fees, interest and attorney fees. Following the subsequent failure of NRE to pay according to the order of the Nanjing Court, the Company initiated enforcement proceedings in the enforcement department of Nanjing Court and ultimately agreed to accept installment payments managed through the Nanjing Court, the first of which came due on February 28, 2018 and remains unpaid. The Company has since filed an application for the resumption of enforcement, for which the Nanjing Court has acknowledged receipt. The Nanjing Court has informed the Company that it will schedule another hearing to take further actions against NRE and its Chairman, Mr. Lu Tingxiu, to compel NRE to pay the Company according to the court order currently in force.

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

At February 28, 2019, there were approximately 29 holders of record of our common stock.

Our common stock trades on the OTCQB under the symbol STRI. OTCQB quotations reflect inter-dealer prices, without retail mark-up, mark-down, or commission and may not necessarily represent actual transactions.

ITEM 6. Selected Financial Data

We are not required to provide this Item 6 because we are a smaller reporting company.

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

The following discussion and analysis of the financial condition and results of our operations should be read together with our Consolidated Financial Statements and the related Notes to the Consolidated Financial Statements included in Item 8 of this Annual Report on Form 10-K. This discussion contains forward-looking statements, based on current expectations and related to future events and our future financial performance, that involve risks and uncertainties. Our actual results may differ materially from those anticipated in these forward-looking statements as a result of many factors, including those set forth under Item 1A, -Risk Factors in this Annual Report on Form 10-K.

Forward-Looking Statements

This Annual Report contains forward-looking statements within the meaning of the Private Securities Litigation Reform Act of 1995. Such statements are subject to inherent risks and uncertainties. These forward-looking statements present our current expectations and projections relating to our financial condition, results of operations, plans, objectives, future performance and business and are based on assumptions that we have made in light of our industrial experience and perceptions of historical trends, current conditions, expected future developments and other factors management believes are appropriate under the circumstances. However, these forward-looking statements are not guarantees of future performance or financial or operating results. Forward-looking statements include, but are not limited to, the statements regarding the following: (1) incurring substantial losses for the foreseeable future, ability to achieve or sustain profitability in the future and our ability to continue as a going concern; (2) the potential impact of pursuing strategic alternatives, restructuring our business to align with our customers' geography and our investment in and pursuit of new market opportunities in film packaging products; (3) our historical reliance on a single product line and our pursuit of new market opportunities; (4) the ability to successfully complete our investment in Spain on a timely basis or within budget, if at all, or that we will be able to achieve our anticipated revenue, earnings or payback from the production of packaging products; (5) that we will receive the required approvals to complete the sale of our facility in Johor, Malaysia on a timely basis, if at all; (6) our securing net sales to new customers, growing net sales to existing key customers and increasing our market share; (7) customer concentration in our business and our relationships with and dependence on key customers; (8) the outsourcing arrangements and reliance on third parties for the manufacture of a portion of our encapsulants; (9) technological changes in the solar energy industry or our failure to develop and introduce or integrate new technologies could render our encapsulants uncompetitive or obsolete; (10) competition; (11) excess capacity in the solar supply chain; (12) demand for solar energy in general and solar modules in particular; (13) our operations in India and our assets in India and China being subject to significant political and economic uncertainties; (14) limited legal recourse under the laws of India and China if disputes arise; (15) our ability to adequately protect our intellectual property, particularly during the outsource manufacturing of our products; (16) our lack of credit facility and our inability to obtain credit; (17) a significant reduction or elimination of government subsidies and economic incentives or a change in government policies that promote the use of solar energy; (18) volatility in commodity costs; (19) our customers' financial profile causing additional credit risk on our accounts receivable; (20) our dependence on a limited number of third-party suppliers for raw materials for our encapsulants and other significant materials used in our process; (21) potential product performance matters and product liability; (22) our substantial international operations and shift of business focus to India; (23) the impact of changes in foreign currency exchange rates on financial results, and the geographic distribution of revenues; (24) losses of financial incentives from government bodies in certain foreign jurisdictions; (25) our ability to enforce the equipment purchase agreement and related technology license agreement, or to negotiate a new arrangement with

that customer, if at all; and (26) the other risks and uncertainties described under “Risk Factors” and “Management’s Discussion and Analysis of Financial Condition and Results of Operations” and in subsequent periodic reports on Form 10-K, 10-Q and 8-K. You are urged to carefully review and consider the disclosure found in our filings, which are available on <http://www.sec.gov> or <http://www.strsolar.com>. Should one or more of these risks or uncertainties materialize, or should any of these assumptions prove to be incorrect, actual results may vary materially from those projected in these forward-looking statements. We undertake no obligation to publicly update any forward-looking statement contained in this Annual Report, whether as a result of new information, future developments or otherwise, except as may be required by law.

Overview

We are a provider of encapsulant to the solar module industry. Encapsulant is a critical component used in solar modules. Our PhotoCap[®] products consist of ethylene-vinyl acetate (“EVA”) or polyolefin elastomer (“POE”), which is modified with additives and put through our proprietary extrusion manufacturing process to increase product stability and make the encapsulant suitable for use in extreme, long-term outdoor applications. Our encapsulants can be used in both crystalline silicon and thin-film solar modules. To date, over 20 GW of solar modules utilizing our encapsulants have been installed in the field with no reported module power performance issues being caused by our encapsulants.

We are currently embarking on an expansion of our business lines by investing in state-of-the-art equipment and related facility upgrades to enable us to compete in the high-end plastics packaging market. We believe that our experience in polymeric materials, manufacturing, polymer R&D, product qualification, quality control, systems implementation and marketing and sales, among our other pertinent experience, will allow us to successfully enter this growing market.

Current Business Environment, Components of Net Sales and Expenses and Anticipated Trends

Strategic Focus

We continue to operate at a substantial net loss. We incurred net losses from operations of approximately \$5.8 million and \$5.1 million for the years ended December 31, 2018 and 2017, respectively. If we do not generate sufficient cash flows from operations or obtain alternative or additional sources of capital to fund operations, we will not have sufficient liquidity to satisfy operating expenses, capital expenditures and other cash needs. This raises substantial doubt about our ability to continue as a going concern.

Recent Developments

India Tolling Plan. At the beginning of 2017, our manufacturing operations in Asia were based in China. A review of our production in China revealed that our sales volume was shifting to customers in India. As a result, we decided to wind down our manufacturing operations in China in 2017 and entered into an agreement with a tolling partner in India. By the close of 2017, we effectively completed the wind down process in China, with only a small administrative team remaining in an office under a short-term lease, and commenced tolling operations in India. We sold our undamaged production line from STR China to this tolling partner, and in 2018 we sold an additional production line to our tolling partner to further increase its manufacturing capacity in India. The line became operational at the end of the third quarter of 2018.

We continue to reorganize our business to better align with customer geography, to reduce the cash burn related to unprofitable locations, to convert assets to cash for potential redeployment into more profitable endeavors and possible business opportunities and to evaluate other strategic alternatives. We cannot assure that any of these efforts will be successful.

High-End Food Packaging. In the fourth quarter of 2017, we initiated a significant investment through our wholly-owned subsidiary in Spain to enter the high-end food packaging business. This investment, which leverages our plastics expertise, includes the purchase of new, state-of-the-art plastics processing equipment and related building

improvements along with the addition of experienced staff to pursue manufacturing and sales of high-end food packaging products. This project was supported in part by insurance proceeds we received for damage to our plastic manufacturing equipment that occurred in our China manufacturing facility in 2017. These insurance proceeds were available to the Company only if we invested in new plastics manufacturing equipment. We were advised by our insurer that our investment qualified for reimbursement under the terms of our policy and have received from them payments totaling approximately \$2.6 million. Of this reimbursement, \$0.8 million was received in October 2017 and \$1.8 million was received during 2018. To further support this project, in March 2019, we obtained a €2.0 million loan from the Regional Promotion Society (“SRP”), an agency of the government of Asturias, Spain. We are required to use the loan proceeds entirely within our Spanish wholly-owned subsidiary, STRE, to help finance the launch and operation of our food packaging products business. By the close of 2018, we had substantially completed the necessary renovations to one of our buildings in Asturias, Spain, including the construction of a tower required to accommodate our new equipment, as well as the installation and interconnection of a new, state-of-the-art multi-layer blown film extrusion line. We expect this facility and equipment to allow us to begin to manufacture competitive barrier film structures for the food packaging industry beginning in the second quarter of 2019. As of February 2019, the new line has been installed and placed into operation, and initial trials of fully formulated, multi-layer barrier films have been completed. The food packaging business is highly competitive having market participants with substantially more resources and experience than us. We will be a new entrant in this market and we cannot assure that we will be successful in this new endeavor.

Manufacturing Facility Fire Insurance Recoveries. During the fourth quarter of 2016, we recorded a \$0.9 million loss on disposal of fixed assets attributable to a fire in our manufacturing facility in China. During 2017, STR China received interim payments totaling RMB12.7 million (approximately \$1.9 million based upon 2017 currency conversion rates) from our local China insurance carrier related to the existing fire insurance claim. During 2017, we also received \$0.8 million in the U.S. under the master property insurance plan related to the same claim. Our U.S. entity received an additional \$1.8 million reimbursement during 2018 as we had continued to make qualifying capital investment under the packaging project. These payments complete the final settlement.

Equipment Purchase Agreement and Technology License Agreement. On January 16, 2018, we entered into an equipment purchase agreement and a technology license agreement (together, the “Agreements”) with a manufacturer of solar photovoltaic (PV) modules (the “Purchaser”).

Under the equipment purchase agreement, we agreed to purchase from a third party specialized equipment (the “Equipment”) for the production of one of our proprietary encapsulants (the “Encapsulant”), resell the Equipment to the Purchaser, install the Equipment at a facility of the Purchaser and train Purchaser personnel in the Equipment’s use. Under the technology license agreement, we granted the Purchaser the right to use the formula for the Encapsulant and certain of our production techniques to make or have made the Encapsulant for use in PV modules manufactured by the Purchaser. The license granted to the Purchaser pursuant to the technology license agreement is exclusive with respect to specified types of PV modules manufactured by the Purchaser, and nonexclusive as to all other types of PV modules. The Purchaser may also sublicense its rights under the technology license agreement to licensees of its PV module manufacturing processes.

Under the equipment purchase agreements, the Purchaser agreed to pay us up to an aggregate of \$6.0 million. Billing and payment under the Agreements follows a schedule involving certain milestones relating to the qualification of the Encapsulant and installation, acceptance and operation of the Equipment. We received the initial payment of \$1.8 million during the first quarter of 2018. For revenue recognition purposes, under Accounting Standards Update (“ASU”) No. 2014-09, “Revenue from Contracts with Customers” (ASC 606), \$1.8 million was recorded as revenue during the first quarter of 2018 as initial performance obligations were satisfied. See Note 2 to the Consolidated Financial Statements.

The next milestone under the equipment purchase agreement, for which an additional \$1.8 million would be due, is the completion of product qualification for the product being licensed. We have completed our testing of the product. However, the Purchaser is in default of its obligation under the Agreements to diligently and in good faith pursue completion of the production qualification within 120 days of receipt of the product, and has entered into discussions with us to modify the Agreements. Such discussions include a proposal for the parties to enter into a more traditional customer relationship, whereby we would serve as an encapsulant manufacturer and supplier to the Purchaser. Such arrangement would also require successful completion of product qualification. We cannot assure that the parties will enter into an alternative arrangement, or that, if entered into, such alternative arrangement will be on terms favorable to us. We also cannot assure that we will be able to meet the Purchaser’s product qualification standards under the original or any modified arrangement. If we are not otherwise successful in negotiating an alternative arrangement, and the Purchaser does not complete its product qualification or otherwise fulfill its obligations under the Agreements, we intend to explore our legal remedies against the Purchaser. Due to the inherent uncertainties in pursuing any such remedies, and the associated costs, expense and diversion of management time and resources, any ongoing dispute with the Purchaser could adversely affect our results of operations and cash flow.

2014 Transaction with Zhenfa

In 2014, we entered into certain definitive agreements with Zhenfa Energy Group Co., Ltd., a Chinese limited liability company (“Zhenfa”), and its indirect wholly owned subsidiary, Zhen Fa New Energy (U.S.) Co., Ltd., a Nevada corporation (“Zhenfa U.S.”).

Purchase Agreement.

On August 11, 2014, we entered into a Stock Purchase Agreement (the “Purchase Agreement”) with Zhenfa U.S., pursuant to which Zhenfa U.S. acquired approximately 51% of our then outstanding shares of common stock on December 15, 2014 (the “Closing Date”).

Sales Service Agreement.

In connection with the execution of the Purchase Agreement, Specialized Technology Resources, Inc., our wholly owned subsidiary, entered into a sales service agreement (the "Sales Service Agreement") with Zhenfa, whereby Zhenfa agreed, among other things, to assist us in a number of endeavors, including, without limitation, marketing and selling our products in China, acquiring local raw materials, hiring and training personnel in China, and complying with Chinese law. The Sales Service Agreement became effective on the date of Closing, for an initial term of two years, and automatically renews for one year periods unless terminated earlier. The Sales Service Agreement may also be terminated by either party at such time as Zhenfa and its affiliates own less than 10% of our outstanding common stock.

As we have substantially discontinued operations in China, Zhenfa is not currently providing us with any material services under this agreement. Any activities with Zhenfa under the Sales Service Agreement are subject to the oversight of our Special Committee of Continuing Directors.

Net Sales

Our net sales have historically been derived from the sale of encapsulants to solar module manufacturers. Net sales to our customers are typically made through non-exclusive, short-term purchase order arrangements that specify prices and delivery parameters but do not obligate the customer to purchase any minimum amounts. Our solar customers are module manufacturers located mainly in North America, Europe and Asia.

We expect to begin commercial sales of our packaging products toward the end of the first quarter of 2019 to customers primarily located on the Iberian Peninsula. Our prospective customers, many of whom we have been developing over the past year, are typically packaging manufacturers who will use our film as a component of a laminated product, such as a flexible foil lid or a stand-up pouch, or a packager of perishable food who might use our film as a finished, protective outer layer, or a distributor who would provide our films for such applications to aggregated smaller users. The food packaging business is highly competitive having market participants with substantially more resources and experience than us. We will be a new entrant in this market and we cannot assure that we will be successful in this new endeavor. In particular, we cannot assure that we will be able to achieve our anticipated revenue or earnings from this new investment.

We expect that our results of operations for all of 2019 will include sales of solar encapsulants and, beginning late in the first quarter, multi-layer packaging films. In 2018 we continued to sell to a relatively small number of solar customers. We may also pursue other transactions related to our encapsulants with our customers, including licensing and development arrangements. We believe the number of solar customers will decrease as we expect a further consolidation of module manufacturers. Our top five customers accounted for approximately 62% and 49% of our net sales in 2018 and 2017, respectively. Lucent CleanEnergy accounted for approximately 32% of our net sales for the year ended December 31, 2018. Global Wedge, Inc. and Heckert Solar accounted for at least 10% of our net sales, and in the aggregate accounted for approximately 33% of our net sales for the year ended December 31, 2017.

Our net sales have been substantially driven by end-user demand for solar modules. As more solar modules are sold, there is greater demand from module manufacturers for encapsulants. The solar power industry is impacted by a variety of factors, including government subsidies and incentives, availability of financing, worldwide economic conditions, environmental concerns, energy costs, the availability of polysilicon and other factors. A key demand driver for solar module growth in the future will be the ability of solar module manufacturers and downstream solar system installers to reduce their cost structure, primarily in the balance of system cost components such as inverters, installation costs, wiring, racking and logistics. Increased competition, particularly from China, and continued vertical integration of many manufacturers in the solar supply chain have resulted in a sharp increase in capacity over the last several years. As a result of falling prices, many companies in the solar supply chain lacked profitability. From an industry standpoint, the reduction in module selling prices has improved rates of return on solar investments for the end-user. We believe this is a long-term industry trend and will help to bring solar energy costs closer to grid-parity and in turn will increase demand for solar encapsulants. Still, we witnessed and continue to witness module manufacturing shift out of our legacy markets such that few PV panel makers continue to produce their products in the USA and Europe, while production continues to grow rapidly in China and India in particular, along with other parts of Asia.

Demand for encapsulants also depends in large part on government incentives aimed to promote greater use of solar energy. Government incentives vary from country to country and state to state, and can change rapidly. As the industry continues to reduce the cost of solar power, we expect the level of government subsidies to continue to decrease.

Pricing of our encapsulants is impacted by the competition faced by our customers, and the quality and performance of our encapsulant formulations, including their impact on improving our customers' manufacturing yields, their historical in-field performance, our ability to meet our customers' delivery requirements, overall supply and demand levels in the industry and our customer service and technical support. Historically, we typically priced our encapsulants at a premium to our competition based on product attributes that, among other benefits, provide a high value proposition to our customers in a period of tight capacity. During the past few years, however, the excess capacity that periodically existed at most module manufacturers has reduced the value proposition of the throughput and other production efficiencies that our encapsulants provide and has caused encapsulant prices to become a more important factor in the procurement process for many customers. In addition, the availability of low-cost products from China has intensified competition. Despite these factors however, we experienced an ASP increase during 2018 of approximately 2% from the prior year, which we attribute primarily to our wind down of operations and customers in China.

