TRANSACT TECHNOL	OGIES INC
Form 10-K	

March 18, 2019

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

FORM 10-K

(Mark One)

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

For the fiscal year ended December 31, 2018

or

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

For the transition period from to ...

Commission file number: 0-21121

(Exact name of registrant as specified in its charter)

Delaware 06-1456680

(State or other jurisdiction of incorporation or organization) (I.R.S. Employer Identification No.)

One Hamden Center, 2319 Whitney Avenue, Suite 3B, Hamden, CT 06518 (Address of principal executive offices) (Zip Code)

Registrant's telephone number, including area code 203-859-6800

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

Title of Each Class - Common Stock, par value \$.01 per Name of Exchange on which Registered - Nasdaq Global Market

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

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 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 Accelerated filer

Non-accelerated filer Smaller reporting company

Emerging growth company

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

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

The aggregate market value of the voting and non-voting common equity stock held by non-affiliates of the Registrant was approximately \$87,900,000 based on the last sale price on June 30, 2018.

As of February 28, 2019, the number of shares outstanding of the Registrant's common stock, \$0.01 par value, was 7,450,968.

DOCUMENTS INCORPORATED BY REFERENCE

Portions of the Registrant's Proxy Statement to be filed with the Securities and Exchange Commission within 120 days after the year covered by this Form 10-K with respect to the 2019 Annual Meeting of Stockholders are incorporated by reference into Part III hereof.

TRANSACT TECHNOLOGIES INCORPORATED

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PART I

Forward Looking Statements

Certain statements included in this report, including without limitation statements in this Management's Discussion and Analysis of Financial Condition and Results of Operations, which are not historical facts are "forward-looking statements" within the meaning of Section 27A of the Securities Act of 1933, as amended, and Section 21E of the Securities Exchange Act of 1934, as amended. (the "Exchange Act") Forward-looking statements generally can be identified by the use of forward-looking terminology, such as "may", "will", "expect", "intend", "estimate", "anticipate", "belie "project" or "continue" or the negative thereof or other similar words. All forward-looking statements involve risks and uncertainties, including, but not limited to those listed in Item 1A of this Annual Report and such other risk and uncertainties as are described in our reports filed with the SEC from time to time. Actual results may differ materially from those discussed in, or implied by, the forward-looking statements. The forward-looking statements speak only as of the date of this report and we assume no duty to update them.

Item 1. Business.

The Company

TransAct Technologies Incorporated ("TransAct", the "Company", "we", "us", or "our") was incorporated in June 1996 and began operating as a stand-alone business in August 1996 as a spin-off of the printer business that was formerly conducted by certain subsidiaries of Tridex Corporation. We completed an initial public offering on August 22, 1996.

TransAct is a global leader in developing and selling software-driven technology and printing solutions for high growth markets including restaurant solutions, point of sale ("POS") automation and banking, casino and gaming, lottery, and oil and gas. Our world-class products are designed from the ground up based on market and customer requirements and are sold under the AccuDateTM, EPICENTRALTM, Epic®, Ithaca®, and Printrex® brand names. Known and respected worldwide for innovative designs and real-world service reliability, our thermal, and inkjet printers and terminals generate top-quality labels, coupons and transaction records such as receipts, tickets and other documents, as well as printed logging and plotting of data. We sell our products to original equipment manufacturers ("OEMs"), value-added resellers, select distributors, as well as directly to end-users. Our product distribution spans across the Americas, Europe, the Middle East, Africa, Asia, Australia, the Caribbean Islands and the South Pacific. We also offer world-class service, spare parts, accessories and printing supplies to our growing worldwide base of products currently in use by our customers. Through our TransAct Services Group ("TSG"), we provide a complete range of supplies and consumables used in the printing and scanning activities of customers in the restaurant and hospitality, banking, retail, casino and gaming, government and oil and gas exploration markets. Through our webstore, www.transactsupplies.com, and our direct selling team, we address the demand for these products. Our primary operating, hardware research and development, and eastern region service center is located in Ithaca, New York. In addition, we have a casino and gaming sales headquarters, software research and development and western region service center in Las Vegas, Nevada; a European sales and service center at our subsidiary in the United Kingdom ("UK"), and a sales office located in Macau, China. Our executive offices are located at One Hamden Center, 2319 Whitney Avenue, Suite 3B, Hamden, Connecticut, 06518, with a telephone number of (203) 859-6800.

Products, Services and Distribution Methods

Printers and terminals: TransAct designs, develops and markets a broad array of transaction-based and specialty printers and terminals utilizing thermal and inkjet printing technology for applications, primarily in the restaurant solutions, POS automation and banking, casino and gaming, lottery, and oil and gas printing markets. Our printers and terminals are configurable and offer customers the ability to choose from a variety of features and functions. Options typically include interface configuration, mounting configuration, paper cutting devices, paper handling capacities and cabinetry color. Our restaurant solutions terminals also offer configurable menu options. In addition to our configurable printers and terminals, we design and assemble custom printers for certain OEM

customers. In collaboration with these customers, we provide engineering and manufacturing expertise for the design and development of specialized printers tailored to our customers' business.

Restaurant Solutions: Our line of AccuDateTM terminals for the restaurant solutions market combine hardware and software in a device that includes an operating system, touchscreen and one or two thermal print mechanisms that print easy-to-read food rotation labels, grab and go labels for prepared foods, and "enjoy by" date labels to help food service establishments and restaurants (including fine dining, casual dining, quick-serve, convenient stores and hospitality establishments) effectively manage food safety and automate and manage back-of-the-restaurant operations. Our newest addition to the AccuDateTM product line, the AccuDate XL2e, is a unique Android® 5.0-based restaurant management terminal specifically designed to meet the food preparation management and labeling needs of the restaurant and hospitality industries. In 2019, we rebranded the AccuDate XL2e as BOHA!TM. The BOHA!TM terminal can be used for food expiration date labeling and grab and go labeling, along with account management and an analytics portal. In the restaurant solutions market, we use an internal sales force and, to a lesser extent distributors, to solicit sales directly from end-users.

POS automation and banking: In the POS market, we sell several models of printers utilizing thermal printing technology. Our POS printers are used primarily by quick-serve restaurants located either at the checkout counter or within self-service kiosks to print receipts for consumers or print on linerless labels. In the POS market, we primarily sell our products through a network of domestic and international distributors and resellers. We use an internal sales force to manage sales through our distributors and resellers, as well as to solicit sales directly from end-users. In the banking market, we sell inkjet printers that are used by banks, credit unions and other financial institutions to print deposit and withdrawal receipts and to validate checks at bank teller stations. In the banking market, we primarily sell our products directly to end-user banks and financial institutions through the use of our internal sales force and, to a lesser extent, resellers. We exited the banking market as of December 31, 2018 and therefore did not expect any future sales.

Casino and gaming: We sell several models of printers used in slot machines and video lottery terminals ("VLTs") and other gaming machines that print tickets or receipts instead of issuing coins ("ticket-in, ticket-out" or "TITO") at casinos, racetracks and other gaming venues worldwide. These printers utilize thermal printing technology to print tickets and receipts in monochrome, and offer various other features such as jam resistant bezels and a dual port interface that enables casinos to print coupons and promotions. In addition, we sell printers using thermal roll-fed printing technology for use in non-casino establishments, including game types such as Amusements with Prizes, Skills with Prizes, Fixed Odds Betting Terminals and other off-premise gaming type machines around the world. We sell our casino and gaming products primarily (1) to slot machine manufacturers, who incorporate our printers into slot machines and, in turn, sell completed slot machines directly to casinos and other gaming establishments and (2) through distributors. Until December 31, 2017, the Suzo-Happ Group was our primary worldwide distributor. However, effective January 1, 2018, we replaced Suzo-Happ Group with new distributors in Asia and Australia and adopted a direct selling model in Europe utilizing our UK sales office. We also maintain a dedicated internal sales force to solicit sales from slot machine manufacturers and casinos, and to manage sales through our distributors.

We also offer a software solution, the EPICENTRALTM Print System ("EPICENTRALTM" and "EPICENTRAL® SE"), including annual software maintenance, that enables casino operators to create promotional coupons and marketing messages and to print them in real-time at the slot machine. With EPICENTRALTM, casinos can utilize the system to create multiple promotions and incentives to either increase customer time spent on the casino floor or encourage additional visits to generate more revenue to the casinos. In 2017, we introduced EPICENTRAL® SE, a system edition version our software solution, that is specifically designed to work with the existing bonusing modules of casino slot machine management systems. In addition, EPICENTRAL® SE provides an upgrade path to a full EPICENTRALTM implementation in the event that an operator seeks to expand its promotion and bonusing options beyond the slot machine management systems currently offered.

Lottery: We primarily supply lottery printers to International Gaming Technology and its subsidiaries ("IGT"), our largest customer and the world's largest provider of lottery terminals. We also sell the Epic 3000 printer, to our other lottery system customers. Our lottery printers are designed for high-volume, high-speed printing of lottery tickets for various lottery applications. Sales of our lottery products are made directly to IGT and other lottery system customers, and are managed by an internal sales representative.

Printrex: Printrex printers include wide format, desktop and rack mounted and vehicle mounted black and white thermal printers used by customers in the oil and gas exploration industry to log and plot oil field and down hole well drilling data. The Printrex® brand of printers also includes high-speed color inkjet desktop printers used by oil and gas field service companies to print logs at their data centers. We primarily sell our Printrex® products directly to oil field service and drilling companies and OEM's, as well as through regional distributors in the United States, Europe, Canada and Asia. We also maintain a dedicated Printrex® internal sales representative.

TSG: Through TSG, we proactively market the sale of consumable products (including inkjet cartridges, ribbons, receipt paper, color thermal paper, food safety labels and other printing supplies), replacement parts, maintenance and repair services and testing services for all of our products and certain competitor's products. Our maintenance services include the sale of extended warranties, multi-year maintenance contracts, 24-hour guaranteed replacement product service called TransAct XpressTM and TransAct CareTM, and other repair services for our printers and terminals. Within the United States, we provide repair services through our eastern region service center in Ithaca, New York and our western region service center in Las Vegas, Nevada. Internationally, we provide repair services through our European service center located in Doncaster, UK, and through partners strategically located around the world.

We also provide customers with telephone sales and technical support, and a personal account representative to handle orders, shipping and general information. Technical and sales support personnel receive training on all of our manufactured products and services.

In addition to personalized telephone and technical support, we also market and sell consumable products 24 hours a day, seven days a week, via our online webstore <u>www.transactsupplies.com</u>.

Sources and Availability of Raw Materials

We design our products to optimize product performance, quality, reliability and durability. These designs combine cost efficient materials, sourcing and assembly methods with high standards of workmanship. Approximately 99% of our printer and terminal production is primarily through three third-party contract manufacturers in Asia. The remaining 1% of our products are assembled in our Ithaca, New York facility largely on a configure-to-order basis using components and subassemblies that have been sourced from vendors and contract manufacturers around the world.

We procure component parts and subassemblies for use in the assembly of our hardware products in Ithaca, New York. Critical component parts and subassemblies include thermal and inkjet print heads, printing/cutting mechanisms, power supplies, motors, injection molded plastic parts, LCD screens, circuit boards and electronic components, which are obtained from domestic and foreign suppliers at competitive prices. As a result of the majority

of our production being performed by our contract manufacturers, the majority of our purchases consist of fully-assembled printers and terminals produced by our contract manufacturers and, to a much lesser extent, component parts. We typically strive to maintain more than one source for our component parts, subassemblies and fully assembled printers and terminals to reduce the risk of parts shortages or unavailability. However, we could experience temporary disruption if certain suppliers ceased doing business with us, as described below.

We currently buy substantially all of our thermal print mechanisms, an important component of our thermal printers, and fully assembled printers for several of our printer and restaurant solutions terminal models, from one foreign contract manufacturer and to a much lesser extent, one other foreign contract manufacturer. Although we believe that other contract manufacturers could provide similar thermal print mechanisms or fully assembled printers and terminals, on comparable terms, a change in contract manufacturers could cause a delay in manufacturing and possible loss of sales, which may have a material adverse effect on our operating results. Although we do not have supply agreements with our foreign contract manufacturers, our relationship with our largest one remains strong and we have no reason to believe that they will discontinue their supply of thermal print mechanisms or fully assembled printers to us during 2019 or that their terms to us will be substantially less favorable than they have been historically. We are currently seeking to find a second source for our largest contract manufacturer in 2020.

Hewlett-Packard Company ("HP") is the sole supplier of inkjet cartridges that are used in all of our banking inkjet printers. Though we have exited the banking market as of December, 31, 2018, we still sell a substantial number of HP inkjet cartridges as a consumable product through TSG. Although other inkjet cartridges are compatible with our banking inkjet printers, the loss of the supply of HP inkjet cartridges could have a material adverse effect on the sale of our TSG consumable products. Our relationship with HP remains stable and we have no reason to believe that HP will discontinue its supply of inkjet cartridges to us or that their terms to us will be materially different than they have been historically. The inkjet cartridges we purchase from HP are used not only in our inkjet printers for the POS automation and banking market, but also in other manufacturer's printing devices across several other markets.

Canon, Inc. ("Canon") is the sole supplier of inkjet cartridges and other consumable items ("Canon Consumables") that are used in our Printrex® 980 oil and gas printer. The loss of supply of Canon Consumables would have a material adverse effect on the sale of Printrex 980® printers and the Canon Consumables. We have a supply agreement with Canon to supply us with Canon Consumables until May 2019. Prices under this agreement were fixed through May 2013, but may be changed during the remainder of the agreement if the exchange rate fluctuates significantly between the Japanese yen and the U.S. dollar.

Patents and Proprietary Information

TransAct relies on a combination of trade secrets, patents, employee and third-party nondisclosure agreements, copyright laws and contractual rights to establish and protect its proprietary rights in its products. We hold 35 United States and 37 foreign patents and have 8 United States and 5 foreign patent applications pending pertaining to our products. The duration of these patents range from 1 to 15 years. The expiration of any individual patent would not have a significant negative impact on our business. We regard certain manufacturing processes and designs to be proprietary and attempt to protect them through employee and third-party nondisclosure agreements and similar means. It may be possible for unauthorized third parties to copy certain portions of our products or to reverse engineer or otherwise obtain and use, to our detriment, information that we regard as proprietary. Moreover, the laws of some foreign countries do not afford the same protection to our proprietary rights as do the laws of the United States. There can be no assurance that legal protections we rely upon to protect our proprietary position will be adequate or that our competitors will not independently develop technologies that are substantially equivalent or superior to our technologies.

Trademarks, Service Marks and Copyrights

We own or have rights to trademarks, service marks, trade names and copyrights that we use in connection with the operation of our business, including our corporate names, logos and website names. Other trademarks, service marks and trade names appearing in this Annual Report on Form 10-K are the property of their respective owners. The trademarks we own include TransAct®, BOHA!TM, AccuDateTM, Epic, EPICENTRALTM, Ithaca® and Printrex®. Solely for convenience, some of the trademarks, service marks, trade names and copyrights referred to in this annual report on Form 10-K are listed without the ©, ® and TM symbols, but we will assert, to the fullest extent under applicable law, our rights to our trademarks, service marks, trade names and copyrights.

Seasonality

Restaurants typically reduce purchases of equipment in the fourth quarter due to the increased volume of transactions during the holiday period, which may negatively impact sales of our restaurant solutions terminals or POS printers.

Working Capital

Inventory, accounts receivable, and accounts payable levels, payment terms, and where applicable, return policies are in accordance with the general practices of the industry and standard business procedures. See also Item 7. Management's Discussion and Analysis of Financial Condition and Results of Operations.

Certain Customers

IGT is our most significant customer and has been since 1996. On May 29, 2015, we signed an agreement with IGT to sell on-line lottery and casino printers to IGT on a non-exclusive basis through December 31, 2019. Under the terms of the agreement, we sell on-line lottery and casino printers to IGT on a non-exclusive basis, and IGT purchases such printers from us on a non-exclusive basis. This agreement allows TransAct to sell printers to other lottery system customers beyond IGT.

In September 2013, we signed an agreement with Suzo-Happ to be our exclusive worldwide distributor of casino and gaming products through December 31, 2017. We did not renew the agreement upon its expiration. Beginning January 1, 2018, we replaced Suzo-Happ with new distributors in Asia and Australia and expanded our sales office in the UK to begin selling directly to end-user customers in Europe.

Sales to IGT and Suzo-Happ representing 10% or more of our total net sales were as follows:

Year Ended
December 31,
2018 2017 2016

IGT 18% 35 % 26 %
Suzo-Happ 1 % 8 % 15 %

Backlog

Our backlog of firm orders was approximately \$6.9 million as of February 28, 2019, compared to \$10.3 million as of February 28, 2018. Based on customers' current delivery requirements, we expect to fill and recognize as revenue \$5.4 million of our current backlog during 2019 and the remaining \$1.5 million during 2020.

Competition

The market for transaction-based and specialty printers and restaurant solutions terminals is extremely competitive, and we expect such competition to continue in the future. However, we experience less competition for EPICENTRALTM software due to the highly customized nature of the product. We compete with a number of companies, many of which have greater financial, technical and marketing resources than TransAct. We believe our ability to compete successfully depends on a number of factors both within and outside our control, including durability, reliability, quality, design capability, product customization, price, customer support, success in developing new products, manufacturing expertise and capacity, supply of component parts and materials, strategic relationships with suppliers, the timing of new product introductions by us and our competitors, general market, economic and political conditions and, in some cases, the uniqueness of our products.