The future growth and success in our encapsulant business depends on the ability of our customers to grow and our ability to meet any demand arising from such growth and to grow by adding new customers. If our customers do not increase production of solar modules, there will be no corresponding overall increase in their encapsulant orders. It is possible that our customers may reduce their purchases from us. If our customers do not grow or they find alternative sources for encapsulants to meet their demands, it could limit our ability to grow our business and increase our net sales.

We have identified and held discussions with potential customers for our multi-layer packaging film products and expect, based on our marketing and sales efforts to date, a third-party study on the packaging industry, and the advice of our industry consultant, to develop multiple customer relationships within the packaging industry in 2019. The packaging industry, unlike the solar industry, is not government subsidized and therefore not subject to changes in incentive policy. We have hired a sales professional with substantial experience in our target market, but have otherwise relied upon external sources for analysis of our potential market opportunities in food packaging films. We do not yet have experience in production-scale manufacturing, marketing or selling high-end, multi-layer blown film packaging products, but expects such activity, if successful, to represent a significant portion of sales beginning in the second half of 2019.

Cost of Sales

Cost of sales consists of our costs of raw materials, direct labor, manufacturing overhead, salaries, other personnel-related expenses, write-offs of excess or obsolete inventory, quality control, freight, insurance, disposition of defective product and depreciation of fixed assets. Approximately 72% of our cost of sales is variable in nature; 17% is step-variable and relates to direct labor cost and is fixed in the short-term, while the remaining 4% is fixed. Resin constitutes the majority of our raw material costs at approximately 39% of our cost of sales. The price and availability of resin and other raw materials is subject to market conditions affecting supply and demand and is subject to volatility. We do not believe that resin can be effectively hedged in the commodity markets.

Prior to 2014, we manufactured all of the products that we sold. Subsequent to 2014, we have entered into manufacturing agreements, pursuant to which, certain of our solar encapsulant products were and continue to be manufactured by others according to our specifications. We have supplied and expect to continue to supply our manufacturing partners with all of the proprietary information and assistance necessary to manufacture the covered products to our specifications, and we actively monitor their process and the quality of the product they manufacture under contract with us.

Gross Loss

Gross loss is affected by numerous factors, including our average selling prices, fluctuations in foreign exchange rates, seasonality, our manufacturing costs and the effective utilization of our facilities. Another factor impacting gross loss is the time required for new production facilities and the expansion of existing facilities to reach full production capacity. In June 2018, we eliminated certain positions at our Spain facility effective June 18, 2018. We recorded \$0.6 million of associated non-recurring restructuring costs in cost of sales in 2018. In total, we incurred \$0.6 million and \$0.1 million of restructuring charges recorded in cost of sales associated with our recent cost reduction efforts in 2018 and 2017, respectively. During 2018 and 2017, we recorded a gross loss of \$0.7 million and \$1.4 million, respectively, primarily due to decreased volume.

Selling, General and Administrative Expenses (“SG&A”)

Our selling expenses consist primarily of salaries, travel and other personnel-related expenses for employees engaged in sales, marketing and support of our products and services, trade shows and promotions. General and administrative expenses consist mainly of insurance, outside professional fees and expenses for our finance, administrative, information technology, legal and human resource functions.

We incurred \$0.1 million and less than \$0.1 million of restructuring charges in SG&A during each of the years 2018 and 2017.

Research and Development Expense

We have a long history of innovation dating back to our establishment in 1944 as a plastics and polymer research and development firm. As our operations expanded from solely providing research and development services into the manufacturing of solar encapsulants, we created a separate research and development accounting function that tracks employees and costs that are fully dedicated to research and development activities. Our research and development expense consists primarily of salaries and fringe benefit costs and the cost of materials and outside services used in our pre-commercialization process and product development efforts. We also record depreciation expense for equipment that is used specifically for research and development activities.

We incurred \$0.8 million and \$0.7 million of research and development expense in 2018 and 2017, respectively. We expect annual research and development expense to remain relatively stable as we refine our packaging offerings.

(Recovery) Provision for Bad Debt Expense

We reserve for estimated losses that may result from the failure of our customers to make required payments. We review the collectability of our receivables on an ongoing basis and reserve for uncollectible accounts after reasonable collection efforts have been made and collection is deemed doubtful.

Our bad debt expense in prior years was the result of many solar module manufacturers declaring bankruptcy due to continued solar industry consolidation and our customers' inability to compete, and more recently due to the poor financial condition and/or payment practices of certain customers (mainly in India). We expect our bad debt expense to decrease going forward as we implement tighter payment controls with all customers. In 2018 and 2017 we recorded a bad debt expense of \$0.6 million and a bad debt recovery of \$0.9 million, respectively.

Interest Income, Net

Interest income, net was comprised of interest income earned on our cash and cash equivalents.

In both 2018 and 2017 we recorded less than \$0.1 million of interest income.

Other Income (Expense), Net

On March 27, 2018, following the approval of the Company's Special Committee of Continuing Directors, STR China entered into an agreement to terminate the Huhui Supply Agreement (the "Termination Agreement"). Pursuant to the Termination Agreement, Huhui agreed that STR China would retain the deposit, and each of Huhui and STR China agreed to release the other from any liability or further obligations under the Supply Agreement. As a result of the Termination Agreement, we recorded other income of \$1.0 million during the first quarter of 2018.

During 2017, our China subsidiary received interim payments of \$1.9 million from our local China insurance carrier related to a fire insurance claim. During 2017, we also received \$0.8 million in the U.S. under the master property

insurance plan related to the same claim. During 2018, we received \$1.8 million in the U.S. under the master property insurance plan related to the same claim. This payment completed the final settlement.

In July 2015, we announced a restructuring plan that included the closure of our Malaysia facility, effective August 2, 2015. During 2016, we entered into a definitive Purchase and Sale Agreement for the land-use right and the building for a purchase price of RM25.0 million (approximately \$6.1 million as of December 31, 2018). As a result of the pending sale (which was subject to the approval of the Johor Port Authority (the "JPA")), a gain on assets held for sale of \$0.1 million, related to the foreign currency fluctuation of the Malaysian ringgit, was recorded in 2017. However, the purchaser was unable to obtain the necessary Johor Port Authority approvals, and that agreement terminated during 2017.

On November 1, 2018, we received a non-binding letter of intent from a potential buyer for our Malaysia facility for RM22.5 million (approximately \$5.3 million, after realtor fees, as of December 31, 2018) and subsequently entered into a Purchase and Sale Agreement with this buyer effective January 10, 2019. The sale of the property is part of the Company's focus to reduce its footprint and operating costs. As a result of the pending sale, a loss on assets held for sale of \$0.8 million was recorded during 2018. The agreement provides that the closing of the sale is subject to various customary and regulatory approvals and conditions, including the approval of the Johor Port Authority. The agreement further provides that if the conditions to the closing are not met and the closing does not occur within six months, either party may terminate the agreement. We cannot assure that we will be able to obtain the required approvals and otherwise meet all the conditions to closing on a timely basis, if at all. Moreover, our expected net proceeds from the sale is based upon currency exchange rates as of December 31, 2018, and may be adversely affected in certain circumstances, including without limitation, if the value of the Malaysian ringgit decreases in relation to the U.S. dollar, or if we incur unanticipated expenses in connection with the sale.

Foreign Currency Transaction (Loss) Gain

Foreign currency transaction (loss)/gain is primarily the result of changes in the value of the euro, Hong Kong dollar and Chinese renminbi exchange rates. The majority of our foreign exchange exposure is due to U.S. denominated accounts receivable at our Spain facility, the settlement of intercompany transactions and U.S. cash balances held in foreign locations.

Income Taxes

Income tax expense (benefit) is comprised of federal, state, local and foreign taxes based on income in multiple jurisdictions and changes in uncertain tax positions. Starting in 2015, we were no longer able to carryback operating losses for U.S. federal tax purposes and we no longer record an income tax benefit in our consolidated statement of comprehensive loss. We expect to record a full valuation allowance against any taxable loss until, and if, we generate taxable income in the U.S.

Critical Accounting Policies

Our discussion and analysis of our consolidated financial position and results of operations are based upon our consolidated financial statements, which have been prepared in accordance with accounting principles generally accepted in the United States of America ("GAAP"). The preparation of these consolidated financial statements requires us to make estimates and judgments that affect the reported amounts of assets, liabilities, net sales and expenses, and related disclosures of contingent assets and liabilities. We continually evaluate our estimates, including those related to bad debts, valuation of inventory, long-lived assets, product performance matters, income taxes, stock-based compensation and deferred tax assets and liabilities. We base our estimates on historical experience and various other assumptions that we believe to be reasonable under the circumstances. Actual results may differ from these estimates under different assumptions or conditions.

The accounting policies we believe to be most critical to understanding our financial results and condition and that require complex and subjective management judgments are discussed below.

Revenue Recognition and Accounts Receivable

We recognize revenue when evidence of an arrangement exists, delivery of the product has occurred and title and risk of loss have passed to the customer, the sales price is fixed or determinable, and collectability of the resulting receivable is reasonably assured.

Our business recognizes revenue from the manufacture and sale of its encapsulants, which is the only contractual deliverable, either at the time of shipping or at the time the product is received at the customer's port or dock, depending upon terms of the sale.

We do not offer general rights of return on our product. On isolated occasions, we have offered limited short-term performance warranties relating to our encapsulants not causing module power loss. This type of arrangement may increase or decrease in 2019. Our encapsulants are validated by long-term performance testing during product development prior to launch and during customer certification prior to mass production.

Allowance for Doubtful Accounts

We maintain an allowance for doubtful accounts for estimated losses resulting from the failure of our customers to make required payments. We review the collectability of our receivables on an ongoing basis and write off accounts receivable after reasonable collection efforts have been made and the debt is deemed uncollectible.

Inventory Valuation

Our primary raw materials consist of resin, chemicals/additives, packaging material and paper.

Our encapsulant finished goods inventories are typically made-to-order and have a shelf life of six to nine months from the date of manufacture. On rare occasions, we may build finished goods inventory safety stock in order to respond to short lead times. Cost is determined on a first-in, first-out basis and includes both the costs of acquisition and the costs of manufacturing. These costs include direct material, direct labor and fixed and variable indirect manufacturing costs, including depreciation.

We write inventory down to net realizable value when it is probable that our inventory carrying cost is not fully recoverable through sale or other disposition. Our write-down considers overall market conditions, customer inventory levels, legal or contractual provisions and age of the finished goods inventories.

In 2018 and 2017, we reserved less than \$0.1 million and \$0.1 million, respectively, of inventory, a majority of which was related to excess raw material, expired finished goods inventory and unusable recycled materials.

Long-Lived Assets

Our long-lived assets consist of property, plant and equipment.

Property, Plant and Equipment

Property, plant and equipment are recorded at cost and include expenditures for items that increase the useful lives of existing equipment. Maintenance and repairs are expensed as incurred. Property, plant and equipment accounts are relieved at cost, less related accumulated depreciation, when properties are disposed of or otherwise retired. Gains and losses from disposal of property, plant and equipment are included in net earnings.

As previously noted, in July 2015, we announced a restructuring plan that included the closure of our Malaysia facility, effective August 2, 2015. During 2016, we entered into a definitive Purchase and Sale Agreement for the land-use right and the building for a purchase price of RM25.0 million (approximately \$6.1 million as of December 31, 2018). As a result of the pending sale (which was subject to the approval of the JPA), a gain on assets held for sale of \$0.1 million related to the foreign currency fluctuation of the Malaysian Ringgit, was recorded during 2017. On July 31, 2017, we received a notice from the potential purchaser, Tiong Nam, purporting to terminate the agreement, alleging that the JPA was seeking to impose certain conditions on the approval of the transfer of the facility to Tiong Nam that it found unacceptable. We were not successful in removing those conditions, and our agreement with Tiong Nam terminated.

On November 1, 2018, we received a non-binding letter of intent from a potential buyer for our Malaysia facility for RM22.5 million (approximately \$5.3 million, after realtor fees, as of December 31, 2018) and subsequently entered into a Purchase and Sale Agreement with this buyer effective January 10, 2019. As a result of the pending sale, a loss on assets held for sale of \$0.8 million was recorded during 2018.

Impairment Testing

In accordance with ASC 360-Property, Plant and Equipment, the Company assesses the impairment of its long-lived assets whenever changes in events or circumstances indicate that the carrying value of such assets may not be recoverable. During each reporting period, the Company assessed if the following factors were present, which would cause an impairment review: overall negative solar industry conditions; a significant or prolonged decrease in net sales generated under its trademarks; loss of a significant customer or a reduction in demand for customers' products; a significant adverse change in the extent to or manner in which the Company used its trademarks or proprietary technology; such assets becoming obsolete due to new technology or manufacturing processes entering the markets or an adverse change in legal factors; and the market capitalization of the Company's common stock.

At December 31, 2018, the Company recorded valuation allowances against its deferred tax assets. The valuation allowances were recorded since the Company had three consecutive years of taxable losses and determined that its history of actual net losses was evidence that should be given more weight than future projections. The Company determined the recording of valuation allowances against deferred tax assets to be an indicator to test its long-lived assets, which consist solely of property, plant and equipment, for impairment. The Company assessed the specific recoverability of its property, plant and equipment using updated real estate appraisals and other data for its other fixed assets, mainly production equipment. Based upon this analysis, the Company believes its property, plant and equipment carrying value was recoverable and depreciable lives were appropriate as of December 31, 2018. Therefore no impairment was recorded in 2018. If the Company experiences a significant reduction in future sales volume, further average selling price (“ASP”) reductions, lower profitability, a cessation of operations at any of its facilities, or negative changes in U.S. or Spain real estate markets, the Company’s property, plant and equipment may be subject to future impairment or accelerated depreciation.

Factoring Arrangement

We have entered into a factoring agreement to sell, with recourse, certain European, U.S. and other foreign company-based receivables to Eurofactor Hispania S.A.U, who was later acquired by Credit Agricole Leasing & Factoring sucursal en España during the first quarter of 2017. We receive funds from the factor for certain outstanding receivables for which we record a liability. Once the customer pays the factor directly for those receivables we clear the accounts receivable and the liability. As of December 31, 2018 we had recorded \$0.4 million as due to factoring on the consolidated balance sheets.

Product Performance Accrual

We provide a short-term warranty that we have manufactured our products to our specifications. On a limited number of occasions, we incur costs to service our products in connection with specific product performance matters that do not meet our specifications. Anticipated future costs are recorded as part of cost of sales and accrued liabilities for specific product performance matters when it is probable that a liability has been incurred and the amount of the liability can be reasonably estimated.

On isolated occasions, we have offered limited short-term performance warranties relating to our encapsulants not causing module power loss. This type of arrangement may increase or decrease in 2019. Our encapsulants are validated by long-term performance testing during product development prior to launch and during customer certification prior to mass production. We have operated our solar business since the 1970s and over 20 GW of solar modules incorporating our encapsulants have been installed in the field with no verified module power performance issues caused by our encapsulants. Based on this fact pattern, we have not accrued any warranty liability associated for this potential liability, as its occurrence is deemed to be remote.

Income Taxes

On December 22, 2017, the U.S. government enacted comprehensive tax legislation commonly referred to as the Tax Cuts and Jobs Act (the "Act"). The Act makes broad and complex changes to the U.S. tax code, including, but not limited to, (1) reducing the U.S. federal corporate tax rate from 35 percent to 21 percent; (2) requiring companies to pay a one-time transition tax on certain unrepatriated earnings of foreign subsidiaries; (3) generally eliminating U.S. federal income taxes on dividends from foreign subsidiaries; (4) requiring a tax on Global Intangible Low-Taxed Income ("GILTI") which is a current inclusion in U.S. federal taxable income of certain earnings of controlled foreign corporations; (5) eliminating the corporate alternative minimum tax ("AMT") and changing how existing AMT credits can be realized; (6) creating the base erosion anti-abuse tax ("BEAT"), a new minimum tax; (7) creating a new limitation on deductible interest expense; and (8) changing rules related to uses and limitations of net operating loss carryforwards created in tax years beginning after December 31, 2017.

The SEC staff issued Staff Accounting Bulletin 118, which provides guidance on accounting for the tax effects of the Act for which the accounting under ASC 740, Income Taxes ("ASC 740") is incomplete. To the extent that a company's accounting for certain income tax effects of the Act is incomplete but it is able to determine a reasonable estimate, it must record a provisional estimate in the financial statements. If a company cannot determine a provisional estimate to be included in the financial statements, it should continue to apply ASC 740 on the basis of the provisions of the tax laws that were in effect immediately before enactment of the Act. We have completed our accounting related to the Act and have not recorded any adjustment related to the provisional amount of \$0.7 million recorded as of December 31, 2017.

While the Tax Act provides for a modified territorial tax system, beginning in 2018, global intangible low-taxed income (“GILTI”) provisions will be applied providing an incremental tax on low taxed foreign income. The GILTI provisions require us to include in our U.S. income tax return foreign subsidiary earnings in excess of an allowable return on the foreign subsidiary’s tangible assets. Under U.S. GAAP, we are required to make an accounting policy election to either (1) treat taxes due related to GILTI as a current-period expense when incurred (the “period cost method”) or (2) factor such amounts into our measurement of our deferred taxes (the “deferred method”). We have elected to use the period cost method. For tax year 2018, there is no GILTI inclusion due to our controlled foreign corporations being in an aggregate net tested loss position.