In the restaurant solutions market, we compete with Avery Dennison Corporation, Ecolab Inc., ITD Food Safety, CMC Daymark and Integrated Control Corp. We compete in this market based largely on our ability to provide highly specialized software and purpose-built products and ongoing technical support.

In the POS automation and banking market, we primarily compete with Epson America, Inc., which holds a dominant market position of the POS markets into which we sell. We also compete, to a much lesser extent, with CognitiveTPG, Star Micronics America, Inc., Citizen -- CBM America Corporation, Pertech Industries, Inc., Addmaster, and Samsung/Bixolon. Certain competitors of ours have greater financial resources and lower costs attributable to higher volume production which enables them to occasionally offer lower prices than us. However, we have exited the banking market and will continue to deemphasize efforts in the POS automation market going forward as we have shifted our focus toward our higher-value, technology enabled restaurant solutions and casino and gaming products.

In the casino and gaming market (consisting principally of slot machine printing, VLT transaction printing and promotional coupon printing), we compete with several companies including JCM Global, Nanoptix, Inc., Custom Engineering SPA, Eurocoin and others. Certain of our products sold for casino and gaming applications compete based upon our ability to provide highly specialized products, custom engineering and ongoing technical support.

In the lottery market (consisting principally of on-line lottery transaction printing), we compete with other lottery printer providers such as Custom Engineering SPA, Star Micronics and Wincor Nixdorf.

In the oil and gas market, our Printrex® products compete primarily with the products of Imaging Systems Group, Inc. and Neuralog Inc. We compete in this market based largely on our ability to provide specialized, custom-engineered products.

The market in which TSG competes is highly fragmented, and we compete with numerous competitors of various sizes, including POS and internet resellers, and label converters depending on the geographic area.

Our strategy for competing in our markets is to continually develop new products (hardware and software), such as BOHA!TM in 2019, and product line extensions that are technologically advanced and provide differentiated features and functions, to increase our geographic market penetration, to take advantage of strategic relationships, and to lower the cost of our product by sourcing certain products overseas. Although we believe that our products, operations and relationships provide a competitive foundation, there can be no assurance that we will compete successfully in the future. In addition, our products utilize certain thermal and inkjet printing technologies. If other technologies, or variations to existing technologies, were to evolve or become available to us, it is possible that we would incorporate these technologies into our products. Alternatively, if such technologies were to evolve or become available to our competitors, our products could become obsolete, which could have a significant negative impact on our business.

Environment

We are not aware of any material noncompliance with federal, state and local provisions that have been enacted or adopted regulating the discharge of materials into the environment, or otherwise relating to the protection of the environment.

Available Information

We make available free of charge through the "Investor Relations" tab on our Internet website, www.transact-tech.com, our Annual Report on Form 10-K, quarterly reports on Form 10-Q, current reports on Form 8-K, and all amendments to those reports as soon as reasonably practicable after such material is electronically filed with or furnished to the Securities and Exchange Commission ("SEC"). The SEC maintains all reports, proxy and information statements, and other information regarding issuers that file electronically with the SEC at http://www.sec.gov. As such, you may read any materials filed by the Company with the SEC at http://www.sec.gov. The references to the foregoing website addresses do not constitute incorporation by reference of the information contained on the websites and should not be

considered part of this document.

Employees

As of December 31, 2018, TransAct and our subsidiaries employed 126 persons, all of whom were full-time employees. None of our employees are unionized, and we consider our relationships with our employees to be good.

Item 1A. Risk Factors

Investors should carefully consider the risks, uncertainties and other factors described below, as well as other disclosures in Management's Discussion and Analysis of Financial Condition and Results of Operations, because they could have a material adverse effect on our business, financial condition, operating results, and growth prospects. The risks described below are not the only ones facing our Company. Additional risks not known to us at this time or that we currently deem immaterial, may also impair our business operations.

We assume no obligation (and specifically disclaim any such obligation) to update these Risk Factors or any other forward-looking statements contained in this Annual Report to reflect actual results, changes in assumptions or other factors affecting such forward-looking statements, except as required by law.

Our operating results and financial condition may fluctuate.

Our operating results and financial condition may fluctuate from quarter to quarter and year to year and are likely to continue to vary due to a number of factors, many of which are not within our control. If our operating results do not meet the expectations of securities analysts or investors, who may derive their expectations by extrapolating data from recent historical operating results, the market price of our common stock will likely decline. Fluctuations in our operating results and financial condition may be due to a number of factors, including, but not limited to, those identified throughout this "Risk Factors" section:

delays between our expenditures to develop and market new or enhanced products and consumables and the generation of sales from those products;

the geographic distribution of our sales;

market acceptance of our products, both domestically and internationally;

development of new competitive products by others;

our responses to price competition;

our level of research and development activities;

changes in the amount that we spend to develop, acquire or license new products, consumables, technologies or businesses;

changes in the amount we spend to promote our products and services;

changes in the cost of satisfying our warranty obligations and servicing our installed base of products;

availability of third-party components at reasonable prices;

general economic and industry conditions, including changes in interest rates affecting returns on cash balances and investments, that affect customer demand;

fluctuations of world-wide oil and gas prices;

severe weather events (such as hurricanes) that can disrupt or interrupt the operation of our customers or suppliers facilities; and

changes in accounting rules.

Due to all of the foregoing factors, and the other risks discussed in this report, quarter-to-quarter comparisons of our operating results may not be an indicator of future performance.

Our revenue and profitability depend on our ability to continue to develop, on a timely basis, new products and technologies which are free from hardware or software anomalies and cannot be fraudulently manipulated. The success of newer products, such as the AccuDateTM restaurant solutions terminals, is dependent on how quickly customers in the related markets accept them given the very little market penetration these products have experienced since they are new and innovative and have limited competition. Additionally, the success of innovative technology, such as our BOHA! restaurant solution software and hardware products released in 2019, is dependent on our customers' acceptance of such technology. While the BOHA! terminals and software products were developed based on working with operators within the restaurant industry, such acceptance may nevertheless only build gradually over time or not at all. Delays in acceptance by our customers of new technologies may adversely affect our operations.

Our success depends upon our ability to adapt our capabilities and processes to meet the demands of producing new and innovative products. Because our newer products contain software and are generally more technologically sophisticated than those we have produced in the past, we must continually refine our capabilities to meet the needs of our product innovation. If we cannot efficiently adapt our infrastructure to meet the needs of our product innovations in a timely manner, our business could be negatively impacted.

In the lottery market, we have been dependent on sales to one large customer; the loss of this customer or reduction in orders from this customer could materially affect our sales.

Sales to IGT have represented a material percentage of our net sales since 1995. A reduction, delay or cancellation in orders from this customer, including reductions or delays due to market, economic, or competitive conditions in the industries in which we serve, could have a material adverse effect upon our results of operations.

Significant developments stemming from the UK's membership in the EU could have a material adverse effect on us. In 2016, the UK held a referendum and voted in favor of leaving the European Union, or EU. This referendum has created political and economic uncertainty, particularly in the UK and the EU. Our business in the UK, the EU, and worldwide could be affected during this period of uncertainty, and perhaps longer, by the impact of the UK's referendum. There are many ways in which our business could be affected, only some of which we can identify as of the date of this annual report.

The referendum, and the likely withdrawal of the UK from the EU that it triggers, has caused and, along with events that could occur in the future as a consequence of the UK's withdrawal, including the possible breakup of the UK, may continue to cause significant volatility in global financial markets, including in global currency and debt markets. This volatility could cause a slowdown in economic activity in the UK, Europe or globally, which could adversely affect our operating results and growth prospects. In addition, our business could be negatively affected by new trade agreements between the UK and other countries, including the United States, and by the possible imposition of trade or other regulatory barriers in the UK.

Infringement on the proprietary rights of others could put us at a competitive disadvantage, and any related litigation could be time consuming and costly.

Third-parties may claim that we violated their intellectual property rights. To the extent of a violation of a third-party's patent or other intellectual property right, we may be prevented from operating our business as planned and may be required to pay damages, to obtain a license, if available, or to use a non-infringing method, if possible, to accomplish our objectives. Any of these claims, with or without merit, could result in costly litigation and divert the attention of key personnel. If such claims are successful, they could result in costly judgments or settlements.

General economic conditions could have a material adverse effect on our business, operating results and financial condition.

Our business is subject to general economic conditions. Uncertainty or negative trends in U.S. or international economic and investment climates, including the impact of Brexit and recent developments in U.S.-China trade relations, could adversely affect our business. For example,, customers or potential customers could reduce or delay orders, key suppliers and customers could become insolvent, which could result in production delays, and our customers may not be able to obtain credit. Any of these possible effects could impact our ability to effectively manage inventory levels and collect receivables, create unabsorbed costs due to lower net sales, and ultimately decrease our net sales and profitability including write-downs of assets.