We operate in multiple taxing jurisdictions and are subject to the jurisdiction of a number of U.S. and non-U.S. tax authorities and to tax agreements and treaties among those authorities. Operations in these jurisdictions are taxed on various bases, including income before taxes as calculated in accordance with jurisdictional regulations.

We account for income taxes using the asset and liability method in accordance with ASC 740-Income Taxes. Under this method, we recognize deferred tax assets and liabilities for the future tax consequences attributable to differences between the financial statement carrying amounts of existing assets and liabilities and their respective tax bases, and for operating loss and tax credit carryforwards. We estimate our deferred tax assets and liabilities using the enacted tax laws expected to apply to taxable income in the years in which those temporary differences are expected to be recovered or settled, and will recognize the effect of a change in tax laws on deferred tax assets and liabilities in the results of our operations during the period that includes the enactment date.

In assessing the need for a valuation allowance, we consider all positive and negative evidence including: estimates of future taxable income, considering the feasibility of ongoing tax planning strategies, the reliability of tax loss carryforwards and the future reversal of existing temporary differences. Valuation allowances related to deferred tax assets can be impacted by changes to tax laws, changes to statutory tax rates and future taxable income levels. In the event we were to determine that we would not be able to realize all or a portion of our tax assets in the future, the unrealizable amount would be charged to earnings in the period in which that determination is made. By contrast, if we were to determine that we would be able to realize deferred tax assets in the future in excess of the net carrying amounts, we would decrease the recorded valuation allowance through a favorable adjustment to earnings in the period in which that determination is made. As of December 31, 2018, we have recorded \$1.6 million of valuation allowance relating to our Hong Kong subsidiary, which has generated operating losses since their inception. As of December 31, 2018, we have recorded \$2.3 million of valuation allowance relating to our China subsidiary which has generated operating losses since their inception until the tax year December 31, 2017. The generation of profits for the tax year end December 31, 2018 at the China subsidiary facilitated the reversal of \$0.1 million of valuation allowance release in 2018. As of December 31, 2018, we have recorded a full valuation allowance against a deferred tax asset of \$4.9 million for a loss carryforward benefit at our Spain subsidiary. We recorded a valuation allowance for this carryforward as our Spain subsidiary is in a 3 year cumulative loss position. In the United States, we had carryback losses (generated in the United States) in 2014. After 2014, any taxable losses have to be carried forward, therefore we have recorded a valuation allowance of \$1.4 million against net operating loss carryforwards and deferred tax assets in the U.S. as of December 31, 2018. We expect to record a valuation allowance for future taxable losses generated in the United States until we generate taxable income.

ASC 740 also addresses the accounting for uncertainty in income taxes recognized in a company's financial statements and how companies should recognize, measure, present and disclose uncertain tax positions that have been or are expected to be taken. Tax benefits related to uncertain tax positions taken or expected to be taken on a tax return are recorded when such benefits meet a more likely than not threshold. Otherwise, these tax benefits are recorded when a tax position has been effectively settled, which means that the appropriate taxing authority has completed its examination whether or not the statute of limitations remains open or has expired. Interest and penalties related to uncertain tax positions are recognized as part of our provision for income taxes and are accrued beginning in the period that such interest and penalties would be applicable under relevant tax law until such time that the related tax benefits are recognized.

We are subject to the examinations of our income tax returns by various domestic and international taxing authorities. The final outcome of any examinations or legal proceedings as well as the outcome of competent authority proceedings, changes and interpretation in regulatory tax laws, or expiration of statutes of limitation could impact our financial statements. Accordingly, we had accruals recorded for which it was reasonably possible that the amount of the unrecognized tax benefit could increase or decrease. Based on the uncertainties associated with the status of examinations, including the protocols of finalizing audits by the relevant tax authorities, which could include formal legal proceedings, changes to our estimates may impact the future results of our operations. An examination in the United States by the Internal Revenue Service for tax year 2016 commenced in February 2018 and was concluded in June 2018 with an immaterial adjustment to the net operating loss carryforward.

We currently have a tax holiday in Malaysia through 2019, however, we are in the process of disposing our Malaysia land-use right and building. As of December 31, 2018, we have not asserted that we will permanently reinvest our

foreign subsidiary's earnings.

Stock-Based Compensation

ASC 718-Compensation-Stock Compensation, addresses accounting for share-based awards, including stock options, with compensation expense measured using fair value and recorded over the requisite service or performance period of the award.

Starting in 2013, we determined the fair value of the stock options issued using the Black-Scholes option pricing model. Prior to 2013, we used an independent outside appraisal firm. Our assumptions about stock-price volatility were based on the historical implied volatilities of our common stock and those of other publicly traded options to buy stock with contractual terms closest to the expected life of options granted to our employees. The expected term represents the estimated time until employee exercise occurs taking into account vesting schedules and using the Hull-White model. The risk-free interest rate for periods within the contractual life of the award is based on the U.S. Treasury 10-year zero-coupon strip yield in effect at the time of grant. The expected dividend yield was based on the assumption that no dividends are expected to be distributed in the near future.

Consolidated Results of Operations

The following tables set forth our consolidated results of operations in dollars and as a percentage of net sales, for the fiscal years ended December 31, 2018 and 2017:

	Year Ended	Year Ended
	December 31, 2018	December 31, 2017
Statement of Operations Data:		
Net sales	\$ 10,879	\$ 13,540
Cost of sales	11,539	14,915
Gross loss	(660)	(1,375)
Selling, general and administrative expenses	5,628	6,067
Research and development expense	815	733
Provision (recovery) for bad debt expense	618	(918)
Operating loss	(7,721)	(7,257)
Interest income, net	27	21
Other income, net	2,185	2,652
Loss on disposal of fixed assets	(419)	(382)
Foreign currency transaction (loss) gain	(224)	53
Loss from operations before income tax (benefit) expense	(6,152)	(4,913)
Income tax (benefit) expense from operations	(392)	188
Net loss from operations	\$ (5,760)	\$ (5,101)
	Year Ended	Year Ended
	December 31, 2018	December 31, 2017
Statement of Operations Data:		
Net sales	100.0 %	100.0 %
Cost of sales	106.1 %	110.2 %
Gross loss	(6.1)%	(10.2)%
Selling, general and administrative expenses	51.7 %	44.8 %
Research and development expense	7.5 %	5.4 %
Provision (recovery) for bad debt expense	5.7 %	(6.8)%
Operating loss	(71.0)%	(53.6)%
Interest income, net	0.2 %	0.2 %
Other income, net	20.1 %	19.6 %
Loss on disposal of fixed assets	(3.9)%	(2.8)%
Foreign currency transaction (loss) gain	(2.1)%	0.4 %
Loss from operations before income tax (benefit) expense	(56.5)%	(36.3)%
Income tax (benefit) expense from operations	(3.6)%	1.4 %

Net loss from operations (52.9)% (37.7)%

Net Sales

	Years Ended December 31,				Change	
	2018	2017	2018	2017	2018	2017
	Amount	% of Net Sales	Amount	% of Net Sales	Amount	%
Net sales	\$10,879	100.0%	\$13,540	100.0%	\$(2,661)	(19.7)%

The decrease in net sales for the year ended December 31, 2018 compared to the corresponding period in 2017 was driven by an approximate 34% decrease in sales volume partially offset by \$1.8 million of licensing revenues and an approximate 2% increase in our ASP.

The volume decline was primarily driven by a 46% volume decrease in Spain and a 99% volume decrease with Chinese customers, partially offset by sales to customers in India through our tolling partner. The decrease in volume in China, was due to the discontinuance of our manufacturing and sales in China. We attribute the volume decrease in Spain primarily due to further weakening of the European module manufacturing environment.

Cost of Sales

	Years Ended December 31,				Change	
	2018	2017	2018	2017	2018	2017
	Amount	% of Net Sales	Amount	% of Net Sales	Amount	%
Cost of sales	\$11,539	106.1%	\$14,915	110.2%	\$(3,376)	(22.6)%

The decrease in our cost of sales for the year ended December 31, 2018 compared to the corresponding period in 2017 was primarily driven by a 34% decrease in sales volume partially offset by an approximate 2% increase in raw material cost per unit. Direct labor increased by less than \$0.1 million mainly due to \$0.6 million of restructuring charges partially offset by the sales volume decrease. Overhead costs decreased by \$0.3 million primarily due to continued cost-reduction actions.

Gross Loss

	Years Ended December 31,				Change	
	2018	2017	2018	2017	2018	2017
	Amount	% of Net Sales	Amount	% of Net Sales	Amount	%
Gross loss	\$(660)	(6.1)%	\$(1,375)	(10.2)%	\$715	52.0%

Gross loss as a percentage of net sales improved for the year ended December 31, 2018 compared to the corresponding period in 2017 mainly as a result of recognition of \$1.8 million related to completed performance obligations under the equipment purchase agreement and the technology license agreement. This was partially offset by \$0.6 million of restructuring charges related to eliminating certain positions at our Spain facility, as well as a decrease in sales volume combined with an increase in raw material prices.

Selling, General and Administrative Expenses ("SG&A")

	Years Ended December 31,				Change	
	2018	2017	2018	2017	2018	2017
	Amount	% of Net Sales	Amount	% of Net Sales	Amount	%

SG&A \$5,628 51.7% \$6,067 44.8% \$(439) (7.2)%

SG&A decreased \$0.4 million for the year ended December 31, 2018 compared to 2017. This decrease was primarily driven by \$0.2 million in lower labor and benefits, a \$0.3 million decrease in stock-based compensation expense, \$0.1 million in reduced dues and fees expense and \$0.1 million in reduced professional fees. These were partially offset by a \$0.2 million increase in annual incentive compensation expense and a \$0.1 million increase in restructuring expense.

Research and Development Expense (“R&D”)

	Years Ended December 31,				Change	
	2018	2017				
	% of	% of				
	Amount	Amount	Net	Net	Amount	%
	Sales	Sales				
R&D	\$815	\$733	7.5%	5.4%	\$82	11.2%

Research and development expense increased by \$0.1 million for the year ended December 31, 2018 compared to the prior year, mainly due to activities related to our entrance into the packaging business.

Provision (Recovery) for Bad Debt Expense

	Years Ended December 31,				Change	
	2018	2017				
	% of	% of				
	Amount	Amount	Net	Net	Amount	%
	Sales	Sales				
Bad debt expense	\$618	(\$918)	(5.7)%	(6.8)%	\$1,536	(167.3)%

The provision for bad debt expense for the year ended December 31, 2018 primarily related to the aging of accounts receivable under our policy, primarily in the U.S. The provision was partially offset by receiving cash for previously aged accounts receivable that were reserved for under our policy, primarily in China. The recovery for bad debt expense for the year ended December 31, 2017 is primarily related to receiving cash for previously aged accounts receivable that were reserved for under our policy, primarily in China.

Other Income (Expense)

	Years Ended December 31,				Change	
	2018	2017				
	% of	% of				
	Amount	Amount	Net	Net	Amount	%
	Sales	Sales				
Other income (expense)	\$2,185	\$2,652	20.1%	19.6%	\$(467)	(17.6)%

On March 27, 2018, following the approval of the Company's Special Committee of Continuing Directors, STR China entered into an agreement to terminate the Huhui Supply Agreement (the "Termination Agreement"). Pursuant to the Termination Agreement, Huhui agreed that STR China would retain the deposit, and each of Huhui and STR China agreed to release the other from any liability or further obligations under the Supply Agreement. As a result of the Termination Agreement, we recorded other income of \$1.0 million during the first quarter of 2018.

During 2017, our China subsidiary received interim payments of \$1.9 million from our local China insurance carrier related to the existing fire insurance claim. During 2017, we also received a partial payment of \$0.8 million in the U.S. under the master property insurance plan related to the same claim.

In July 2015, we announced a restructuring plan that included the closure of our Malaysia facility, effective August 2, 2015. During 2016, we entered into a definitive Purchase and Sale Agreement for the land-use right and the building for a purchase price of RM25.0 million (approximately \$6.1 million as of December 31, 2018). As a result of the

pending sale (which was subject to the approval of the JPA), a gain on assets held for sale of \$0.1 million, related to the foreign currency fluctuation of the Malaysian ringgit, was recorded during 2017. As noted above, this agreement terminated prior to the consummation of the sale.

On November 1, 2018, we received a non-binding letter of intent from a potential buyer for our Malaysia facility for RM22.5 million (approximately \$5.3 million, after realtor fees, as of December 31, 2018) and subsequently entered into a Purchase and Sale Agreement with this buyer effective January 10, 2019. The sale of the property is part of the Company's focus to reduce its footprint and operating costs and to convert underutilized assets to cash. As a result of the pending sale, a loss on assets held for sale of \$0.8 million was recorded during the year ended December 31, 2018.

Loss on Disposal of Fixed Assets

	Years Ended December 31,		Change
	2018	2017	
	% of	% of	
	AmountNet	AmountNet	Amount
	Sales	Sales	%
Loss on disposal of fixed assets	\$(419) (3.9)%	\$(382) (2.8)%	\$(37) 9.7%

During 2018, our Spain facility sold a production line to our tolling partner in India which resulted in a loss on disposal of fixed assets. During 2017, we vacated our Chinese facility and relocated key personnel to temporary offices and as a result we recorded a loss on disposal of fixed assets of \$0.4 million during the year ended December 31, 2017.

Foreign Currency Transaction (Loss) Gain

	Years Ended December 31,		2017		Change	
	2018	% of	Amount	% of	Amount	%
	Net	Sales	Net	Sales	Net	%
Foreign currency transaction (loss) gain	\$(224)	(2.1)%	\$53	0.4%	\$(277)	(522.6)%

The foreign currency transaction impact was a loss of \$0.2 million for the year ended December 31, 2018 compared to a gain of \$0.1 million in the corresponding 2017 period. This change was primarily the result of volatility in the Euro spot exchange rate versus the U.S. dollar.

Our primary foreign currency exposures are intercompany loans, U.S. dollar cash balances in foreign locations and some U.S. dollar denominated accounts receivable at our Spain and China facilities.

Income Tax (Benefit) Expense

	Years Ended December 31,		2017		Change	
	2018	% of	Amount	% of	Amount	%
	Net	Sales	Net	Sales	Net	%
Income tax (benefit) expense	\$(392)	(3.6)%	\$188	1.4%	\$(580)	(308.5)%

Our effective income tax rate from operations for the year ended December 31, 2018 was 6.4% compared to the U.S. federal statutory tax rate of 21.0%. Our effective income tax rate from operations was (3.8)% for the year ended December 31, 2017.

In 2018, our operations generated a loss that was taxed at the U.S. federal statutory rate of 21.0%, prior to the impact of any deductions or non-deductible expenses. The expected 2018 income tax benefit was decreased as the result of a valuation allowance recorded against the U.S. loss. The December 31, 2018 effective tax rate was further decreased for Malaysia pre-tax losses for which there is no tax benefit due to the tax holiday as well as other foreign losses for which no tax benefit has been recorded. The income tax benefit was primarily increased as a result of decreased withholding tax liability on Spain subsidiary outside basis difference. In 2017, our operations generated a loss that was taxed at the U.S. federal statutory rate of 35.0%, prior to the impact of any deductions or non-deductible expenses. The expected 2017 income tax benefit was decreased as the result of a valuation allowance recorded against the U.S.

loss and \$0.7 million of withholding taxes on Spain subsidiary outside basis difference. The income tax benefit was primarily increased as the result of ASC 740-20 intraperiod tax allocation by \$0.4 million and reversing the state income tax payable of \$0.1 million. The December 31, 2017 effective tax rate was further decreased for Malaysia pre-tax losses for which there is no tax benefit due to the tax holiday as well as other foreign losses for which no tax benefit has been recorded.

Cost Reduction Actions in 2018 and 2017

On March 7, 2017 we made the decision to wind down our China manufacturing operations substantially by the end of the second quarter of 2017. The decision was consistent with ongoing efforts to reorganize our business to better align with customer geography, to reduce losses related to unprofitable locations and to convert assets to cash for potential redeployment into more profitable endeavors. In connection with the restructuring, we recorded \$0.1 million of severance charges and benefits in cost of sales and we reversed less than \$0.1 million of severance and benefits in selling, general and administrative expenses during 2017 and \$0.1 million during 2018. The Company sold certain production and testing equipment from the China facility to its tolling partner in India during the third quarter of 2017.

In June 2018, we eliminated certain positions at our Spain facility effective June 18, 2018. We recorded \$0.6 million of severance and benefits in cost of sales and \$0.1 million of severance and benefits in selling, general and administrative expenses during 2018.

The restructuring accrual activity during the year ended December 31, 2018 related to the costs associated with the closure of our China facility and the elimination of certain positions at our Spain facility.

A rollforward of the restructuring accrual activity is as follows:

	December 31, 2018
Balance at December 31, 2017	\$ 0.1
Additions	0.8
Reductions	(0.8)
Reversals	—
Balance at December 31, 2018	\$ 0.1

The restructuring accrual as of December 31, 2018 consists of \$0.1 million for severance and benefits. We will continue to adjust our anticipated labor resources and production capabilities to match forecasted demand for our encapsulants.