We rely on distributors and resellers to sell our products and services.

We use a variety of distribution channels, including OEMs and distributors, to market and sell our products and services. We may be adversely impacted by any conflicts that could arise between and among our various sales channels.

Our dependence upon distributors and resellers exposes us to numerous risks, including:

loss of channel and the ability to bring new products to market;

concentration of credit risk, including disruption in distribution should the distributors and / or resellers' financial condition deteriorate;

reduced visibility to end user demand and pricing issues which makes forecasting more difficult;

distributors or resellers leveraging their buying power to change the terms of pricing, payment and product delivery schedules; and

direct competition should a distributor or reseller decide to manufacture printers internally or source printers from a competitor.

We cannot guarantee that resellers will not reduce, delay or eliminate purchases from us, which could have a material adverse effect upon the business, consolidated results of operations and financial condition.

We have outsourced substantially all of the assembly of our printers and terminals to three contract manufacturers and will be dependent on them for the manufacturing of such products. A failure by these contract manufacturers, or any disruption in such manufacturing or the flow of product from these manufacturers, may adversely affect our business results.

In an effort to achieve additional cost savings and operation benefits, we have continued to outsource the manufacturing and assembly of our printers and terminals to contract manufacturers in Asia. Approximately 80% of our printer and terminal manufacturing is conducted by one third party manufacturer in Asia, and an additional 19% is conducted by two other third party manufacturers in Asia.

However, to the extent we rely on a third-party service provider for manufacturing services, we may incur increased business continuity risks. We will no longer be able to exercise control over the assembly of certain of our products or any related operations or processes, including the internal controls associated with operations and processes conducted and the quality of our products assembled by contract manufacturers. If we are unable to effectively manage and oversee our outsourcing strategy, we may not realize cost structure efficiencies and our operating and financial results could be materially adversely affected.

In addition, if any of our contract manufacturers experiences business difficulties or fails to meet our manufacturing needs, then we may be unable to meet production requirements, may lose revenue and may not be able to maintain relationships with our customers. Without the contract manufacturers continuing to manufacture our products and the continuing operation of the contract manufacturers' facilities, we will have limited means for the final assembly of a majority of our products until we are able to secure the manufacturing capability at another facility or develop an alternative manufacturing facility, which could be costly and time consuming and have a material adverse effect on our operating and financial results.

The increased elements of risk that arise from conducting certain operating processes in foreign jurisdictions may lead to an increase in reputational risk.

Although we carry business interruption insurance to cover lost revenue and profits in an amount we consider adequate, this insurance does not cover all possible situations. In addition, the business interruption insurance would not compensate us for the loss of opportunity and potential adverse impact, both short-term and long-term, on relations with our existing customers resulting from our inability to produce products for them.

The contract manufacturers have access to our intellectual property, which increases the risk of infringement or misappropriation of this intellectual property.

Political, social or economic instability in regions in which our manufacturers are located, could cause disruptions in trade, including exports to the U.S.

A significant portion of our printers and terminals are manufactured by contract manufacturers overseas and are exported to the U.S. Any such disruption in trade, including exports to the U.S., could adversely affect our business results. Events that could cause disruptions to such exports to the U.S. include:

the imposition of additional trade law provisions or regulations;

reliance on a limited number of shipping and air carriers who may experience capacity issues that adversely affect our ability to ship inventory in a timely manner or for an acceptable cost;

the imposition of additional duties, tariffs and other charges on imports and exports;

economic uncertainties and adverse economic conditions (including inflation and recession);

fluctuations in the value of the U.S. Dollar against foreign currencies;

significant labor disputes, such as dock strikes;

significant delays in the delivery of cargo due to port security considerations;

financial or political instability in any of the countries in which our printers and terminals are manufactured; and regulatory changes and economic conditions leading up to and following Brexit in those countries that are negatively affected by Brexit and in which our printers and terminals are manufactured.

We source some of our component parts and consumable products from sole source suppliers; any disruptions may impact our ability to manufacture and sell our products.

Our products rely on certain key components from third party or sole source suppliers. We do not have guaranteed supply contracts with any of our component suppliers, and our suppliers could delay shipments, increase prices or cease manufacturing such products or selling them to us at any time. A disruption in the supply of such component parts and consumable products could delay our production and/or the release of our new products and hinder our ability to meet our commitments to customers. If we are unable to obtain a sufficient quantity of these components on commercially reasonable terms or in a timely manner, or if we are unable to obtain alternative sources for the components, sales of our products could be delayed or halted entirely or we may be required to redesign our products. Any of these events could result in lost sales, reduced gross margins or damage to our end-customer relationships, which would have a material adverse effect on our operations and financial results.

We sell a significant portion of our products internationally and purchase important components from foreign suppliers. These circumstances create a number of risks.

We sell a significant amount of our products to customers outside the United States. Shipments to international customers are expected to continue to account for a material portion of net sales. Risks associated with sales and purchases outside the United States include:

fluctuating foreign currency rates could restrict sales, or increase costs of purchasing, in foreign countries; foreign governments may impose burdensome tariffs, quotas, taxes, trade barriers or capital flow restrictions; political and economic instability may reduce demand for our products or put our foreign assets at risk; restrictions on the export or import of technology may reduce or eliminate the ability to sell in or purchase from certain markets:

potentially limited intellectual property protection in certain countries, such as China, may limit recourse against infringing products or cause us to refrain from selling in certain geographic territories; and regulatory changes and economic conditions leading up to and following, Brexit, including uncertainties as to its effect on trade laws, tariffs, instability and volatility in the global financial and currency markets, conflicting or redundant regulatory regimes in Europe and political stability.

If tariffs on imported steel and aluminum, such as those proposed by the President of the United States, are implemented, our cost of raw materials may increase, which could adversely affect our business, results of operations and financial condition.

We obtain raw materials, including stainless steel and aluminum, used in the production of some of our printer products from domestic, Asian affiliated and nonaffiliated sources. The implementation of more restrictive trade policies, including the imposition of tariffs, or the renegotiation of existing trade agreements by the U.S. or by countries where we sell large quantities of products and services or procure supplies and other materials incorporated into our products, could negatively impact our business, results of operations and financial condition. Because steel and aluminum are raw materials used in a wide-range of our printer products, a broad based cost increase would result in an increase in our cost of goods sold, which may require us to increase prices for some of our products. However, an inability by us to pass such price increases through to our customers, or an inability of our suppliers to meet our raw material requirements, may have a material adverse impact on our business, results of operations or financial condition.

The effect of comprehensive U.S. tax reform legislation on us, whether adverse or favorable, is uncertain. In December of 2017, President Trump signed into law the Tax Cuts and Jobs Reform Act (the "Tax Reform Act"). Among a number of significant changes to the U.S. federal income tax rules, the Tax Reform Act reduces the marginal U.S. corporate income tax rate from 35% to 21%, limits the deduction for net interest expense, shifts the United States toward a more territorial tax system, and imposes new rules to combat erosion of the U.S. federal income tax base. While we have evaluated the effects of the Tax Reform Act on us, there are a number of uncertainties and ambiguities as to the interpretation and application of many of the provisions in the Tax Reform Act. In the absence of guidance on these issues, we will use what we believe are reasonable interpretations and

assumptions in interpreting and applying the Tax Reform Act for purposes of determining our cash tax liabilities and results of operations, which may change as we receive additional clarification and implementation guidance and as the interpretation of the Tax Reform Act evolves over time. It is possible that the Internal Revenue Service ("IRS") could issue subsequent guidance or take positions on audit that differ from the interpretations and assumptions that we previously made, which could have an adverse effect on our cash tax liabilities, results of operations and financial condition. As we collect and prepare necessary data, and interpret the Tax Reform Act and any additional guidance issued by the IRS or other standard-setting bodies, we may make adjustments to the provisional amounts that could materially affect our financial position and results of operations, as well as our effective tax rate in the period in which the adjustments are made. We recorded the impacts of the Tax Act on a provisional basis in 2017. As of December 22, 2018, our accounting for the impact of the Tax Act was complete. See Note 1, "Income Taxes" to our consolidated financial statements.

We face risks associated with manufacturing forecasts.

If we fail to predict our manufacturing requirements accurately, we could incur additional costs or experience manufacturing delays, which could cause us to lose orders or customers and result in lower net sales. We currently use a rolling 12-month forecast based primarily on our anticipated product orders and our product order history to help determine our requirements for components and materials. It is very important that we accurately predict both the demand for our products and the lead-time required to obtain the necessary components and raw materials.

Lead times for materials and components that we order vary significantly and depend on factors such as the specific supplier, the size of the order, contract terms, and demand for each component at a given time. If we underestimate our requirements, we may have inadequate manufacturing capacity or inventory, which could interrupt manufacturing of our products and result in delays in shipments and net sales. If we overestimate our requirements, we could have excess inventory of parts. In addition, delays in the manufacturing of our products could cause us to lose orders or customers.