Financial Condition, Liquidity and Capital Resources

We continue to incur substantial losses. We incurred net losses of \$5.8 million and \$5.1 million for the years ended December 31, 2018 and 2017, respectively. As of December 31, 2018, our principal source of liquidity was \$5.6 million of cash. In addition, our credit facilities are limited to our factoring arrangement in Spain and a €2.0 million economic development loan received in March 2019 from the regional government of Asturias, Spain. Unless and until our operating results improve, we do not expect that we will be able to obtain traditional bank debt or other financing. Furthermore, tight credit in the solar manufacturing industry may delay or prevent our customers from securing funding adequate to operate their businesses and purchase our products and could lead to an increase in our bad debt levels. We have recently entered into an agreement for the sale of our Johor, Malaysia facility for RM22.5 million (approximately \$5.3 million, after realtor fees, as of December 31, 2018). The sale is subject to customary closing conditions, including the timely approval of the sale by the Johor Port Authority, and we cannot assure that we will be able to obtain the requisite approvals or that the sale will take place on a timely basis, if at all. If we are unable to timely complete the sale of our Malaysia facility, or execute our strategic plans, our liquidity and capital resources will be adversely affected and we may wind down or cease any or all of our operations. Any wind down or dissolution may be a lengthy, complex and costly process and, in such event, there can be no assurance that there will be any funds available for distribution to stockholders.

Our independent auditors have indicated in their report on our December 31, 2018 financial statements that there is substantial doubt about our ability to continue as a going concern. This “going concern” opinion indicates that the financial statements have been prepared assuming we will continue as a going concern and do not include any adjustments to reflect the possible future effects on the recoverability and classification of assets, or the amounts and classification of liabilities that may result if planned events do not occur or do not occur timely and we do not continue as a going concern. Therefore, you should not rely on our consolidated balance sheet as an indication of the amount of proceeds that would be available to satisfy claims of creditors, and potentially be available for distribution to stockholders, in the event of liquidation. If we are unable to continue as a going concern we cannot assure that any

funds will be available for distribution to stockholders.

Management has evaluated whether relevant conditions or events, considered in the aggregate, indicate that there is substantial doubt about our ability to continue as a going concern. Substantial doubt exists when conditions and events, considered in the aggregate, indicate it is probable that we will be unable to meet our obligations as they become due during the next 12 months. The assessment is based on the relevant conditions that are known or reasonably knowable as of the date of this report.

If we do not generate sufficient cash flows from operations or obtain alternative or additional sources of capital to fund operations, we will not have sufficient liquidity to satisfy operating expenses, capital expenditures and other cash needs. This raises substantial doubt about our ability to continue as a going concern.

Our wholly owned Spanish subsidiary, Specialized Technology Resources España S.A.U. (“STR Spain”), has a factoring agreement to sell, with recourse, certain European, U.S. and other foreign company-based receivables to Eurofactor Hispania S.A.U., who was later acquired by Credit Agricole Leasing & Factoring Sucursal en España during the first quarter of 2017. Under the current terms of the factoring agreement, the maximum amount of outstanding advances at any one time is €1.5 million (approximately \$1.7 million as of December 31, 2018), which is subject to adjustment based on the level of eligible receivables, restrictions on concentrations of receivables and the historical performance of the receivables sold. The annual discount rate is 2% plus EURIBOR for Euro-denominated receivables and 2% plus LIBOR for all other currencies. The agreement renews annually unless terminated by either party with 90 days prior written notice. As of December 31, 2018, €0.3 million (approximately \$0.4 million as of December 31, 2018) was outstanding, and €1.2 million (approximately \$1.3 million as of December 31, 2018) was available (based upon receivables then outstanding) under the factoring agreement.

On November 1, 2018, we received a non-binding letter of intent from a potential buyer for our Malaysia facility for RM22.5 million (approximately \$5.3 million, after realtor fees, as of December 31, 2018) and subsequently entered into a Purchase and Sale Agreement with this buyer effective January 10, 2019. The agreement provides that the closing of the sale is subject to various customary and regulatory approvals and conditions, including the approval of the Johor Port Authority. The agreement further provides that if the conditions to the closing are not met and the closing does not occur within six months, either party may terminate the agreement.

In the fourth quarter of 2017, the Company initiated a significant investment through STR Spain to enter the high-end food packaging business. This ongoing investment, which leverages our plastics expertise, includes the purchase of new, state-of-the-art plastics processing equipment and related building improvements along with the addition of experienced staff to pursue manufacturing and sales of high-end food packaging products. We have received and applied certain conditional insurance proceeds to this project, helping to offset our net capital investment. These insurance proceeds were available to the Company only if we invested in new plastics manufacturing equipment. We were advised by our insurer that our investment qualified for reimbursement under the terms of our policy and, accordingly, they have paid our U.S. entity the amount of \$0.8 million in October 2017, to cover the cost of the deposit for the primary capital equipment. Our U.S. entity also received an additional \$1.8 million reimbursement during 2018 as we continued to make qualifying capital investment under the packaging project. On March 13, 2019, STR Spain also obtained a €2.0 million (\$2.3 million as of December 31, 2018) loan (the “STR Spain Loan”) from the regional government of Asturias, Spain to further support the project. STR Spain is required to use the loan proceeds to help finance the launch and operation of its food packaging products business. The STR Spain Loan matures on December 31, 2025, with principal due and payable in equal quarterly installments of €0.1 million each, commencing on March 31, 2021. Interest, which is payable quarterly in arrears, accrues at the annual EURIBOR rate (as such term is defined in the loan agreement) plus an applicable margin. During the first two years, the applicable margin is 2%, and thereafter increases by 1% per year until the applicable margin is 5% in the fifth year of the loan. The loan may be prepaid at any time without premium or penalty. The loan is secured by a mortgage of STR Spain’s business and facilities, and contains customary covenants, including a covenant prohibiting STR Spain from making distributions to us, as sole shareholder, without the prior approval of the lender. In connection with the STR Spain Loan, we have also agreed to provide STR Spain with resources to support the loan and the continuity of the packaging initiative.

We remain open to exploring possible business opportunities, alternate geographic markets, as well as other strategic alternatives. We cannot assure that we will be able to successfully pursue any such potential opportunities. If we are successful in pursuing any such opportunities, we may be required to expend significant funds, incur debt or other obligations or issue additional securities, any of which could significantly dilute our current stockholders and may negatively affect our operating results and financial condition. We cannot assure that any such strategic opportunities or related transactions, or any financing in connection therewith, would be available on favorable terms, if at all, or that we will realize any anticipated benefits from any such transactions that we complete. In the event that we are not successful in restructuring our business or pursuing other strategic opportunities, we also intend to consider alternatives, including, without limitation, the acquisition of another business, the divestiture of all or certain of our assets, joint ventures and other transactions outside the ordinary course of business.

Our cash and cash equivalents balance is located in the following geographies (dollars in thousands):

	Year Ended December 31, 2018
United States	\$ 4,577
Spain	535
Malaysia	133
China	302
Hong Kong	91
India	1
Consolidated	\$ 5,639

Due to the difficulty repatriating cash to the U.S., among other factors, we may have limited access to the \$0.3 million of cash located in China for use outside the country. In addition, the STR Spain Loan, prohibits STR Spain from distributing cash to us without the consent of the lender. In 2017 we applied for, and received approval for, a reduction of the registered capital associated with STR China, enabling us to move \$5.0 million out of China. In 2018 we received a further reduction of \$3.0 million that was used to settle intercompany loans ultimately flowing back to the United States.

We do not permanently re-invest our Malaysia subsidiary's earnings. Based upon the Malaysia subsidiary's liabilities to us, we expect the undistributed earnings of our Malaysia subsidiary will be repatriated to the U.S. in a tax-free manner. We do not permanently re-invest our Spain earnings, so this cash balance is available for dividend repatriation (less any applicable withholding taxes). We have not elected to permanently re-invest our Hong Kong and China earnings and plan to utilize our cash located in Hong Kong and China to fund working capital requirements and wind-down costs. Our goal is to achieve and maintain self-sufficiency in each of our manufacturing locations to meet local cash requirements. We cannot assure that we will continue to fund the manufacturing operations in any location, if such operations would require investment of additional cash from other jurisdictions.

Cash Flows

Cash Flow from Operating Activities

Net cash used in operating activities was \$4.6 million for the year ended December 31, 2018 compared to net cash provided by operating activities of \$2.0 million for the year ended December 31, 2017. Net loss plus and minus non-cash adjustments ("cash loss") declined by approximately \$0.1 million for the year ended December 31, 2018 compared to the same period in 2017. This decline was primarily driven by receiving a \$2.8 million payment in 2017 related to the insurance claim from the fire at our China facility which was partially offset by the conversion of bank acceptance notes to cash and receiving \$1.8 million in 2018 related to the insurance claim from the fire at our China facility.

Cash Flow from Investing Activities

Net cash used in investing activities was \$3.4 million and \$0.9 million for the year ended December 31, 2018 and December 31, 2017, respectively. The 2018 capital investments were primarily related to the purchase of equipment and renovations to our Spain facility for the food packaging investment.

The 2017 capital investments were primarily related to the restoration and repairs to the building and equipment at our China facility following the fire in 2016 and are included in the related insurance claim. In 2017, our China subsidiary received interim payments for property damage and business interruption totaling RMB12.7 million (approximately \$1.9 million as of December 31, 2017) from our local China insurance carrier related to the existing fire insurance claim. During 2017, we also received \$0.8 million in the U.S. under the master property insurance plan related to the same claim.

We anticipate 2019 consolidated capital expenditures to be approximately \$2.4 million mainly related to our continuing investment in high-end food packaging.

Cash Flow from Financing Activities

Net cash used in financing activities was \$0.1 million for the year ended December 31, 2018 primarily due to a lower ending balance in funds advanced to our Spanish subsidiary related to the factoring agreement.

Net cash provided by financing activities was less than \$0.1 million for the year ended December 31, 2017 primarily due to funds received by our Spanish subsidiary related to the factoring agreement.

Off-Balance Sheet Arrangements

We have no significant off-balance sheet financing arrangements.

Effects of Inflation

Inflation generally affects us by increasing costs of raw materials, labor and equipment. During the year ended 2018, we were not materially affected by inflation.

Recently Issued Accounting Standards

There are no new accounting pronouncements that we believe may have an impact on our Consolidated Financial Statements.

ITEM 7A. Quantitative and Qualitative Disclosures About Market Risk

We are not required to provide this Item 7A because we are a smaller reporting company.

ITEM 8. Financial Statements and Supplementary Data

Report of Independent Registered Public Accounting Firm

To the Board of Directors and Stockholders of STR Holdings, Inc.:

Opinion on the Financial Statements

We have audited the accompanying consolidated balance sheets of STR Holdings, Inc. (the Company) as of December 31, 2018 and 2017, and the related consolidated statements of comprehensive loss, changes in stockholders' equity, and cash flows for each of the years in the two period ended December 31, 2018, and the related notes (collectively referred to as the consolidated financial statements). In our opinion, the consolidated financial statements present fairly, in all material respects, the financial position of the Company as of December 31, 2018 and 2017, and the results of its operations and its cash flows for each of the years in the two year period ended December 31, 2018, in conformity with accounting principles generally accepted in the United States of America.

Going Concern Uncertainty

The accompanying consolidated financial statements have been prepared assuming that the Company will continue as a going concern. As discussed in Note 1 to the financial statements, the Company has recurring losses from operations, negative gross profit, and has not generated sufficient cash flows from operations. These conditions, along with other matters described in Note 1, raise substantial doubt about its ability to continue as a going concern. Management's plans in regard to these matters are also described in Note 1. The financial statements do not include any adjustments that might result from the outcome of this uncertainty.

Basis for Opinion

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

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

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

/s/ UHY LLP

We have served
as the Company's
auditor since
2013.

New York, NY
March 27, 2019

STR Holdings, Inc. and Subsidiaries**CONSOLIDATED BALANCE SHEETS****All amounts in thousands except share and per share amounts**

	December 31, 2018	December 31, 2017
ASSETS		
CURRENT ASSETS		
Cash and cash equivalents	\$ 5,639	\$ 13,499
Bank acceptance notes	—	904
Accounts receivable, trade, less allowances for doubtful accounts of \$2,163 and \$1,725 in 2018 and 2017, respectively	2,261	1,199
Inventories, net	1,808	1,110
Prepaid expenses	501	748
Other current assets	642	767
Total current assets	10,851	18,227
Property, plant and equipment, net	10,887	8,728
Assets held for sale (Note 7)	5,336	6,155
Other long-term assets	75	76
Total assets	\$ 27,149	\$ 33,186
LIABILITIES AND STOCKHOLDERS' EQUITY		
CURRENT LIABILITIES		
Accounts payable	\$ 2,218	\$ 971
Accrued liabilities	1,348	2,307
Income taxes payable	900	896
Due to factor	374	454
Total current liabilities	4,840	4,628
Deferred tax liabilities	306	698
Total liabilities	5,146	5,326
COMMITMENTS AND CONTINGENCIES (Note 10)		
Stockholders' equity		
Preferred stock, \$0.01 par value, 20,000,000 shares authorized; no shares issued and outstanding	—	—
Common stock, \$0.01 par value, 200,000,000 shares authorized; 20,153,269 and 20,152,029 issued and outstanding, respectively as of December 31, 2018 and 19,919,529 and 19,918,289 issued and outstanding, respectively as of December 31, 2017	201	195
Treasury stock, 1,240 shares at cost	(57)	(57)
Additional paid-in capital	232,345	232,149
Accumulated deficit	(204,832)	(199,072)
Accumulated other comprehensive loss, net of taxes	(5,654)	(5,355)

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Total stockholders' equity	22,003	27,860
Total liabilities and stockholders' equity	\$ 27,149	\$ 33,186

See accompanying notes to these consolidated financial statements.

STR Holdings, Inc. and Subsidiaries**CONSOLIDATED STATEMENTS OF COMPREHENSIVE LOSS****All amounts in thousands except share and per share amounts**

	Year Ended December 31, 2018	Year Ended December 31, 2017
Net sales	\$ 10,879	\$ 13,540
Cost of sales	11,539	14,915
Gross loss	(660)	(1,375)
Selling, general and administrative expenses	5,628	6,067
Research and development expense	815	733
Provision (recovery) for bad debt expense	618	(918)
Operating loss	(7,721)	(7,257)
Interest income, net	27	21
Other income (expense), net	2,185	2,652
Loss on disposal of fixed assets	(419)	(382)
Foreign currency transaction (loss) gain	(224)	53
Loss from operations before income tax expense	(6,152)	(4,913)
Income tax expense from operations	(392)	188
Net loss from operations	(5,760)	(5,101)
Other comprehensive loss:		
Foreign currency translation (net of tax effect of \$(61) and \$404, respectively)	(299)	1,076
Other comprehensive income (loss)	(299)	1,076
Comprehensive loss	\$ (6,059)	\$ (4,025)
Net loss per share (Note 3):		
Basic	\$ (0.29)	\$ (0.27)
Diluted	\$ (0.29)	\$ (0.27)
Weighted-average shares outstanding (Note 3):		
Basic	19,752,248	18,914,059
Diluted	19,752,248	18,914,059

See accompanying notes to these consolidated financial statements.

STR Holdings, Inc. and Subsidiaries

CONSOLIDATED STATEMENTS OF CHANGES IN STOCKHOLDERS' EQUITY

All amounts in thousands except share and per share amounts

	Common Stock		Treasury Stock		Additional Paid-In- Capital	Accumulated Other Comprehensive Loss	Accumulated Deficit	Total Stockholders' Equity
	Issued	Amount	Acquired	Amount				
Balance at January 1, 2017	18,669,927	\$ 187	1,240	\$(57)	\$231,627	\$ (6,431)	\$(193,971)	\$ 31,355
Stock-based compensation	862,646	8	—	—	522	—	—	530
Net loss	—	—	—	—	—	—	(5,101)	(5,101)
Foreign currency translation	—	—	—	—	—	1,076	—	1,076
Balance at December 31, 2017	19,532,573	\$ 195	1,240	\$(57)	\$232,149	\$ (5,355)	\$(199,072)	\$ 27,860
Stock-based compensation	619,456	6	—	—	196	—	—	202
Net loss	—	—	—	—	—	—	(5,760)	(5,760)
Foreign currency translation, net of tax	—	—	—	—	—	(299)	—	(299)
Balance at December 31, 2018	20,152,029	\$ 201	1,240	\$(57)	\$232,345	\$ (5,654)	\$(204,832)	\$ 22,003

See accompanying notes to these consolidated financial statements.

STR Holdings, Inc. and Subsidiaries**CONSOLIDATED STATEMENTS OF CASH FLOWS****All amounts in thousands**

	Year Ended December 31, 2018	Year Ended December 31, 2017
OPERATING ACTIVITIES		
Net loss	\$ (5,760)	\$ (5,101)
Adjustments to reconcile net loss to net cash provided by operating activities:		
Depreciation	718	708
Stock-based compensation expense	177	506
Loss on disposal of property, plant and equipment	419	382
Provisions (recovery) for bad debt expense	618	(918)
Impairment (recovery) of assets held for sale	819	(65)
Provision (recovery) for deferred taxes	(392)	294
Customer forfeiture of deposit	(905)	—
Changes in operating assets and liabilities:		
Accounts receivable	(1,938)	3,141
Inventories	(729)	910
Other current assets	857	2,694
Accounts payable	1,335	(415)
Accrued liabilities	(85)	(28)
Income taxes payable	7	(100)
Other	224	29
Total net cash (used in) provided by operating activities	(4,635)	2,037
INVESTING ACTIVITIES		
Capital investments	(3,984)	(1,220)
Proceeds from sale of fixed assets	607	274
Net cash used in investing activities	(3,377)	(946)
FINANCING ACTIVITIES		
Factoring arrangement	(62)	16
Net cash (used in) provided by financing activities	(62)	16
Effect of exchange rate changes on cash	214	13
Net (decrease) increase in cash and cash equivalents	(7,860)	1,120
Cash and cash equivalents, beginning of period	13,499	12,379
Cash and cash equivalents, end of period	\$ 5,639	\$ 13,499
SUPPLEMENTAL DISCLOSURE OF CASH FLOW INFORMATION		
Cash (received) paid during the period for:		
Income taxes	\$ —	\$ —
Interest expense paid to factoring arrangement	\$ 22	\$ 31

See accompanying notes to these consolidated financial statements.

STR Holdings, Inc. and Subsidiaries

NOTES TO CONDENSED CONSOLIDATED FINANCIAL STATEMENTS

All amounts in thousands except share amounts, per share amounts or unless otherwise noted

NOTE 1—BASIS OF PRESENTATION AND NATURE OF OPERATIONS

Basis of Presentation

These consolidated financial statements reflect the financial statements of STR Holdings, Inc. (“Holdings” or the “Company”) and its subsidiaries on a consolidated basis.

The accompanying consolidated financial statements and the related information contained within the notes to the consolidated financial statements have been prepared in accordance with Generally Accepted Accounting Principles (“GAAP”) in the United States of America and applicable rules and regulations of the Securities and Exchange Commission (“SEC”) for financial information and annual reports on the Form 10-K.

Nature of Operations

The Company was incorporated in 1944 as a plastics and industrial materials research and development company and evolved into two core businesses: solar encapsulant manufacturing and quality assurance services. The Company currently designs, develops and manufactures encapsulants that protect the embedded semiconductor circuits of solar panels and sells these products to solar module manufacturers worldwide.

Liquidity

The consolidated financial statements have been prepared on a going concern basis, which contemplates the realization of assets and the satisfaction of liabilities in the normal course of business. Management has evaluated whether relevant conditions or events, considered in the aggregate, indicate that there is substantial doubt about the Company’s ability to continue as a going concern. Substantial doubt exists when conditions and events, considered in the aggregate, indicate it is probable that the Company will be unable to meet its obligations as they become due during the next 12 months. The assessment is based on the relevant conditions that are known or reasonably knowable as of the date of this report.

If the Company does not generate sufficient cash flows from operations or obtain alternative or additional sources of capital to fund operations, the Company will not have sufficient liquidity to satisfy operating expenses, capital expenditures and other cash needs. This raises substantial doubt about the Company's ability to continue as a going concern.

The Company has historically incurred significant losses during its attempts to reduce cash burn, stabilize the existing platform and invest in new areas of growth. As of December 31, 2018, the Company had working capital of approximately \$6,011, no long-term debt, approximately \$2,000 in outstanding commitments for capital expenditures, and approximately \$5,639 of cash available to fund our operations. In March 2019, the Company entered into a term loan in the principal amount of €2,000 (approx. \$2,294 as of December 31, 2018) to provide additional liquidity in support of its packaging initiative. See Note 19.

Based on the Company's projected cash requirements for operations and capital expenditures, its current available cash of approximately \$5,639 and its projected 2019 cash flow pursuant to management's plans, management believes it will have adequate resources to fund operations and capital expenditures for at least the next 12 months. If we are unable to timely complete our sale of our Malaysia facility, or in executing our strategic plans, our liquidity and capital resources will be adversely affected and we may wind down or cease any or all of our operations. Any wind down or dissolution may be a lengthy, complex and costly process and, in such event, there can be no assurance that there will be any funds available for distribution to stockholders.

NOTE 2—SUMMARY OF SIGNIFICANT ACCOUNTING POLICIES

A summary of the Company's significant accounting policies is as follows:

Basis of Accounting. The consolidated financial statements are prepared in accordance with accounting principles generally accepted in the United States of America.

Principles of Consolidation. The consolidated financial statements include the accounts of the Company and its wholly-owned subsidiaries. Intercompany transactions and account balances have been eliminated.

STR Holdings, Inc. and Subsidiaries

NOTES TO CONDENSED CONSOLIDATED FINANCIAL STATEMENTS

All amounts in thousands except share amounts, per share amounts or unless otherwise noted

NOTE 2—SUMMARY OF SIGNIFICANT ACCOUNTING POLICIES (Continued)

Use of Estimates. The preparation of consolidated financial statements in conformity with accounting principles generally accepted in the United States of America requires the Company to make estimates and assumptions that affect the amounts reported in the consolidated financial statements and the accompanying notes. The Company's significant estimates include its revenue recognition, allowance for doubtful accounts receivable, inventory valuation, valuation of long-lived assets, product performance accrual, income taxes payable, deferred income taxes, its assessment of uncertain tax positions and its valuation of stock-based compensation costs. Actual results could differ materially from these estimates.

Fair Value Estimates. Accounting Standards Codification ("ASC") 820-10 Fair Value Measurements defines fair value as the price that would be received to sell an asset or paid to transfer a liability in an orderly transaction between market participants at the measurement date. ASC 820-10 classifies the inputs used to measure fair value into the following hierarchy:

Level 1: Unadjusted quoted prices in active markets for identical assets or liabilities

Unadjusted quoted prices in active markets for similar assets or liabilities, or unadjusted quoted prices for Level 2: identical or similar assets or liabilities in markets that are not active, or inputs other than quoted prices that are observable for the asset or liability

Level 3: Unobservable inputs for the asset or liability

The carrying values for cash, accounts receivable, income tax receivable, accounts payable, accrued liabilities, income taxes payable and other current assets and liabilities approximate their fair values due to their short maturities. The carrying value of the Company's money market funds is based on the balance of its money market funds as of December 31, 2018, which is a Level 1 input.

Foreign Currency Translation and Transactions. The Company's international operations use the local currency as their functional currency, except for its Malaysian subsidiary whose functional currency is the U.S. dollar. Assets and liabilities of international operations are translated at period-end rates of exchange; revenues and expenses are translated at average rates of exchange. The resulting translation gains or losses are reflected in accumulated other comprehensive loss. Gains or losses resulting from foreign currency transactions are included in net loss.

Cash and Cash Equivalents. All highly-liquid investments with a maturity of three months or less at the date of purchase are considered to be cash equivalents. The Company deposits its cash balances with a limited number of

banks. Cash balances in these accounts generally exceed government insured limits.

Recognition of Revenue and Accounts Receivable. The Company recognizes revenue net of any sales returns and allowances when evidence of an arrangement exists, delivery of the product or service has occurred and title and risk of loss have passed to the customer, the sales price is fixed or determinable, and collectability of the resulting receivable is reasonably assured.

The Company recognizes revenue from the manufacture and sale of its encapsulants, which is the only contractual deliverable, either at the time of shipping or at the time the product is received at the customer's port or dock, depending upon terms of the sale. The Company does not offer a general right of return on its products.

On isolated occasions, the Company has offered limited short-term performance warranties relating to its encapsulants not causing module power loss. The Company's encapsulants are validated by long-term performance testing during product development prior to launch and during customer certification prior to mass production. The Company has operated its solar business since the 1970s and over 20 GW of solar modules incorporating its encapsulants have been installed in the field with no reported module power performance issues caused by its encapsulants and no related warranty claims to-date. Based on this fact pattern, the Company has not accrued any warranty liability associated for this potential liability as its occurrence is deemed to be remote. If the Company were to ever receive a warranty claim for such matter, it would assess the need for a warranty accrual at that time.

Allowance for Doubtful Accounts. The Company maintains an allowance for doubtful accounts for estimated losses resulting from the inability of its customers to make required payments. The Company reviews the collectability of its receivables on an ongoing basis and writes off accounts receivable after reasonable collection efforts have been made and collection is deemed uncollectible.

STR Holdings, Inc. and Subsidiaries

NOTES TO CONDENSED CONSOLIDATED FINANCIAL STATEMENTS

All amounts in thousands except share amounts, per share amounts or unless otherwise noted

NOTE 2—SUMMARY OF SIGNIFICANT ACCOUNTING POLICIES (Continued)

Inventories. The Company's inventories are stated at the lower of cost or market. The Company's primary raw materials consist of resin, paper, packaging material and chemicals/additives. The Company's finished goods inventories are typically made-to-order and possess a shelf life of six to nine months from the date of manufacture. Cost is determined on a first-in, first-out basis and includes both the costs of acquisition and the costs of manufacturing. These costs include direct material, direct labor and fixed and variable indirect manufacturing costs, including depreciation expense.

The Company will write down inventory to its net realizable value when it is probable that the inventory carrying cost is not fully recoverable through sale or other disposition. The Company's write-down considers overall market conditions, customer inventory levels, legal or contractual provisions and age of the inventories.

The Company has reserves of \$10 and \$59 as of December 31, 2018 and 2017, respectively, a majority of which was related to excess raw material and expired finished goods inventory.

Long-Lived Assets. The Company's long-lived assets consist of property, plant and equipment. Property, plant and equipment are recorded at cost and include expenditures for items that increase the useful lives of existing equipment. Maintenance and repairs are expensed as incurred. Property, plant and equipment accounts are relieved at cost, less related accumulated depreciation, when properties are disposed of or otherwise retired. Gains and losses from disposal of property, plant and equipment are included in net loss.

In accordance with ASC 360-Property, Plant, and Equipment, the Company reviews the carrying value of its long-lived assets, including property, plant and equipment, for impairment when events or changes in circumstances indicate the carrying value of an asset may not be recoverable. If a long-lived asset is found to be impaired, the amount recognized for impairment is equal to the difference between the carrying value and the asset's fair value. Fair value is estimated based upon discounted future cash flows, appraisals or other reasonable estimates of fair market value.

Asset Retirement Obligations. The Company accounts for asset retirement obligations in accordance with ASC 410-Asset Retirement and Environmental Obligations, which requires a company to recognize a liability for the fair value of obligations to retire tangible long-lived assets when there is a contractual obligation to incur such costs. The Company has recorded its asset retirement obligations relating to the cost of removing improvements from lease

facilities at the end of the lease terms. The Company's conditional asset retirement obligations are not material.

Leases. The Company leases certain facilities and equipment used in its operations. The Company accounts for its leases under the provisions of ASC 840-Leases, which requires that leases be evaluated and classified as operating or capital leases for financial reporting purposes. Operating lease expense is recorded on a straight-line basis over the lease term.

Income Taxes. The Company accounts for income taxes using the asset and liability method in accordance with ASC 740-Income Taxes. Under this method, the Company recognizes deferred tax assets and liabilities for the future tax consequences attributable to differences between the financial statement carrying amounts of existing assets and liabilities and their respective tax bases, and for operating loss and tax credit carryforwards. The Company estimates its deferred tax assets and liabilities using the enacted tax laws expected to apply to taxable income in the years in which those temporary differences are expected to be recovered or settled, and will recognize the effect of a change in tax laws on deferred tax assets and liabilities in the results of its operations during the period that includes the enactment date. The Company records a valuation allowance to reduce its deferred tax assets if it determines that it is more likely than not that some or all of the deferred tax assets will not be realized.

The Company operates in multiple taxing jurisdictions and is subject to the jurisdiction of a number of U.S. and non-U.S. tax authorities and to tax agreements and treaties among those authorities. Operations in these jurisdictions are taxed on various bases in accordance with jurisdictional regulations.

Tax benefits related to uncertain tax positions taken or expected to be taken on a tax return are recorded when such benefits meet a more likely than not threshold. Otherwise, these tax benefits are recorded when a tax position has been effectively settled, which means that the appropriate taxing authority has completed their examination even though the statute of limitations remains open or the statute of limitation expires. Interest and penalties related to uncertain tax positions are recognized as part of the Company's provision for income taxes and are accrued beginning in the period that such interest and penalties would be applicable under relevant tax law until such time that the related tax benefits are recognized. See Note 16.

STR Holdings, Inc. and Subsidiaries

NOTES TO CONDENSED CONSOLIDATED FINANCIAL STATEMENTS

All amounts in thousands except share amounts, per share amounts or unless otherwise noted

NOTE 2—SUMMARY OF SIGNIFICANT ACCOUNTING POLICIES (Continued)

Factoring Arrangement. The Company has entered into a factoring agreement to sell, with recourse, certain European, U.S. and other foreign company-based receivables to Eurofactor Hispania S.A.U, who was later acquired by Credit Agricole Leasing & Factoring sucursal en España during the first quarter of 2017. The Company receives funds from the factor for certain outstanding receivables for which the Company records a liability. Once the customer pays the factor directly for those receivables the Company clears the accounts receivable and the liability. As of December 31, 2018 the Company has recorded \$374 as due to factoring on the consolidated balance sheets. See Note 13.

Product Performance Accrual. The Company provides a short-term warranty that it has manufactured its products to the Company's specifications. On limited occasions, the Company incurs costs to service its products in connection with specific product performance matters that do not meet the Company's specifications. Anticipated future costs are recorded as part of cost of sales and accrued liabilities for specific product performance matters when it is probable that a liability has been incurred and the amount of the liability can be reasonably estimated.

On isolated occasions, the Company has offered limited short-term performance warranties relating to its encapsulants not causing module power loss. The Company's encapsulants are validated by long-term performance testing during product development prior to launch and during customer certification prior to mass production. The Company has operated its solar business since the 1970s and over 20 GW of solar modules incorporating its encapsulants have been installed in the field with no reported module power performance issues caused by its encapsulants and no related warranty claims to date. Based on this fact pattern, the Company has not accrued any warranty liability associated for this potential liability as its occurrence is deemed to be remote. If the Company were to ever receive a warranty claim for such matter, it would assess the need for a warranty accrual at that time.

Cost of Sales. The Company includes the cost of inventory sold and related costs for the distribution of its product in cost of sales. These costs include raw materials and other components, direct labor, product performance matters, manufacturing overhead, salaries and other personnel-related expenses, write-off of inventory, quality control, freight, insurance and depreciation. Shipping and handling costs are classified as a component of cost of sales. Customer payments for shipping and handling costs are recorded as a component of net sales.

Selling, General and Administrative Expenses. Selling, general and administrative expenses consist primarily of salaries, travel, commissions and other personnel-related expenses for employees engaged in sales, marketing and support of the Company's products and services, trade shows and promotions. General and administrative expenses consist of expenses for the Company's finance, administrative, information technology, compliance and human resource functions.

Research and Development Expense. The Company's research and development expense consists primarily of salaries and fringe benefit costs and the cost of materials and outside services used in its pre-commercialization process and development efforts. The Company records depreciation expense for equipment that is used specifically for research and development activities.

Stock-Based Compensation. In accordance with ASC 718-Compensation-Stock Compensation, the Company recognizes the grant date fair value of stock-based awards granted to employees as compensation expense over the vesting period of the awards. See Note 16.

Loss Per Share. The Company computes basic loss per common share in accordance with ASC 260-Earnings Per Share. Under the provisions of ASC 260, basic net loss per common share is computed by dividing the net loss available to common stockholders by the weighted-average common shares outstanding during the period. Diluted net loss per common share adjusts basic net loss per common share for the effects of stock options and restricted stock awards only in periods in which such effect is dilutive. See Note 3.

Comprehensive Loss. Comprehensive loss consists of net loss and the effects on the consolidated financial statements of translating the financial statements of the Company's international subsidiaries. Comprehensive loss is presented in the consolidated statements of comprehensive loss. The Company's accumulated other comprehensive loss is presented as a component of equity in its consolidated balance sheets and consists of the cumulative amount of the Company's foreign currency translation adjustments, net of tax.

STR Holdings, Inc. and Subsidiaries

NOTES TO CONDENSED CONSOLIDATED FINANCIAL STATEMENTS

All amounts in thousands except share amounts, per share amounts or unless otherwise noted

NOTE 2—SUMMARY OF SIGNIFICANT ACCOUNTING POLICIES (Continued)

Recent Accounting Pronouncements:

In May 2014, the Financial Accounting Standards Board (“FASB”) issued Accounting Standards Update (“ASU”) No. 2014-09, “Revenue from Contracts with Customers” (ASC 606). This ASU is intended to clarify the principles for recognizing revenue by removing inconsistencies and weaknesses in revenue requirements; providing a more robust framework for addressing revenue issues; improving comparability of revenue recognition practices across entities, industries, jurisdictions and capital markets; and providing more useful information to users of financial statements through improved revenue disclosure requirements. The provisions of this ASU are ultimately effective for interim and annual periods beginning after December 15, 2017. The standard shall be applied retrospectively to each period presented or as a cumulative-effect adjustment as of the date of adoption. During 2016, the FASB clarified the implementation guidance on principal versus agent, identifying performance obligations, licensing, and collectability.

The Company adopted the new revenue recognition standard (“ASC 606”) on January 1, 2018. Results for reporting periods beginning after January 1, 2018 are presented under ASC 606, while prior period amounts are not adjusted and continue to be reported in accordance with ASC 605, *Revenue Recognition*. The application of the standard had no impact on the Company’s consolidated financial statements for any periods prior to 2018. The adoption of ASC 606 represents a change in accounting principle to more closely align revenue recognition with the delivery of the Company’s products, licenses and services. ASC 606 requires an entity to evaluate revenue recognition by identifying a contract with a customer, identifying the performance obligations in the contract, determining the transaction price, allocating the transaction price to the performance obligations in the contract, and recognizing revenue when (or as) the entity satisfies a performance obligation.