Our success will depend on our ability to sustain and manage growth.

As part of our business strategy, we intend to pursue a growth strategy. Assuming this growth occurs, it will require the expansion of customer relationships in international markets, the successful development and marketing of new products for our existing and new markets, expanded internal sales, customer service and support, and the continued implementation and improvement of our operational, financial and management information systems.

To the extent that we seek growth through acquisitions, our ability to manage our growth will also depend on our ability to integrate businesses that have previously operated independently. We may not be able to achieve this integration without encountering difficulties or experiencing the loss of key employees, customers or suppliers. It may be difficult to design and implement effective financial controls for combined operations and differences in existing controls for each business may result in weaknesses that require remediation when the financial controls and reporting functions are combined. As we pursue acquisitions, we may incur legal, accounting and other transaction related expenses for unsuccessful acquisition attempts that could adversely affect our results of operations in the period in which they are incurred.

There can be no assurance that we will be able to successfully implement our growth strategy, or that we can successfully manage expanded operations, if they occur. As we expand, we may from time to time experience constraints that will adversely affect our ability to satisfy customer demand in a timely fashion. Failure to manage growth effectively could adversely affect our results of operations and financial condition.

We compete in highly competitive markets, which are likely to become more competitive. Competitors may be able to respond more quickly to new or emerging technology and changes in customer requirements. We face significant competition in developing and selling our printers, terminals, software, transaction supplies and services. Our principal competitors have substantial marketing, financial, development and personnel resources. To remain competitive, we believe we must continue to provide:

technologically advanced products that satisfy the user demands; superior customer service; high levels of quality and reliability; and dependable and efficient distribution networks.

We cannot ensure we will be able to compete successfully against current or future competitors. Increased competition may result in price reductions, lower gross profit margins and loss of market share, and could require increased spending on research and development, sales and marketing and customer support. Some competitors may make strategic acquisitions or establish cooperative relationships with suppliers or companies that produce complementary products. Any of these factors could reduce our earnings.

We depend on key personnel, the loss of which could materially impact our business.

Our future success will depend in significant part upon the continued service of certain key management and other personnel and our continuing ability to attract and retain highly qualified managerial, technical and sales and marketing personnel. There can be no assurance that we will be able to recruit and retain such personnel. The loss of either Bart C. Shuldman, the Company's Chairman of the Board and Chief Executive Officer, or Steven A. DeMartino, the Company's President, Chief Financial Officer, Treasurer and Secretary, or the loss of certain groups of key employees, could have a material adverse effect on our results of operations.

If we are unable to enforce our patents or if it is determined that we infringe patents held by others it could damage our business.

Prosecuting and defending patent lawsuits is very expensive. We are committed to aggressively asserting and defending our technology and related intellectual property, which we have spent a significant amount of money to develop. These factors could cause us to become involved in new patent litigation in the future. The expense of prosecuting or defending these future lawsuits could also have a material adverse effect on our business, financial condition and results of operations.

If we were to lose a patent lawsuit in which another party is asserting that our products infringe its patents, we would likely be prohibited from marketing those products and could also be liable for significant damages. Either or both of these results may have a material adverse effect on our business, financial condition and results of operations. If we lose a patent lawsuit in which we are claiming that another party's products are infringing our patents and thus, are

unable to enforce our patents, it may have a material adverse effect on our business, financial condition and results of operations. In addition to disputes relating to the validity or alleged infringement of other parties' rights, we may become involved in disputes relating to our assertion of our own intellectual property rights. Whether we are defending the assertion of intellectual property rights against us or asserting our intellectual property rights against others, intellectual property litigation can be complex, costly, protracted, and highly disruptive to business operations by diverting the attention and energies of management and key technical personnel. Plaintiffs in intellectual property cases often seek injunctive relief, and the measures of damages in intellectual property litigation are complex and often subjective or uncertain. Thus, any adverse determinations in this type of litigation could subject us to significant liabilities and costs. During the course of these lawsuits there may be public announcements of the results of hearings, motions, and other interim proceedings or developments in the litigation. If securities analysts or investors perceive these results to be negative, it could harm the market price of our stock.

The inability to protect intellectual property could harm our reputation, and our competitive position may be materially damaged.

Our intellectual property is valuable and provides us with certain competitive advantages. Copyrights, patents, trademarks, service marks, trade secrets, nondisclosure agreements and contracts are used to protect these proprietary rights. Despite these precautions, it may be possible for third parties to copy aspects of our products or, without authorization, to obtain and use information which we regard as trade secrets.

Our stock price may fluctuate significantly.

The market price of our common stock could fluctuate significantly in response to variations in quarterly operating results and other factors, such as:

changes in our business, operations or prospects; developments in our relationships with our customers; announcements of new products or services by us or by our competitors; announcement or completion of acquisitions by us or by our competitors; changes in existing or adoption of additional government regulations; unfavorable or reduced analyst coverage; and prevailing domestic and international market and economic conditions.

In addition, the stock market may experience significant price fluctuations year-to-year. Broad market fluctuations, general economic conditions and specific conditions in the industries in which we operate may adversely affect the market price of our common stock.

Limited trading volume and a reduction in analyst coverage of our common stock may contribute to its price volatility. Our common stock is traded on the Nasdaq Global Market. During the year ended December 31, 2018 the average daily trading volume for our common stock as reported by the Nasdaq Global Market was approximately 25,000 shares. We are uncertain whether a more active trading market in our common stock will develop. In addition, many investment banks no longer find it profitable to provide securities research on micro-cap and small-cap companies. As a result, relatively small trades may have a significant impact on the market price of our common stock, which could increase the volatility and depress the price of our common stock.

Future sales of our common stock may cause our stock price to decline.

In the future, we may sell additional shares of our common stock in public or private offerings, and we may also issue additional shares of our common stock to finance future acquisitions. Shares of our common stock are also available for future sale pursuant to stock options and other equity awards that we have granted to our employees, and in the future we may grant additional stock options and other forms of equity compensation to our employees. Sales of our common stock or the perception that such sales could occur may adversely affect prevailing market prices for shares of our common stock and could impair our ability to raise capital through future offerings.

If market conditions deteriorate or future results of operations are less than expected, a valuation allowance may be required for all or a portion of our deferred tax assets.

We currently have deferred tax assets, which may be used to reduce taxable income in the future. We assess the realization of these deferred tax assets on a quarterly basis, and if we determine that it is more likely than not that some portion of these assets will not be realized, an income tax valuation allowance is recorded. If market conditions deteriorate or future results of operations are less than expected, or there is a change to applicable tax rules, future assessments may result in a determination that it is more likely than not that some or all of our net deferred tax assets are not realizable. As a result, we may need to establish a valuation allowance for all or a portion of our net deferred tax assets, which may have a material adverse effect on our business, results of operations and financial condition.

We cannot provide any assurance that current laws, or any laws enacted in the future, will not have a material adverse effect on our business.

Our operations are subject to laws, rules, regulations, including environmental regulations, government policies and other requirements in each of the jurisdictions in which we conduct business. Changes in laws, rules, regulations, policies or requirements could result in the need to modify our products and could affect the demand for our products, which may have an adverse impact on our future operating results. If we do not comply with applicable laws, rules and regulations we could be subject to costs and liabilities and our business may be adversely impacted.

Our business could be adversely affected by actual or threatened terrorist attacks or the related heightened security measures, military actions and other efforts to combat terrorism.

Our business could be adversely affected by actual or threatened terrorist attacks or the related heightened security measures, military actions and other efforts to combat terrorism. It is possible that terrorist attacks could be directed at important locations for the gaming industry. Heightened security measures and other efforts to combat terrorism may also have an adverse effect on the gaming industry by reducing tourism. Any of these developments could also negatively affect the general economy and consumer confidence. Any downturn in the economy in general, or in the gaming industry in particular could result in a reduced demand for our products and could adversely affect our business and results of operations. In addition, heightened security measures may cause certain governments to restrict the import or export of goods, which may have an adverse effect on our ability to buy and sell goods.

Fluctuations in oil and gas prices could adversely affect drilling and exploration activities by oil and gas companies and our revenue in our Printrex market. If oil and gas prices remain volatile, or if oil or gas prices remain low or decline further, the demand for our Printrex products could be adversely affected.

The demand for our Printrex products depends on the level of spending by oil and gas companies for drilling and exploratory activities, which are affected by short-term and long-term trends in oil and gas prices, including current and anticipated oil and gas prices. Oil and gas prices, as well as the level of drilling and exploration, historically have been extremely volatile and are expected to continue to be highly volatile. If oil and gas prices continue to remain low or decline further, or if there is a further reduction in drilling and exploration activities, the demand for our Printrex products could be materially and adversely affected.

Cyber-security and privacy breaches, cyber-attacks, or other disruptions could expose us to liability, affect our business, and damage our reputation.