Revenue is principally derived from the sale and licensing of highly engineered plastic sheet and film products. The Company receives specific purchase orders for the manufacture, sale and delivery of these products that identify the goods and/or services to be transferred, the price for those goods and other commercial terms of the order. The goods are generally purchased under EXW (or EX-Works) terms, meaning that the customer is responsible for arranging the shipping of the goods and title passes when the goods are picked up from the Company’s dock. Revenue is recognized upon the transfer of title, and there are no price concessions, volume discounts, rebates, refunds, credits, incentives, performance bonuses, royalties or other types of variable consideration.

In the specific case of the Equipment Purchase Agreement and a Technology License Agreement (the “Agreements”) signed on January 16, 2018 for an aggregate transaction price of \$6,000, the Company will purchase from a third party specialized equipment (the “Equipment”) for the production of one of the Company’s proprietary encapsulants (the

“Encapsulant”), resell the Equipment to the customer, install the Equipment at a facility of the customer and train the customer’s personnel in the Equipment’s use. Under the license agreement, the Company has granted the customer the right to use the formula for the Encapsulant and certain of the Company’s production techniques to make or have made the Encapsulant for use in photovoltaic (PV) modules manufactured by the customer. For revenue recognition purposes, the Company defines the following three distinct major performance obligations of the Agreements and the corresponding transaction price allocated to those performance obligations:

- Obligation 1 - \$1,750 - Price Report, Formula and Sample
- Obligation 2 - \$2,000 - Equipment, including delivery & installation (incl. training)
- Obligation 3 - \$2,250 - License (perpetual)

Obligation 1 is considered to be separate and distinct from the other two obligations, in that the information provided under this obligation represents significant standalone value to the customer and the Company’s obligation to provide this information is separately identifiable from the other obligations in the agreements. Obligation 2 and Obligation 3 were also clearly identifiable, as defined by the Equipment Purchase Agreement (including delivery and installation by an agreed-upon date) and the license (“License”) granted pursuant to the Technology License Agreement (with an effective start date upon the receipt of an acceptance test payment).

The Company is applying a “cost-plus” approach to Obligation 1 and Obligation 2. As the Company had never before sold any type of license, had no established specific license pricing and had no knowledge of pricing for similar licenses, the Company is using the residual approach for Obligation 3. The License is perpetual, distinct and not combined with other goods and services, and is a right to use, rather than to access, functional intellectual property.

STR Holdings, Inc. and Subsidiaries**NOTES TO CONDENSED CONSOLIDATED FINANCIAL STATEMENTS**

All amounts in thousands except share amounts, per share amounts or unless otherwise noted

NOTE 2—SUMMARY OF SIGNIFICANT ACCOUNTING POLICIES (Continued)

The Company also assessed whether it was acting in a principal or agent role in each performance obligation of the Agreements. In all obligations, the Company determined it was acting in the role of principal and therefore revenue is recognized on a gross basis.

As a result, the Company recognized \$1,750 in the quarter ended March 31, 2018 upon the satisfaction of Obligation 1, its delivery of a price report, formula and sample.

There are no new accounting pronouncements that the Company believes may have a material impact on its consolidated financial statements.

NOTE 3—LOSS PER SHARE

The calculation of basic and diluted net loss per share for the periods presented is as follows:

	Year Ended December 31, 2018	Year Ended December 31, 2017
Basic and diluted net loss per share		
Numerator:		
Net loss	\$(5,760) \$(5,101
Denominator:		
Weighted-average shares outstanding	19,752,248	18,914,059
Add:		
Dilutive effect of stock options	—	—
Dilutive effect of restricted common stock	—	—
Weighted-average shares outstanding with dilution	19,752,248	18,914,059
Net loss per share:		
Basic	\$(0.29) \$(0.27
Diluted	\$(0.29) \$(0.27

Due to the net loss during the years ended December 31, 2018 and 2017, the computation of dilutive weighted-average common shares outstanding does not include any stock options or any shares of unvested restricted common stock as these potential awards are anti-dilutive.

Because the effect would be anti-dilutive, there were 1,121,332 stock options outstanding that were not included in the computation of diluted weighted-average shares outstanding for each of the years ended December 31, 2018 and 2017.

NOTE 4—BANK ACCEPTANCE NOTES

Customers in China may settle their accounts with bank acceptance notes, which are draft instruments that are guaranteed to be paid at maturity by the issuing bank. Upon receipt of the bank acceptance note, the Company can elect to hold the instrument until maturity and receive full face value, discount it with the bank for a fee, or transfer it at full face value to suppliers who will accept the note as settlement of the Company’s accounts payable balance with them.

Bank acceptance notes consists of the following:

	December 31, 2018	December 31, 2017
Balance as of beginning of period	\$ 904	\$ 3,360
Received from customers	—	1,985
Converted to cash	(888)	(3,508)
Paid to suppliers	—	(1,162)
Foreign exchange impact	(16)	229
Balance as of end of period	\$ —	\$ 904

STR Holdings, Inc. and Subsidiaries**NOTES TO CONDENSED CONSOLIDATED FINANCIAL STATEMENTS**

All amounts in thousands except share amounts, per share amounts or unless otherwise noted

NOTE 5—INVENTORIES, NET

Inventories consist of the following:

	December 31, 2018	December 31, 2017
Finished goods	\$ 544	\$ 340
Raw materials	1,274	829
Reserve	(10)	(59)
Inventories, net	\$ 1,808	\$ 1,110

NOTE 6—LONG-LIVED ASSETS**Property, Plant and Equipment**

Property, plant and equipment consist of the following:

	Estimated Useful Lives	December 31, 2018	December 31, 2017
Land		\$ 2,239	\$ 2,332
Buildings and improvements	15 - 40	4,899	5,066
Machinery and equipment	5 - 8	9,514	10,104
Furniture, fixtures and computers	3 - 5	2,913	3,006
Less: accumulated depreciation		(11,966)	(14,522)
Subtotal		7,599	5,986
Construction-in-progress		3,288	2,742
Property, plant and equipment, net		\$ 10,887	\$ 8,728

Depreciation expense was \$718 and \$708 for the years ended December 31, 2018 and 2017, respectively.

Impairment Testing

In accordance with ASC 360-Property, Plant and Equipment, the Company assesses the impairment of its long-lived assets whenever changes in events or circumstances indicate that the carrying value of such assets may not be recoverable. During each reporting period, the Company assessed if the following factors were present, which would cause an impairment review: overall negative solar industry conditions; a significant or prolonged decrease in net sales generated under its trademarks; loss of a significant customer or a reduction in demand for customers' products; a significant adverse change in the extent to or manner in which the Company used its trademarks or proprietary technology; such assets becoming obsolete due to new technology or manufacturing processes entering the markets or an adverse change in legal factors; and the market capitalization of the Company's common stock.

At December 31, 2018 and December 31, 2017, the Company recorded valuation allowances against its deferred tax assets. The valuation allowances were recorded since the Company had three consecutive years of taxable losses and determined that its history of actual net losses was evidence that should be given more weight than future projections. The Company determined the recording of valuation allowances against deferred tax assets to be an indicator to test its long-lived assets, which consist solely of property, plant and equipment, for impairment. The Company assessed the specific recoverability of its property, plant and equipment using updated real estate appraisals and other data for its other fixed assets, mainly production equipment. Based upon this analysis, the Company believes its property, plant and equipment carrying value was recoverable and depreciable lives were appropriate as of December 31, 2018. Therefore no impairment was recorded in 2018. If the Company experiences a significant reduction in future sales volume, further average selling price ("ASP") reductions, lower profitability, a cessation of operations at any of its facilities, or negative changes in U.S. or Spain real estate markets, the Company's property, plant and equipment may be subject to future impairment or accelerated depreciation.

STR Holdings, Inc. and Subsidiaries

NOTES TO CONDENSED CONSOLIDATED FINANCIAL STATEMENTS

All amounts in thousands except share amounts, per share amounts or unless otherwise noted

NOTE 7—ASSETS HELD FOR SALE

In July 2015, the Company announced a restructuring plan that included the closure of its Johor, Malaysia facility effective August 2, 2015. Subsequent to the announcement, the Company engaged advisors and was actively trying to sell its land-use right, building and other fixed assets located at the facility. During 2016, the Company entered into a definitive Purchase and Sale Agreement for the land-use right and the building for a purchase price of RM25,000 (approximately \$6,050 as of December 31, 2018). Closing of the transaction was subject to customary conditions to closing of transactions of this type, including the approval of the Johor Port Authority (“JPA”). On July 31, 2017, the Company received a notice from the purchaser purporting to terminate the agreement, alleging that the JPA was seeking to impose certain conditions on the approval of the transfer of the facility to the purchaser that it found unacceptable. The Company was not successful in removing those conditions, and the agreement terminated.

On November 1, 2018, the Company received a non-binding letter of intent from a potential buyer for its Johor, Malaysia facility for RM22,500 (approximately \$5,336, after realtor fees, as of December 31, 2018) and subsequently entered into a Purchase and Sale Agreement with this buyer effective January 10, 2019. The agreement provides that the closing of the sale is subject to various customary and regulatory approvals and conditions, including the approval of the JPA. The agreement further provides that if the conditions to the closing are not met and the closing does not occur within six months either party may terminate the agreement. The sale of the property is part of the Company’s focus to reduce its footprint and operating costs.

In accordance with ASC 360-Property, Plant and Equipment, the Company assessed the asset group attributed to the sale for impairment. Based upon the Company’s assessment of the status of the Malaysia property, plant and equipment, all of the requirements (including the held for sale requirements) set forth in ASC 360-10-45-9 were met and the assets were classified on the Consolidated Balance Sheet as of December 31, 2018 and December 31, 2017 as assets held for sale. An impairment loss of \$819 was recorded in the Company’s Consolidated Statement of Comprehensive (Loss) Income in other expense, net during 2018. An impairment gain of \$65, related to the foreign currency fluctuation of the Malaysian ringgit, was recorded in the Company’s consolidated statement of comprehensive loss in other expense, net during 2017.

NOTE 8—LEASES

The Company leases office equipment under operating leases. Future minimum payments under all non-cancelable operating leases were \$8 as of December 31, 2018 were. All leases will expire by 2020.

Rental expense on facility space and equipment operating leases was \$11 and \$87 for the years ended December 31, 2018 and 2017, respectively.

NOTE 9—ACCRUED LIABILITIES

Accruals consist of the following:

	December 31, 2018	December 31, 2017
Salary and wages	\$ 181	\$ 239
Accrued bonus	326	258
Professional fees	238	319
Restructuring severance and benefits (see Note 11)	102	87
Environmental (see Note 10)	57	57
Accrued franchise tax	164	90
Client deposits	224	1,157
Other	56	100
Total	\$ 1,348	\$ 2,307

STR Holdings, Inc. and Subsidiaries

NOTES TO CONDENSED CONSOLIDATED FINANCIAL STATEMENTS

All amounts in thousands except share amounts, per share amounts or unless otherwise noted

NOTE 10—COMMITMENTS AND CONTINGENCIES

The Company is a party to claims and litigation in the normal course of its operations. Management believes that the ultimate outcome of these matters will not have a material adverse effect on the Company's financial position, results of operations, or cash flows.

Product Performance Matters

The Company provides a short-term warranty that it has manufactured its products to the Company's specifications. On limited occasions, the Company incurs costs to service its products in connection with specific product performance matters that do not meet the Company's specifications. Anticipated future costs are recorded as part of cost of sales and accrued liabilities for specific product performance matters when it is probable that a liability has been incurred and the amount of the liability can be reasonably estimated.

On isolated occasions, the Company has also offered limited short-term performance warranties relating to its encapsulants not causing module power loss. The Company's encapsulants are validated by long-term performance testing during product development prior to launch and during customer certification prior to mass production. The Company has operated its solar business since the 1970s and over 20 GW of solar modules incorporating its encapsulants have been installed in the field with no reported module power performance issues caused by the Company's encapsulants and no related warranty claims to date. Based on this fact pattern, the Company has not accrued any warranty liability associated for this potential liability as its occurrence is deemed to be remote. If the Company was to ever receive a warranty claim for such matter, the Company would assess the need for a warranty accrual at that time.

The Company's product performance liability that is recorded in accrued liabilities in the Consolidated Balance Sheets was \$0 as of December 31, 2018 and December 31, 2017.

Environmental

During 2010, the Company performed a Phase II environmental site assessment at its 10 Water Street, Enfield, Connecticut location. During its investigation, the site was found to contain a presence of volatile organic compounds.

The Company has been in contact with the Department of Environmental Protection and has engaged a licensed contractor to remediate this circumstance. Based on ASC 450-Contingencies, the Company has accrued the estimated cost to remediate. The Company's environmental liability that is recorded in accrued liabilities in the Consolidated Balance Sheets was \$57 as of December 30, 2018 and December 31, 2017.

Solaria

In October 2016, a complaint was filed by Solaria Energia y Medio Ambiente S.A.U. ("Solaria") against the Company and its Spanish subsidiary, Specialized Technology Resources España S.A.U. ("STR Spain"), in the Court of the First Instance No. 8 in Oviedo, Spain, relating to a product quality claim in connection with a non-encapsulant product that STR Spain purchased from a vendor in 2005 and 2006 and resold to Solaria. The Company stopped selling this product in 2006. Solaria was seeking approximately €3,300, plus interest, in damages.

A trial was held on April 6, 2017 in Oviedo, Spain. On January 9, 2019, the judge issued a ruling dismissing Solaria's case, and the appeal period ended on February 8, 2019 with no appeal filed. As such, no accrual relating to this complaint was recorded as of December 31, 2018 and December 31, 2017.

NOTE 11—COST REDUCTION ACTIONS

In March 2017 the Company made the decision to wind down its China manufacturing operations substantially by the end of the second quarter of 2017. The decision was consistent with ongoing efforts to reorganize its business to better align with customer geography, to reduce losses related to unprofitable locations and to convert assets to cash for potential redeployment into more profitable endeavors. In connection with the restructuring, the Company does not expect any significant asset impairment charges and recorded \$112 of severance charges and benefits in cost of sales and \$29 of severance charges and benefits in selling, general and administrative expenses during 2017 and \$67 of severance charges during 2018. The Company sold certain production and testing equipment from the China facility to its tolling partner in India during the third quarter of 2017.

STR Holdings, Inc. and Subsidiaries

NOTES TO CONDENSED CONSOLIDATED FINANCIAL STATEMENTS

All amounts in thousands except share amounts, per share amounts or unless otherwise noted

NOTE 11—COST REDUCTION ACTIONS (Continued)

In June 2018, the Company eliminated certain positions at its Spain facility, effective June 18, 2018. The Company recorded \$635 of severance and benefits in cost of sales and \$67 of severance and benefits in selling, general and administrative expenses during 2018.

The restructuring accrual consists of \$102 for severance and benefits as of December 31, 2018. A rollforward of the severance and other exit cost accrual activity is as follows:

Balance at January 1, 2017	\$269
Additions	213
Reductions	(272)
Reversals	(123)
Balance at December 31, 2017	87
Additions	769
Reductions	(754)
Reversals	—
Balance at December 31, 2018	\$102

NOTE 12—FAIR VALUE MEASUREMENTS

The Company measures certain financial assets and liabilities at fair value on a recurring basis in the financial statements. The hierarchy ranks the quality and reliability of inputs, or assumptions, used in the determination of fair value

and requires financial assets and liabilities carried at fair value to be classified and disclosed in one of the following three categories:

- Level 1-quoted prices (unadjusted) in active markets for identical assets and liabilities;
- Level 2-unadjusted quoted prices in active markets for similar assets or liabilities, or unadjusted quoted prices for identical or similar assets or liabilities in markets that are not active, or inputs other than quoted prices that are observable for the asset or liability; and
- Level 3-unobservable inputs that are not corroborated by market data.

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The following table provides the fair value measurements of applicable financial assets and liabilities as of December 31, 2018:

	Financial assets and liabilities		
	at fair value as of December 31, 2018		
	Level 1	Level 2	Level 3
Money market funds(1)	\$2,494	\$ —	\$—
Bank acceptance notes (2)	—	—	—
Non-recurring fair value measurements (3)	—	—	5,336
Total	\$2,494	\$ —	\$5,336

STR Holdings, Inc. and Subsidiaries**NOTES TO CONDENSED CONSOLIDATED FINANCIAL STATEMENTS**

All amounts in thousands except share amounts, per share amounts or unless otherwise noted

NOTE 12—FAIR VALUE MEASUREMENTS (Continued)

The following table provides the fair value measurements of applicable financial assets and liabilities as of December 31, 2017:

	Financial assets and liabilities at fair value as of December 31, 2017		
	Level 1	Level 2	Level 3
Money market funds(1)	\$6,688	\$ —	\$—
Bank acceptance notes (2)	904	—	—
Non-recurring fair value measurements (3)	—	—	6,155
Total	\$7,592	\$ —	\$6,155

(1) Included in cash and cash equivalents on the Company's Consolidated Balance Sheets. The carrying amount of money market funds is a reasonable estimate of fair value due to the short-term maturity.

(2) Refer to Note 4 for further information

(3) Included in assets held for sale on the Company's Consolidated Balance Sheets. Refer to Note 7 for further information.

NOTE 13—FACTORING ARRANGEMENT

In October 2015, the Company's wholly owned Spanish subsidiary, STR Spain, entered into a factoring agreement to sell, with recourse, certain European, U.S. and other foreign company-based receivables to Eurofactor Hispania S.A.U., who was later acquired by Credit Agricole Leasing and Factoring Sucursal en España during the first quarter of 2017. Under the current terms of the factoring agreement, the maximum amount of outstanding advances at any one time is €1,500 (approximately \$1,721 as of December 31, 2018), which is subject to adjustment based on the level of eligible receivables, restrictions on concentrations of receivables and the historical performance of the receivables sold. The annual discount rate is 2% plus EURIBOR for Euro denominated receivables and 2% plus LIBOR for all other currencies. The term of the agreement is for one year, which will be automatically extended unless terminated by either party with 90 days prior written notice. As of December 31, 2018 and December 31, 2017 the Company has recorded \$374 and 454, respectively, as due to factor on the Consolidated Balance Sheets.

NOTE 14—INCOME TAXES

The Tax Cuts and Jobs Act (the "Act") was enacted in December 2017. The Act reduces the U.S. federal corporate tax rate from 35 percent to 21 percent, requires companies to pay a one-time transition tax on earnings of certain foreign subsidiaries that were previously tax deferred and creates new taxes on certain foreign earnings.

The staff of the U.S. Securities and Exchange Commission ("SEC") has recognized the complexity of reflecting the impacts of the Act, and on December 22, 2017 issued guidance in Staff Accounting Bulletin 118 ("SAB 118"), which clarifies accounting for income taxes under ASC 740 if information is not yet available or complete, and provides for up to a one year period in which to complete the required analyses and accounting (the measurement period). SAB 118 describes three scenarios associated with a company's status of accounting for income tax reform: (1) a company is complete with its accounting for certain effects of tax reform, (2) a company is able to determine a reasonable estimate for certain effects of tax reform and records that estimate as a provisional amount or (3) a company is not able to determine a reasonable estimate and therefore continues to apply ASC 740, based on the provisions of the tax laws that were in effect immediately prior to the Act being enacted.

The Company applied the guidance in SAB 118 when accounting for the enactment-date effects of the Act in 2017 and throughout 2018. As of December 31, 2017, the Company had made a reasonable estimate for certain effects of tax reform and has recorded provisional amounts as part of its income tax provision. The Company has completed the accounting for all of the enactment-date income tax effects of the Act during 2018. No adjustments were recognized to the provisional amounts recorded at December 31, 2017.

STR Holdings, Inc. and Subsidiaries**NOTES TO CONDENSED CONSOLIDATED FINANCIAL STATEMENTS**

All amounts in thousands except share amounts, per share amounts or unless otherwise noted

NOTE 14—INCOME TAXES (Continued)

The Act subjects a US shareholder to tax on Global Intangible Low-Tax Income (“GILTI”) earned by certain foreign subsidiaries. The FASB Staff Q&A, Topic 740, No. 5, Accounting for Global Intangible Low-Taxed Income, states that an entity can make an accounting policy election to either recognize deferred taxes for temporary basis differences expected to reverse as GILTI in future years or to provide for the tax expense related to GILTI in the year the tax is incurred as a period expense only. Because the Company was evaluating the provision of GILTI as of December 31, 2017, the Company recorded no GILTI-related deferred amounts in 2017. After further consideration in the current year, the Company has elected to account for GILTI in the year the tax is incurred.

Loss before income tax expense (benefit) is as follows:

	Year Ended December 31, 2018	Year Ended December 31, 2017
Domestic	\$ (534)	\$ (9,514)
Foreign	(5,618)	4,601
Total	\$ (6,152)	\$ (4,913)

The (benefit) expense for income taxes consists of the following components:

	Year Ended December 31, 2018	Year Ended December 31, 2017
Current income tax (benefit) expense		
U.S. federal	\$ —	\$ —
Foreign	—	—
State and local	—	(106)
Total current income tax (benefit) expense	—	(106)
Deferred income tax (benefit) expense		
U.S. federal	(392)	294
Foreign	—	—
State and local	—	—
Total deferred income tax (benefit) expense	(392)	294
Total income tax (benefit) expense	\$ (392)	\$ 188

On January 1, 2017, the Company adopted the Financial Accounting Standards Board's ("FASB") ASU 2016-09, Compensation - Stock Compensation (Topic 718): Improvements to Employee Share-Based Payment Accounting ("ASU 2016-09") which resulted in no impact to the tax provision in the consolidated financial statements for the twelve months ended December 31, 2017 as there were no excess tax benefits or tax deficiencies on the vested awards.

A deferred tax expense of \$0 and \$404 relating to the cumulative translation adjustment of the Company's foreign subsidiaries financial statements was recorded in other comprehensive (loss) income for the years ended December 31, 2018 and 2017, respectively. An income tax benefit of \$(404) for continuing operations for the year ended December 31, 2017 was recorded as the result of ASC 740-20 intraperiod tax allocation.

STR Holdings, Inc. and Subsidiaries**NOTES TO CONDENSED CONSOLIDATED FINANCIAL STATEMENTS**

All amounts in thousands except share amounts, per share amounts or unless otherwise noted

NOTE 14—INCOME TAXES (Continued)

Following is a reconciliation of the Company's effective income tax rate to the United States federal statutory tax rate:

	Year Ended December 31, 2018		Year Ended December 31, 2017	
Expected tax at U.S. statutory income tax rate	21.0	%	35.0	%
U.S. state and local income taxes net of federal income tax effect	0.04	%	1.4	%
Foreign rate differential	(3.0))%	11.2	%
Foreign unremitted earnings	12.4	%	(11.8))%
Foreign tax credit	0.0	%	(31.8))%
Change in valuation allowance	(30.6))%	49.4	%
Withholding tax	6.4	%	(14.2))%
Intra-period allocation	0.0	%	8.2	%
Nondeductible Expenses	0.0	%	(51.2))%
Other	0.2	%	0.0	%
Effective tax rate	6.4	%	(3.8))%

The effect of temporary differences is included in deferred tax accounts as follows:

	Year Ended December 31, 2018		Year Ended December 31, 2017	
Deferred tax assets:				
Accrued compensation	\$ 42		\$ 21	
Inventory	47		3	
Bad debt reserves	164		28	
Product performance accrual	12		12	
Non-qualified stock option compensation	236		229	
Operating loss carryforwards	10,240		9,646	
Fixed assets	137		134	
Other	30		40	
Total deferred tax assets before valuation allowance	\$ 10,908		\$ 10,113	
Valuation allowance	(10,263))	(8,647))
Total deferred tax assets	\$ 645		\$ 1,466	
Deferred tax liabilities:				

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Restricted stock compensation	(3)	—	
Withholding tax	(306)	(698)
Foreign unremitted earnings	(642)	(1,466)
Total deferred tax liabilities	\$ (951)	\$ (2,164)
Total net deferred tax (liabilities)	\$ (306)	\$ (698)

A valuation allowance is recorded on certain deferred tax assets if it has been determined it is more likely than not that all or a portion of these assets will not be realized. The Company has recorded a valuation allowance of \$10,263 and \$8,647 for deferred tax assets existing as of December 31, 2018 and December 31, 2017, respectively. The valuation allowance as of December 31, 2018 is attributable to deferred taxes in the United States and net operating loss carryforwards in the United States, Spain, China and Hong Kong. The valuation allowance as of December 31, 2017 is attributable to deferred taxes in the United States and net operating loss carryforwards in the United States, Spain, China and Hong Kong.

The Company recognizes interest accrued related to its liability for unrecognized tax benefits and penalties in income tax expense. The Company recorded interest and penalties related to unrecognized tax benefits as a component of income tax expense in the amount of approximately \$0 and \$0 for the years ended December 31, 2018 and 2017, respectively. The Company had approximately \$0 and \$0 for payment of interest and penalties accrued as of December 31, 2018 and December 31, 2017, respectively.

STR Holdings, Inc. and Subsidiaries

NOTES TO CONDENSED CONSOLIDATED FINANCIAL STATEMENTS

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NOTE 14—INCOME TAXES (Continued)

The Company had \$0 liability for unrecognized tax benefits, excluding interest and penalties for the years ended December 31, 2018 and 2017, respectively. The amount of unrecognized tax benefit that would potentially impact the Company's effective tax rate was \$0 (excluding interest and penalties) as of December 31, 2018 and 2017. The Company has open tax years from 2012-2017 with various foreign tax jurisdictions. The Company expects \$0 (excluding interest and penalties) of unrecognized tax benefits to reverse within the next twelve months.

The Company conducts its business globally and as a result, the Company and one or more of its subsidiaries file income tax returns in the U.S. federal jurisdiction and various state and foreign jurisdictions. The Company is subject to examination by taxing authorities in each of these jurisdictions.

The Company has an open tax years for 2015 and 2017 for U.S. federal tax purposes. An examination in the United States by the Internal Revenue Service for tax year 2016 commenced February 2018 and was concluded in June 2018. The IRS audit resulted in the Federal Net Operating Loss carryforward to be adjusted down by \$44. The Company has open tax years from 2012-2017 with various state tax jurisdictions. In connection with the examination of the Company's tax returns, contingencies can arise that generally result from differing interpretations of applicable tax laws and regulations as they relate to the amount, timing or inclusion of revenues or expenses in taxable income, or the sustainability of tax credits to reduce incomes taxes payable. The Company believes it has sufficient accruals for its contingent tax liabilities. Annual tax provisions include amounts considered sufficient to pay assessments that may result from examination of prior year tax returns, although actual results may differ.

The Company is not permanently reinvesting earnings generated in any foreign jurisdiction. The Company periodically assesses its business operations and the cash flow needs of its foreign and domestic subsidiaries to determine if the earnings of any of its foreign subsidiaries will be indefinitely reinvested outside the United States.

The Company's subsidiary in Malaysia is operating under a tax holiday arrangement that extends through 2019. The impact of the tax holiday on its effective rate is a reduction in the benefit of 4.9% and 4.9% percentage points for 2018 and 2017, respectively.

NOTE 15—STOCKHOLDERS' EQUITY

Common Stock

The Company's Board of Directors has authorized 200,000,000 shares of common stock, \$0.01 par value. At December 31, 2018, there were 20,153,269 shares of issued and 20,152,029 shares of outstanding common stock. Each share of common stock is entitled to one vote per share.

At December 31, 2017, there were 19,919,529 shares of issued and 19,918,289 shares of outstanding common stock. Each share of common stock is entitled to one vote per share. Included in the 19,919,529 shares outstanding are 19,532,573 shares of common stock and 385,716 shares of restricted unvested common stock.

NOTE 16—STOCK-BASED COMPENSATION

On November 6, 2009, the Company's Board of Directors approved the Company's 2009 Equity Incentive Plan (the "2009 Plan") which became effective on the same day. Effective May 14, 2013, the 2009 Plan was amended to increase the number of shares subject to the Plan. As a result, a total of 4,133,133 shares of common stock are reserved for issuance under the 2009 Plan. The 2009 Plan is administered by the Board of Directors or any committee designated by the Board of Directors, which has the authority to designate participants and determine the number and type of awards to be granted, the time at which awards are exercisable, the method of payment and any other terms or conditions of the awards. The 2009 Plan provides for the grant of stock options, including incentive stock options and nonqualified stock options, collectively, "options," stock appreciation rights, shares of restricted stock, or "restricted stock," rights to dividend equivalents and other stock-based awards, collectively, the "awards." The Board of Directors or the committee will, with regard to each award, determine the terms and conditions of the award, including the number of shares subject to the award, the vesting terms of the award, and the purchase price for the award. Awards may be made in assumption of or in substitution for outstanding awards previously granted by the Company or its affiliates, or a company acquired by the Company or with which it combines. Options outstanding generally vest over a three or four-year period and expire ten years from date of grant.

STR Holdings, Inc. and Subsidiaries

NOTES TO CONDENSED CONSOLIDATED FINANCIAL STATEMENTS

All amounts in thousands except share amounts, per share amounts or unless otherwise noted

NOTE 16 — STOCK-BASED COMPENSATION (Continued)

The following table summarizes the Company's stock-based compensation awards under the 2009 Plan during 2018 and 2017:

Date	Award Type	Fair Value	Shares	Recipient
4 th Quarter 2018	Restricted Stock	\$0.31	50,808	Board of Directors
3 rd Quarter 2018	Restricted Stock	\$0.25	63,000	Board of Directors
2 nd Quarter 2018	Restricted Stock	\$0.29	54,308	Board of Directors
1 st Quarter 2018	Restricted Stock	\$0.24	65,624	Board of Directors
4 th Quarter 2017	Restricted Stock	\$0.28	385,716	Board of Directors
4 th Quarter 2017	Restricted Stock	\$0.20	78,752	Board of Directors
3 rd Quarter 2017	Restricted Stock	\$0.20	72,045	Board of Directors
2 nd Quarter 2017	Restricted Stock	\$0.21	70,450	Board of Directors
2 nd Quarter 2017	Restricted Stock	\$0.21	55,833	Board of Directors
1 st Quarter 2017	Restricted Stock	\$0.20	91,356	Board of Directors
1 st Quarter 2017	Restricted Stock	\$0.15	210,000	Board of Directors

There were 317,323 shares available for grant under the 2009 Plan as of December 31, 2018.

The following table summarizes the stock option activity under the Company's 2009 Plan for the two years ended December 31, 2018:

	Options Outstanding				
	Number of Shares	Weighted-Average Exercise Price	Weighted-Average Remaining Contractual Term (in years)	Weighted-Average Grant-Date Fair Value	Aggregate Intrinsic Value(1)
Balance at January 1, 2017	1,121,332	\$ 1.52	—	\$ 0.99	\$(1,364)
Options granted	—	\$ —	—	\$ —	\$ —
Exercised	—	\$ —	—	\$ —	\$ —
Cancelled/forfeited	—	—	—	\$ —	\$ —
Balance at December 31, 2017	1,121,332	\$ 1.52	—	\$ 0.99	\$(1,364)
Options granted	—	\$ —	—	\$ —	\$ —

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Exercised	—	\$ —	—	\$ —	\$ —
Cancelled/forfeited	—	\$ —	—	\$ —	\$ —
Balance at December 31, 2018	1,121,332	\$ 1.52	6.10	\$ 0.99	\$(1,364)
Vested and exercisable as of December 31, 2018	1,121,332	\$ 1.52	6.10	\$ 0.99	\$(1,364)
Vested and exercisable as of December 31, 2018 and expected to vest thereafter	1,121,332	\$ 1.52	6.10	\$ 0.99	\$(1,364)

The aggregate intrinsic value for December 31, 2018 and December 31, 2017 is calculated as the difference (1) between the exercise price of the underlying awards and the closing stock price of \$0.30 of the Company's common stock on December 31, 2018.

As of December 31, 2018, there was \$0 of unrecognized compensation cost related to outstanding stock option awards. The Company did not receive any proceeds related to the exercise of stock options for the year ended December 31, 2018.

STR Holdings, Inc. and Subsidiaries**NOTES TO CONDENSED CONSOLIDATED FINANCIAL STATEMENTS**

All amounts in thousands except share amounts, per share amounts or unless otherwise noted

NOTE 16 — STOCK-BASED COMPENSATION (Continued)

The following table summarizes the restricted shares activity for the two years ended December 31, 2018:

	Unvested Restricted Shares	
	Number of Shares	Weighted-Average Grant-Date Fair Value
Unvested at January 1, 2017	568,420	\$ —
Granted	964,152	\$ —
Vested	(862,646)	\$ —
Cancelled	(284,210)	\$ —
Unvested at December 31, 2017	385,716	\$ —
Granted	233,740	\$ —
Vested	(619,456)	\$ —
Unvested at December 31, 2018	—	\$ —
Expected to vest after December 31, 2018	—	\$ —

Stock-based compensation expense was included in the following consolidated statements of comprehensive loss categories:

	Years Ended December 31,	
	2018	2017
Selling, general and administrative expense	\$177	\$506
Total stock-based compensation expense	\$177	\$506

NOTE 17—GEOGRAPHICAL INFORMATION

ASC 280-10-50, “Disclosure about Segments of an Enterprise and Related Information,” establishes standards for the manner in which companies report information about operating segments, products, geographic areas and major customers. The method of determining what information to report is based on the way that management organizes the operating segment within the enterprise for making operating decisions and assessing financial performance. Since the

Company has one product, sells to global customers in one industry, procures raw materials from similar vendors and expects similar long-term economic characteristics, the Company has one reporting segment and the information as to its operation is set forth below.

Operations by Geographic Area

	Year Ended December 31, 2018	Year Ended December 31, 2017
Net Sales		
United States	\$ 2,288	\$ 143
Spain	5,685	9,278
India	2,876	100
China	30	4,019
Total Net Sales	\$ 10,879	\$ 13,540

STR Holdings, Inc. and Subsidiaries**NOTES TO CONDENSED CONSOLIDATED FINANCIAL STATEMENTS**

All amounts in thousands except share amounts, per share amounts or unless otherwise noted

NOTE 17—GEOGRAPHICAL INFORMATION (Continued)**Long-Lived Assets by Geographic Area**

	December 31, 2018	December 31, 2017
Long-Lived Assets		
United States	\$ 1,180	\$ 1,311
Spain	9,707	7,141
China	—	276
Hong Kong	—	—
Total Long-Lived Assets	\$ 10,887	\$ 8,728

Foreign sales are reported based on the country in which the net sales originated. Net sales to one of the Company's major customers that exceeded 10% of the Company's net sales for the year ended December 31, 2018 was \$2,876. Net sales to two of the Company's major customers for the year ended December 31, 2017 was \$4,410. Accounts receivable from one customer amounted to \$2,051 as of December 31, 2018 and from two customers amounted to \$70 as of December 31, 2017.