We are increasingly dependent on our information technology systems and infrastructure for our business. We collect, store, and transmit sensitive information including intellectual property, proprietary business information and personal information in connection with business operations. The secure maintenance of this information is critical to our operations and business strategy. Some of this information could be an attractive target of criminal attack by third parties with a wide range of motives and expertise, including organized criminal groups, disgruntled current or former employees, and others. Cyber-attacks are of ever-increasing levels of sophistication, and despite our extensive security measures, our information technology and infrastructure may be vulnerable to such attacks or may be breached, including due to employee error or malfeasance. Any such breach could compromise our networks and the information stored there could be accessed, publicly disclosed, lost or stolen. If our systems become compromised, we may not promptly discover the intrusion. Like other companies in our industry, we have experienced attacks to our data and systems, including malware and computer viruses that we have been able to detect and eliminate. If our systems fail or are breached or disrupted, we could lose product sales, and suffer reputational damage and loss of customer confidence. Such incidents would require notification to affected individuals, and may result in legal claims or proceedings and liability under federal and state laws that protect the privacy and security of personal information. Any one of these events could cause our business to be materially harmed and our results of operations to be adversely impacted.

Additional risks and uncertainties may affect our business

Additional risks and uncertainties not presently known to us or that we currently believe to be immaterial also may adversely impact our business. Should any risks or uncertainties develop into actual events, these developments could have material adverse effects on our business, financial condition, and results of operations.

Item 1B. Unresolved Staff Comments.

Not applicable.

Item 2. Properties.

Our principal facilities as of December 31, 2018 are listed below. We believe that all facilities generally are in good condition, adequately maintained and suitable for their present and currently contemplated uses.

Location	Operations Conducted	Size (Approx. Sq. Ft.)	Owned or Leased	Lease Expiration Date
Hamden, Connecticut	Executive offices and TSG sales office	11,100	Leased	April 30, 2027
Ithaca, New York	Hardware design and development, assembly and service facility	73,900	Leased	May 31, 2021
Las Vegas, Nevada	Software design and development, service center and casino and gaming sales office	19,600	Leased	October 31, 2022
Doncaster, UK	Sales office and service center	6,000	Leased	August 26, 2026
Macau, China	Sales office	180	Leased	June 30, 2019
		110,780		

Item 3. Legal Proceedings.

The Company may, in the ordinary course of business, become a party to litigation involving collection matters, contract claims and other legal proceedings relating to the conduct of its business. As of December 31, 2018, we are unaware of any legal proceedings pending or threatened against us that management believes are likely to have a material adverse effect on our business, financial condition or results of operations.

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.

Our common stock is traded on the Nasdaq Global Market under the symbol TACT. As of February 28, 2019, there were 278 holders of record of the common stock.

On February 11, 2019, our Board of Directors approved the first quarter 2019 dividend in the amount of \$0.09 per share payable on or about March 15, 2019 to common shareholders of record at the close of business on February 20, 2019.

Issuer Purchases of Equity Securities

On March 1, 2018, our Board of Directors approved a new stock repurchase program (the "2018 Stock Repurchase Program"). Under the 2018 Stock Repurchase Program, we are authorized to repurchase up to \$5 million of our outstanding shares of common stock from time to time in the open market at prevailing market prices based on market conditions, share price and other factors. The 2018 Stock Repurchase Program expires on December 31, 2019, if we do not discontinue the repurchase program prior to such time. We use the cost method to account for treasury stock purchases, under which the price paid for the stock is charged to the treasury stock account. Repurchases of our common stock are accounted for as of the settlement date. From the start of the 2018 Stock Repurchase Program on March 1, 2018 through December 31, 2018, we repurchased 156,410 shares of our common stock for approximately \$2 million at an average price per share of \$12.79.

During 2016 and 2017, under a prior repurchase program that was in place from February 25, 2016 through December 31, 2017, we purchased 499,843 shares of our common stock for \$3.9 million at an average price of \$7.86 per share. From January 1, 2005 through December 31, 2018, we repurchased a total of 4,044,842 shares of common stock for \$32.1 million, at an average price of \$7.94 per share.

Sales of Unregistered Securities

None.

Securities Authorized for Issuance under Equity Compensation Plans

For a discussion of the Company's equity compensation plan information, please see Item 12. Security Ownership of Certain Beneficial Owners and Management and Related Stockholder Matters of this Form 10-K.

CORPORATE PERFORMANCE GRAPH

The following graph compares the cumulative total return on the Company's Common Stock from December 31, 2013 through December 31, 2018, with the CRSP Total Return Index for the Nasdaq Stock Market (U.S.) and the Nasdaq Computer Hardware Stocks Index. The graph assumes that \$100 was invested on December 31, 2013 in each of TransAct's common stock, the CRSP Total Return Index for the Nasdaq Stock Market (U.S.) and the Nasdaq Computer Manufacturer Stocks Index, and that all dividends were reinvested.

COMPARISON OF CUMULATIVE TOTAL RETURN AMONG TRANSACT TECHNOLOGIES INCORPORATED COMMON STOCK, THE CRSP TOTAL RETURN INDEX FOR THE NASDAQ STOCK MARKET (U.S.), AND THE NASDAQ COMPUTER MANUFACTURER STOCKS INDEX

12/31/13	12/31/14	12/31/15	12/31/16	12/31/17	12/31/18
\$ 100.00	\$43.66	\$68.56	\$52.67	\$105.75	\$71.67
\$ 100.00	\$112.46	\$113.00	\$127.70	\$155.01	\$146.57
\$ 100.00	\$135.56	\$123.42	\$142.26	\$204.61	\$191.61
	\$ 100.00 \$ 100.00	\$100.00 \$43.66 \$100.00 \$112.46	\$100.00 \$43.66 \$68.56 \$100.00 \$112.46 \$113.00	\$100.00 \$43.66 \$68.56 \$52.67 \$100.00 \$112.46 \$113.00 \$127.70	12/31/13 12/31/14 12/31/15 12/31/16 12/31/17 \$ 100.00 \$43.66 \$68.56 \$52.67 \$105.75 \$ 100.00 \$112.46 \$113.00 \$127.70 \$155.01 \$ 100.00 \$135.56 \$123.42 \$142.26 \$204.61

Item 6. Selected Financial Data (in thousands, except per share amounts)
The following is summarized from our audited financial statements of the past five years:

		Year Ended December 31,				
		2018	2017	2016	2015	2014
Consolidated Statement of Operation	ons Data:					
Net sales		\$54,587	\$56,311	\$57,235	\$59,676	\$53,108
Gross profit		26,743	26,662	23,799	24,978	21,711
Operating expenses		19,984	19,848	18,599	20,510	25,483
Operating income (loss)		6,759	6,814	5,200	4,468	(3,772)
Net income (loss)		5,426	3,211	3,617	3,092	(2,421)
Net income (loss) per share:						
Basic		0.73	0.43	0.48	0.40	(0.29)
Diluted		0.70	0.42	0.47	0.39	(0.29)
Dividends declared and paid per sh	0.36	0.35	0.32	0.32	0.31	
	Decembe	er 31,				
	2018	2017	2016	2015	2014	
Consolidated Balance Sheet Data:						
Total assets	\$34,956	\$33,950	\$32,042	\$32,569	\$35,491	
Shareholders' equity	27,567	26,014	24,109	25,728	25,394	

Item 7. Management's Discussion and Analysis of Financial Condition and Results of Operations. This discussion should be read in conjunction with the Consolidated Financial Statements and notes thereto.

Overview

During the year ended December 31, 2018, we continued to focus our efforts on sales execution and growing the revenue of our newer, value-added products and technologies. In addition, on March 4, 2019 we launched our exciting new line of products for the restaurant solution's market, the BOHA! branded suite of cloud-based applications and companion hardware solutions. The new BOHA! products are a suite of products proving a solution to help restaurants and food service operators of any size automate back-of-house operations.

During the year ended December 31, 2018 we completed the build-out of our European casino and gaming internal sales team and started selling directly to our slot machine manufacturers and end-user casino and gaming customers in Europe as we terminated our relationship with our worldwide casino and gaming distributor. As a result of this investment, international casino and gaming sales increased 81% in 2018 compared to 2017. During 2018, we also recognized the initial sale of our new Epic Edge ticket-in, ticket-out ("TITO") printer for a large domestic operator's upcoming new casino opening.

Sales for our lottery market and TransAct Services Group ("TSG") market decreased in 2018 compared to 2017 due to lower sales to International Gaming Technology and its subsidiaries ("IGT"). TSG sales to IGT decreased due to lower sales of spare parts in the lottery market during 2018 compared to 2017. These sales declines were as expected as we are no longer focusing on the lottery markets. Based on our backlog of orders and contractual commitments we expect lottery and TSG sales to continue to decrease in 2019 compared to 2018.

During the year ended December 31, 2018, our total net sales decreased 3% to approximately \$54.6 million. See the table below for a breakdown of our sales by market:

	Year Ended	Year Ended	Change	
	December 31,	December 31,	¢	%
(In thousands)	2018	2017	Ф	70

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Restaurant solutions	\$4,579	8.4 % \$4,758	8.4 % \$(179) (3.8 %)
POS automation and banking	7,273	13.3 % 7,905	14.0 % (632) (8.0 %)
Casino and gaming	26,593	48.7 % 18,615	33.1 % 7,978 42.9 %
Lottery	3,093	5.7 % 9,805	17.4 % (6,712) (68.5%)
Printrex	1,297	2.4 % 1,052	1.9 % 245 23.3 %
TSG	11,752	21.5 % 14,176	25.2 % (2,424) (17.1%)
	\$54,587	100.0% \$56,311	100.0% \$(1,724) (3.1 %)

Sales of our restaurant solutions products decreased approximately 4% in the year ended December 31, 2018 compared to the year ended December 31, 2017. In the restaurant solutions market, we continue to focus on providing terminals that print food rotational date and nutritional labels to help restaurants and other food service establishments effectively manage food rotation and safety. The decrease in restaurant solutions sales resulted from lower sales of our AccuDateTM 9700 terminal due to lower sales to McDonald's. This decrease was partially offset by increased sales of our newer AccuDate XL2e terminal to three large corporate customers. In 2019, we intend to focus on developing and selling our new BOHA! cloud-based SaaS applications and hardware solutions business.

Sales of our POS automation and banking products decreased 8% in the year ended December 31, 2018 compared to the year ended December 31, 2017. In the POS market, we focus primarily on supplying printers that print receipts or linerless labels for customers in the restaurant and quick serve markets. During the year ended December 31, 2018, the decline in sales of our POS automation and banking printers was primarily driven by a 75% decrease in sales of our legacy banking and other POS printers as we exit these markets. In the banking market, we had focused mainly on supplying printers for use in bank teller stations at banks and financial institutions primarily in the U.S. As we continue to shift our focus to our newer products, we do not expect any future sales of these legacy products, as we exited the banking market at the end of 2018. POS automation and banking sales also decreased, although to a lesser extent, due to lower sales of our Ithaca 9000 printers during 2018 compared to the record sales levels of the Ithaca 9000 in 2017.

Sales of our casino and gaming products increased approximately 43% in 2018 compared to 2017. In our casino and gaming market, our focus lies primarily in supplying printers worldwide for use in slot machines at casinos and racetracks, as well as in other electronic gaming devices that print tickets or receipts. Additionally, we supplement these printer sales with revenue from EPICENTRALTM, our promotional printing system that enables casino operators to create promotional coupons and marketing messages and print them real time at the slot machine. The increase of casino and gaming printer sales is primarily due to increased domestic and international sales of our thermal casino printers of 20% and 143%, respectively. The increase in domestic thermal casino printers was driven primarily by increased sales to our OEMs and a large order of replacement printers from a domestic casino operator. The increase in international thermal casino printer sales was due to the successful transition away from using our former exclusive worldwide distributor. Rather, we employed our new direct sales team to sell to end user casino and gaming customers in Europe. Casino and gaming sales also increased due to a 58% increase in sales of our off-premise gaming printers.

During the year ended December 31, 2018, total lottery printer sales decreased approximately 69% due primarily to lower sales to IGT. Domestic lottery sales decreased 65% in 2018 compared to 2017. International lottery sales decreased \$1.1 million due to a sale to IGT in 2017 for the Canadian lottery and no comparable sales in 2018. Our sales to IGT each year are directly dependent on the timing and number of new and upgraded lottery terminal installations IGT performs and are not indicative of IGT's overall business or revenue. We expect lottery printer sales to be lower for 2019 compared to 2018, as we have shifted our focus away from the lottery market to our higher-value, technology-enabled market for restaurant solutions and casino and gaming products.

Sales of our Printrex branded printers include wide format, rack mounted and vehicle mounted thermal printers used by customers to log and plot oil field and down hole well drilling data in the oil and gas exploration industry. During the year ended December 31, 2018, we experienced an approximately 23% increase in Printrex product sales due primarily to the continued recovery of the worldwide oil and gas market that had been negatively impacted from multiple years of declining worldwide oil prices. Although we expect to see continued modest growth in the oil and gas markets during 2019, we do not anticipate significant contribution to total sales from our Printrex products as we shift our focus towards our higher value, technology enabled restaurant solution terminals and casino and gaming products.

TSG, which sells service, replacement parts and consumable products, including food safety labels, receipt paper, ribbons and inkjet cartridges, continues to offer a recurring revenue stream for the Company. TSG sales decreased 17% in 2018 from 2017 primarily due to unusually high sales of replacement parts to IGT for a legacy lottery printer in 2017. Although the installed base of our thermal lottery printers remains large, and lotteries continue to extend lottery contracts utilizing our existing hardware, including our printers, based on our backlog of orders and contractual commitments, primarily from IGT for spare parts, we expect TSG sales to decrease in 2019 compared to 2018.

Operationally, our gross margin reached 49% in 2018, an increase of 170 basis points from 2017, representing the highest gross margin we have reported for a full year. We believe gross margin will continue at similar levels in 2019 as our newer, technology-enabled products continue to grow and become a larger portion of our overall sales. In 2018, although operating income decreased slightly by less than 1%, we achieved operating margin of 12.4% compared to 12.1% in 2017 due to our improved gross margin that was offset by slightly higher operating expenses primarily to support our two high growth markets--restaurant solutions and casino and gaming. During 2019, we expect higher operating expenses compared to 2018, due to the full year impact of the investments made during 2018, as well as new investments, in selling and marketing for these two high growth markets

We reported net income of \$5.4 million and net income per diluted share of \$0.70 for 2018, compared to \$3.2 million and net income per diluted share of \$0.42 for 2017. In terms of cash flow for 2018, we experienced a very strong year, generating \$5.1 million of cash from operating activities. We also returned \$4.7 million to our shareholders in the form of \$2 million for treasury share repurchases and \$2.7 million for cash dividends. We ended the year with cash and cash equivalents of \$4.7 million and no debt on our Consolidated Balance Sheet at December 31, 2018.

Critical Accounting Policies and Estimates

The preparation of financial statements in conformity with generally accepted accounting principles requires management to make estimates, judgments and assumptions that affect both Balance Sheet items and Statement of Income categories. Such estimates and judgments are based upon historical experience and certain assumptions that are believed to be reasonable in the particular circumstances. We evaluate our assumptions on an ongoing basis by comparing actual results with our estimates. Actual results may differ from the original estimates.

The following accounting policies are those that we believe to be most critical in the preparation of our financial statements. These items utilize assumptions and estimates about the effect of future events that are inherently uncertain and are therefore based on our judgment. Please refer to Note 2 – Summary of significant accounting policies in the accompanying Consolidated Financial Statements for a complete listing of our accounting policies.

Revenue Recognition – ASU No. 2014-09, "Revenue from Contracts with Customers" and its related amendments (collectively, ASC 606) are effective for reporting periods beginning after December 15, 2017, and interim periods therein. This ASU is intended to clarify the principles for recognizing revenue by removing inconsistencies 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. Entities have the option of using either a full retrospective approach or modified retrospective approach to adopt the amended guidance. We adopted ASC 606 effective January 1, 2018 and elected the modified retrospective approach. The results for periods before 2018 were not adjusted for the new standard and there was no cumulative effect for the change in accounting at the date of adoption.

In accordance with ASC 606, a performance obligation is a promise in a contract with a customer to transfer a distinct good or service to the customer. Some of our contracts with customers contain a single performance obligation, while other contracts contain multiple performance obligations (most commonly when contracts include product and extended warranties). A contract's transaction price is allocated to each distinct performance obligation and recognized as revenue when, or as, the performance obligation is satisfied. When there are multiple performance obligations within a contract, we allocate the transaction price to each performance obligation based on its standalone selling price.

The transaction price is determined based on the consideration to which the Company will be entitled in exchange for transferring services to the customer. To the extent the transaction price includes variable consideration, such as price protection, reserves for returns and other allowances, the Company estimates the amount of variable consideration that should be included in the transaction price utilizing either the "expected value" method or the "most likely amount" method depending on the nature of the variable consideration. Variable consideration is included in the transaction price if, in the Company's judgment, it is probable that a significant future reversal of cumulative revenue under the contract will not occur.