NOTE 18—EMPLOYEE BENEFIT PLANS

The Company maintained one defined contribution benefit plan for the years ended December 31, 2018 and 2017 covering substantially all U.S. domestic employees. The Company makes matching contributions to the plans using its forfeiture account and can also make discretionary contributions to the plans.

The Company also maintained defined contribution benefit plans for certain foreign employees. The expense under these plans was \$35 and \$106 for the years ended December 31, 2018 and 2017, respectively.

NOTE 19—RELATED PARTIES

Huhui Supply Agreement

The Company's Chinese subsidiary, Specialized Technology Resources Solar (Suzhou) Co. Ltd. ("STR China") entered into a supply agreement (the "Huhui Supply Agreement") dated as of December 31, 2014 with Zhangjiagang Huhui Seppv Co. Ltd ("Huhui"), a solar module manufacturer and an affiliate of Zhenfa. Pursuant to the Huhui Supply Agreement, STR China agreed to supply Huhui with the Company's encapsulant products and Huhui agreed (i) to purchase not less than 535 MW worth of encapsulants (the "Minimum Amount") during each contract year, (ii) to pay the Company a deposit equal to 10% of the Minimum Amount, and (iii) not to purchase encapsulant products from other encapsulant manufacturers. The initial term of the Huhui Supply Agreement was for one year; however, such initial term was extended due to failure by Huhui to purchase the Minimum Amount at the end of the first year anniversary of the effective date of the Huhui Supply Agreement. The Huhui Supply Agreement further provided that Huhui's obligations were contingent (unless otherwise provided in the agreement) upon (i) the delivery by STR China of an initial shipment of products in accordance with the specifications and (ii) the qualification of the products by Huhui during a sample production run of not less than 30 days. As of December 31, 2017, Huhui had not commenced the sample production run. The Huhui Supply Agreement automatically renewed for additional one year terms if either party failed to notify the other party at least 90 days prior to the end of the then current term that it was electing to terminate the agreement. The Company believes that the terms and conditions set forth in the Huhui Agreement at that time were fair and reasonable to the Company. The Company received \$1,148 as a deposit from Huhui during the year ended December 31, 2015, which was included in accrued liabilities on the Consolidated Balance Sheets.

Huhui did not complete its 30 day production run as contemplated under the Supply Agreement and on March 27, 2018, following the approval of the Company's Special Committee of Continuing Directors, STR China entered into an agreement to terminate the Supply Agreement (the "Termination Agreement"). Pursuant to the Termination Agreement, Huhui agreed that STR China would retain the Deposit, and each of Huhui and STR China agreed to release the other from any liability or further obligations under the Supply Agreement. The Company recognized the full amount of the deposit as other income on the Consolidated Statement of Comprehensive Income (Loss).

STR Holdings, Inc. and Subsidiaries

NOTES TO CONDENSED CONSOLIDATED FINANCIAL STATEMENTS

All amounts in thousands except share amounts, per share amounts or unless otherwise noted

NOTE 20—SUBSEQUENT EVENT

On March 13, 2019, the Company's wholly owned subsidiary, Specialized Technology Resources España S.A.U. ("STR Spain") entered into a Loan with Mortgage Guarantee (the "Loan Agreement") with the Regional Society of Promotion of the Principality of Asturias, SA (the "Lender"), for a term loan (the "Loan") in the aggregate principal amount of a €2,000 (\$2,294 as of December 31, 2018). STR Spain is required to use the loan proceeds to help finance the launch and operation of its food packaging business. The Loan matures on December 31, 2025, with principal due and payable in equal quarterly installments of €100 each, commencing on March 31, 2021. Interest, which is payable quarterly in arrears, accrues at the annual EURIBOR rate (as such term is defined in the Loan agreement) plus an applicable margin. During the first two years, the applicable margin is 2%, and thereafter increases by 1% per year until the applicable margin is 5% in the fifth year of the Loan. The Loan may be prepaid at any time without premium or penalty. The Loan is secured by a mortgage of STR Spain's business and facilities, and contains customary covenants, including a covenant prohibiting STR Spain from making distributions to the Company, as sole shareholder, without the prior approval of the lender. In connection with the Loan, the Company has separately agreed to provide STR Spain with resources to support the Loan and the continuity of the packaging initiative.

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

None.

ITEM 9A. Controls and Procedures

This annual report does not include an audit or attestation report of our registered public accounting firm regarding our internal control over financial reporting because the attestation report requirement has been removed for "smaller reporting companies" under the Dodd-Frank Wall Street Reform and Consumer Protection Act of 2010."

Evaluation of Disclosure Controls and Procedures

We maintain disclosure controls and procedures that are designed to ensure that information required to be disclosed in our reports to the Securities Exchange Act of 1934, as amended ("Exchange Act"), is recorded, processed, summarized and reported within the time periods specified in the SEC rules and forms, and that such information is

accumulated and communicated to our management, including our Chairman, President and Chief Executive Officer and our Vice President, Chief Financial Officer and Chief Accounting Officer, as appropriate, to allow timely decisions regarding required disclosure. In designing and evaluating the disclosure controls and procedures, management recognized that any controls and procedures, no matter how well designed and operated, can provide only reasonable assurance of achieving the desired control objectives.

As of December 31, 2018, we carried out an evaluation, under the supervision and with the participation of our management, including our Chairman, President and Chief Executive Officer and our Vice President, Chief Financial Officer and Chief Accounting Officer, of the effectiveness of the design and operation of our disclosure controls and procedures, as defined in Rules 13a-15(e) and 15d-15(e) under the Exchange Act. Based upon that evaluation, our Chairman, President and Chief Executive Officer and our Vice President, Chief Financial Officer and Chief Accounting Officer concluded that our disclosure controls and procedures are effective.

Report of Management on Internal Control over Financial Reporting

We are responsible for establishing and maintaining adequate internal control over financial reporting. Internal control over financial reporting is defined in Rule 13a-15(f) and 15d-15(f) under the Securities Exchange Act of 1934, as amended, as a process designed by, or under the supervision of our principal executive and principal financial officers and effected by our Board of Directors, management and other personnel 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 and includes those policies and procedures that:

pertain to the maintenance of records that in reasonable detail accurately and fairly reflect the transactions and disposition of our assets;

provide reasonable assurance that transactions are recorded as necessary to permit preparation of financial statements in accordance with generally accepted accounting principles, and that our receipts and expenditures are being made only in accordance with authorization of our management and directors; and

provide reasonable assurance regarding prevention or timely detection of unauthorized acquisition, use or disposition of our assets that could have a material effect on the financial statements.

Because of its inherent limitations, internal control over financial reporting may not prevent or detect misstatements. Projections of any evaluation of effectiveness to future periods are subject to the risks that controls may become inadequate because of changes in conditions, or that the degree of compliance with the policies or procedures may deteriorate.

We have assessed the effectiveness of our internal control over financial reporting as of December 31, 2018. In making this assessment, we used the criteria set forth by the Committee of Sponsoring Organizations of the Treadway Commission (“COSO”) in Internal Control-Integrated Framework (2013).

Based on our assessment, management has concluded that, as of December 31, 2018, our internal control over financial reporting is effective.

Changes in Internal Control over Financial Reporting

There have not been any changes in the Company’s internal control over financial reporting (as such term is defined in Rules 13a-15(f) and 15d-15(f) under the Exchange Act) during the fourth fiscal quarter of the Company’s fiscal year ended December 31, 2018 that have materially affected, or are reasonably likely to materially affect, the Company’s internal control over financial reporting.

ITEM 9B. Other Information

None

PART III

All information in this Part may be found in the Company's proxy statement (the "Proxy Statement") to be delivered to stockholders not later than 120 days after the end of the fiscal year covered by this Annual Report in connection with the annual meeting of stockholders (the "Annual Meeting") and such information is incorporated in this report by reference pursuant to General Instruction G (3) of Form 10-K.

ITEM 10. Directors, Executive Officers and Corporate Governance

The information required by this Item will be included in our Proxy Statement and is incorporated by reference herein.

ITEM 11. Executive Compensation

The information required by this Item will be included in our Proxy Statement and is incorporated by reference herein.

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

The information required by this Item will be included in our Proxy Statement and is incorporated by reference herein.

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

The information required by this Item will be included in our Proxy Statement and is incorporated by reference herein.

ITEM 14. Principal Accountant Fees and Services

The information required by this Item will be included in our Proxy Statement and is incorporated by reference herein.

PART IV

ITEM 15. Exhibits and Financial Statement Schedule

(a) List of documents filed as part of this report or incorporated herein by reference:

(1) Financial Statements:

The following financial statements of the Registrant as set forth under Part II, Item 8 of this Annual Report on Form 10-K on the pages indicated.

	Page in this Form 10-K
<u>Reports of Independent Registered Public Accounting Firm</u>	<u>45</u>
<u>Consolidated Balance Sheets as of December 31, 2018 and 2017</u>	<u>46</u>
<u>Consolidated Statements of Comprehensive Loss for the years ended December 31, 2018 and 2017</u>	<u>47</u>
<u>Consolidated Statements of Changes in Stockholders' Equity for the years ended December 31, 2018 and 2017</u>	<u>48</u>
<u>Consolidated Statements of Cash Flows for the years ended December 31, 2018 and 2017</u>	<u>49</u>
<u>Notes to Consolidated Financial Statements</u>	<u>50</u>

(2) Financial Statement Schedule:

Schedule II-Valuation and Qualifying Accounts 71

Schedule II-Valuation and Qualifying Accounts**STR Holdings, Inc. and Subsidiaries**

	Beginning Balance	Additions/ Charged to Expenses	Currency Impact	Reductions	Balance at End of Period
Accounts Receivable Allowance for Doubtful Accounts:					
Year ended December 31, 2018	\$ 1,725	618	(76)	(104)	\$ 2,163
Year ended December 31, 2017	\$ 2,640	(918)	134	(131)	\$ 1,725
Tax Valuation Allowance:					
Year ended December 31, 2018	\$ 8,647	1,616	—	—	\$ 10,263
Year ended December 31, 2017	\$ 11,068	—	—	(2,421)	\$ 8,647
Inventory Reserve:					
Year ended December 31, 2018	\$ 59	(46)	—	(3)	\$ 10
Year ended December 31, 2017	\$ 435	(287)	23	(112)	\$ 59

(3) Exhibits:

EXHIBIT INDEX

- ††2.1 Stock Purchase Agreement, dated August 11, 2014, by and between STR Holdings, Inc. and Zhen Fa New Energy (U.S.) Co., Ltd. (filed as Exhibit 2.1 to the Company’s Current Report on Form 8-K filed on August 12, 2014 (file no. 001-34529) and incorporated herein by reference).
- 3.1 Certificate of Incorporation of STR Holdings, Inc. (filed as Exhibit 3.1 to the Company’s Quarterly Report on Form 10-Q filed on November 17, 2009 (file no. 001-34529) and incorporated herein by reference).
- 3.2 Certificate of Amendment of Certificate of Incorporation. ((filed as Exhibit 3.1 to the Company’s Current Report on Form 8-K filed on January 30, 2015 (file no. 001-34529) and incorporated herein by reference).
- 3.3 Bylaws of the STR Holdings, Inc. (filed as Exhibit 3.2 to the Company’s Quarterly Report on Form 10-Q filed on November 17, 2009 (file no. 001-34529) and incorporated herein by reference).
- 4.1 Form of Common Stock Certificate. (filed as Exhibit 4.1 to the Company’s Quarterly Report on Form 10-Q filed on November 17, 2009 (file no. 001-34529) and incorporated herein by reference).
- †10.1 Form of Indemnification Agreement between STR Holdings, Inc. and each of its directors and executive officers. (filed as Exhibit 10.1 to the Company’s Quarterly Report on Form 10-Q filed on November 17, 2009 (file no. 001-34529) and incorporated herein by reference).
- *†10.2 Amended and restated 2009 Equity Incentive Plan.
- †10.3 Employment Agreement, dated as of December 7, 2011, between Specialized Technology Resources, Inc. and Robert S. Yorgensen (filed as Exhibit 10.1 on the Company’s Form 8-K filed on December 13, 2011 (file no. 001-34529) and incorporated herein by reference).
- †10.4 Form of STR Holdings, Inc. Restricted Stock Agreement for executive officers that held incentive units in STR Holdings (New) LLC. (filed as Exhibit 10.18 to the Company’s Quarterly Report on Form 10-Q filed on November 17, 2009 (file no. 001-34529) and incorporated herein by reference).
- †10.5 Form of STR Holdings, Inc. Restricted Stock Agreement for other holders of units in STR Holdings (New) LLC. (filed as Exhibit 10.19 to the Company’s Quarterly Report on Form 10-Q filed on November 17, 2009 (file no. 001-34529) and incorporated herein by reference).
- †10.6 Form of Restricted Stock Agreement of STR Holdings, Inc. (filed as Exhibit 10.22 to the Company’s Quarterly Report on Form 10-Q filed on November 17, 2009 (file no. 001-34529) and incorporated herein by reference).
- †10.7 Form of STR Holdings, Inc. Option Award Agreement for executive officers. (filed as Exhibit 10.24 to the Company’s Quarterly Report on Form 10-Q filed on November 17, 2009 (file no. 001-34529) and incorporated herein by reference).
- †10.8 Form of Executive Severance Agreement (filed as Exhibit 10.2 to the Company’s Form 8-K filed on October 3, 2012 (file no.001-34529) and incorporated herein by reference).
- †10.9 Executive Severance Agreement dated October 1, 2012 between the Company and Robert S. Yorgensen (filed as Exhibit 10.3 to the Company’s Form 10-K filed on March 9, 2017 (file no. 001-34529) and

incorporated herein by reference).

- 10.10 Sales Service Agreement, dated as of August 11, 2014, by and between Specialized Technology Resources, Inc. and Zhenfa Energy Group Co., Ltd. (filed as Exhibit 10.1 to the Company's Current Report on Form 8-K filed on August 12, 2014 (file no. 001-34529) and incorporated herein by reference).
- 10.11 Registration Rights Agreement, dated as of December 15, 2014, by and between STR Holdings, Inc. and Zhen Fa New Energy (U.S.) Co., Ltd. (filed as Exhibit 10.1 to the Company's Current Report on Form 8-K filed on December 15, 2014 (file no. 001-34529) and incorporated herein by reference).
- 10.12 PhotoCap Supply agreement dated as of December 31, 2014, by and between Specialized Technology Resources Solar (Suzhou) Co., Ltd and Zhangjiagang Huhui Segpy Co., Ltd. (filed as Exhibit 10.32 to the Company's Form 10-K filed on March 26, 2015 (file no. 001-34529) and incorporated herein by reference).
- 10.13 Termination Agreement, dated March 6, 2018, by and between Specialized Technology Resources Solar (Suzhou) Co., Ltd and Zhangjiagang Huhui Segpy Co., Ltd (filed as Exhibit 10.1 to the Company's Form 8-K filed on April 2, 2018 (file no. 001-34529) and incorporated herein by reference).
- †10.14 Retention Letter Agreement, dated January 25, 2019, by and between STR Holdings, Inc., and Thomas Vitro (filed as Exhibit 10.1 to the Company's Form 8-K filed on January 25, 2019 (file no. 001-34529) and incorporated herein by reference).
- 10.15 Purchase and Sale Agreement, effective January 10, 2019, by and between Specialized Technology Resources Solar (Malaysia) SDN BHD and JB Cocoa Sdn BHD (filed as Exhibit 10.1 to the Company's 8-K filed on February 27, 2019 (file no. 001-34529) and incorporated herein by reference).
- *21 Subsidiaries of STR Holdings, Inc.

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.

STR HOLDINGS, INC.
(Registrant)

By: /s/ Robert S. Yorgensen
 Name: Robert S. Yorgensen
 Title: *Chairman, President and Chief Executive Officer*
 Dated: March 27, 2019

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

<u>Name</u>	<u>Title</u>	<u>Date</u>
By: /s/ Robert S. Yorgensen Name: Robert S. Yorgensen	Chairman, President and Chief Executive Officer (Principal Executive Officer)	March 27, 2019
By: /s/ Thomas D. Vitro Name: Thomas D. Vitro	Vice President, Chief Financial Officer and Chief Accounting Officer (Principal Financial Officer and Principal Accounting Officer)	March 27, 2019
By: /s/ John A. Janitz Name: John A. Janitz	Director	March 27, 2019
By: /s/ Andrew M. Name: Leitch	Director	March 27, 2019

Andrew M.
Leitch

By: /s/ Xin Lin
Name: Xin Lin Director March 27,
2019

By: /s/ Jun Tang
Name: Jun Tang Director March 27,
2019

By: /s/ Ping Yu
Name: Ping Yu Director March 27,
2019

By: /s/ Lenian Zha
Name: Lenian Zha Director March 27,
2019