For a majority of our revenue, which consists of printers, terminals, consumables, and replacement parts, the Company recognizes revenue as of a point of time. The transaction price is recognized upon shipment of the order when control of the goods is transferred to the customer and at the time the performance obligation is fulfilled. We also sell a software solution, EPICENTRALTM, that enables casino operators to create promotional coupons and marketing messages and to print them in real-time at the slot machine. EPICENTRALTM is primarily comprised of both a software component, which is licensed to the customer, and a hardware component. EPICENTRALTM software and hardware are integrated to deliver the system's full functionality. The transaction prices from EPICENTRALTM software license and hardware are recognized upon installation and formal acceptance by the customer when control of the license is transferred to the customer. For out-of-warranty repairs, the transaction price is recognized after the repair work is completed and the printer or terminal is returned to the customer, as control of the product is transferred to the customer and our performance obligation is completed.

Performance obligations are satisfied over time if the customer receives the benefits as we perform work, if the customer controls the asset as it is being produced, or if the product being produced for the customer has no alternative use and we have a contractual right to payment. For our separately priced extended warranty, technical support for our restaurant solution terminals and maintenance agreements (including free one-year maintenance received by the customers upon completion of EPICENTRALTM installation) revenue is recognized over time as the customer receives the benefit. The transaction price from the maintenance services is recognized ratably over time, using output methods, as control of the services is transferred to the customer. For extended warranties, the transaction price is recognized ratably over the warranty period, using output methods, as control of the services is transferred to the customer.

When there is more than one performance obligation in a customer arrangement, the Company typically uses the "standalone selling price" method to determine the transaction price to allocate to each performance obligation. The Company sells the performance obligations separately and has established standalone selling prices for its products and services. In the case of an overall price discount, the discount is applied to each performance obligation proportionately based on standalone selling price. To determine the standalone selling price for initial EPICENTRALTM installations, the Company uses the adjusted market assessment approach.

Accounts Receivable – We have standardized credit granting and review policies and procedures for all customer accounts, including: credit reviews of all new customer accounts; ongoing credit evaluations of current customers; credit limits and payment terms based on available credit information; and adjustments to credit limits based upon payment history and the customer's current creditworthiness. We also provide an estimate of doubtful accounts based on historical experience and specific customer collection issues. Our allowance for doubtful accounts as of December 31, 2018 was \$205 thousand, or 2.5% of outstanding accounts receivable, which we believe is appropriate considering

the overall quality of our accounts receivable. Although credit losses have historically been within expectations and the reserves established, there is no assurance that our credit loss experience will continue to be consistent with historical experience.

Inventories – Our inventories are stated at the lower of cost (principally standard cost, which approximates actual cost on a first-in, first-out basis) or net realizable value. We review net realizable value based on estimated selling prices in the ordinary course of business less estimated costs of completion, disposal and transportation, historical usage and estimates of future demand. Assumptions are reviewed at least quarterly and adjustments are made, as necessary, to reflect changing market conditions. Based on these reviews, inventory write-downs are recorded, as necessary, to reflect estimated obsolescence, excess quantities and net realizable value. Should circumstances change and we determine that additional inventory is subject to obsolescence, additional write-downs of inventory could result in a charge to income.

Goodwill and Intangible Assets – We acquire businesses in purchase transactions that result in the recognition of goodwill and intangible assets. The determination of the value of intangible assets requires management to make estimates and assumptions. In accordance with ASC 350-20 "Goodwill", acquired goodwill is not amortized, but is subject to impairment testing at least annually and when an event occurs or circumstances change, which indicate it is more likely than not an impairment exists. Factors considered that may trigger an impairment review are: significant underperformance relative to expected historical or projected future operating results; significant changes in the manner of use of acquired assets or the strategy for the overall business; significant negative industry or economic trends; and significant decline in market capitalization relative to net book value. Definite-lived intangible assets are amortized and are tested for impairment when appropriate. We reported \$2.6 million of goodwill and \$797 thousand of unamortized definite-lived intangible assets at December 31, 2018. We have determined that no goodwill or intangible asset impairment has occurred and the fair value of goodwill was substantially higher than our carrying value based on our assessment as of December 31, 2018 when the impairment review is performed.

Income Taxes – In preparing our Consolidated Financial Statements, we are required to estimate income taxes in each of the jurisdictions in which we operate. This involves estimating the actual current tax exposure together with assessing temporary differences between the tax basis of certain assets and liabilities and their reported amounts in the financial statements, as well as net operating losses, tax credits and other carryforwards. These differences result in deferred tax assets and liabilities, which are reflected in our Consolidated Balance Sheets. We then assess the likelihood that the deferred tax assets will be realized from future taxable income, and to the extent that we believe that realization is not likely, we establish a valuation allowance.

Significant judgment is required in determining the provision for income taxes and, in particular, any valuation allowance or tax reserves with respect to our deferred tax assets and uncertain tax positions. On a quarterly basis, we evaluate the recoverability of our deferred tax assets based upon historical results and forecasted taxable income over future years, and match this forecast against the basis differences, deductions available in future years and the limitations allowed for net operating loss and tax credit carryforwards to ensure that there is adequate support for the realization of the deferred tax assets. Although we have considered future taxable income and ongoing prudent and feasible tax planning strategies in assessing the need for a valuation allowance, in the event we were to determine that we would not be able to realize all or part of our deferred tax assets in the future, an adjustment to the valuation allowance or tax reserves would be charged as a reduction to income in the period such determination was made. Likewise, should we determine that we would be able to realize future deferred tax assets in excess of its net recorded amount, an adjustment to the valuation allowance would increase net income in the period such determination was made.

We account for income taxes in accordance with ASC 740, "Income Taxes." Among other things this provision prescribes a minimum recognition threshold that an income tax position must meet before it is recorded in the reporting entity's financial statements. It also requires that the effects of such income tax positions be recognized only if, as of the balance sheet reporting date, it is "more likely than not" (i.e., more than a 50% likelihood) that the income tax position will be sustained based solely on its technical merits. When making this assessment, management must assume that the responsible taxing authority will examine the income tax position and have full knowledge of all relevant facts and other pertinent information. The accounting guidance also clarifies the method of accruing for interest and penalties when there is a difference between the amount claimed, or expected to be claimed, on a company's income tax returns and the benefits recognized in the financial statements. See Note 11 to the consolidated financial statements for further details of the impact of the Tax Reform Act.

Warranty – We generally warrant our products for up to 24 months and record the estimated cost of such product warranties at the time the sale is recorded. Estimated warranty costs are based upon actual past experience of product repairs and the related estimated cost of labor and material to make the necessary repairs. If actual future product repair rates or the actual costs of material and labor differ from the estimates, adjustments to the accrued warranty liability and related warranty expense would be made.

Share-Based Compensation – We calculate share-based compensation expense in accordance with ASC 718, "Compensation – Stock Compensation" using the Black-Scholes option-pricing model to calculate the fair value of share-based awards. The key assumptions for this valuation method include the expected term of an option grant, stock price volatility, risk-free interest rate, and dividend yield. Prior to January 1, 2017, stock-based compensation expense included estimated effects of forfeitures. Upon adopting ASU 2016-09, "Compensation-Stock Compensation: Improvements to Employee Share-Based Payment Accounting", in 2017, an accounting policy election was made to account for forfeitures as they occur. The amended guidance requires that all tax effects related to share-based payments are recorded at settlement (or expiration) through the income statement, rather than through equity. Cash flows related to excess tax benefits will no longer be separately classified as a financing activity apart from other income tax cash flows. This ASU also allows for an employer to repurchase additional employee shares for tax withholding purposes without requiring liability accounting and clarifies that all cash payments made to tax authorities on an employee's behalf for withheld shares should be presented as a financing activity on the Consolidated Statements of Cash Flows. The presentation requirements

Results of Operations: Year ended December 31, 2018 compared to Year ended December 31, 2017

Net Sales. Net sales, which include printer, terminal and software sales as well as sales of replacement parts, consumables and maintenance and repair services, by market for the years ended December 31, 2018 and 2017 were as follows:

Year Ended Year Ended Change

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	December 31,		December 31,			¢	%
(In thousands)	2018		2017			\$	%
Restaurant solutions	\$4,579	8.4 %	\$4,758	8.4	%	\$(179)	(3.8 %)
POS automation and banking	7,273	13.3 %	7,905	14.0	%	(632)	(8.0 %)
Casino and gaming	26,593	48.7 %	18,615	33.1	%	7,978	42.9 %
Lottery	3,093	5.7 %	9,805	17.4	%	(6,712)	(68.5%)
Printrex	1,297	2.4 %	1,052	1.9	%	245	23.3 %
TSG	11,752	21.5 %	14,176	25.2	%	(2,424)	(17.1%)
	\$54,587	100.0%	\$56,311	100.0)%	\$(1,724)	(3.1 %)
International*	\$11,069	20.3 %	\$7,591	13.5	%	\$3,478	45.8 %

^{*}International sales do not include sales of products made to domestic distributors or other customers who in turn ship those products to international destinations.

Net sales for 2018 decreased \$1.7 million, or approximately 3%, from 2017. Printer and terminal sales volume decreased by 5% to approximately 142,000 units, driven primarily by a 71% decrease in unit volume from the lottery market and, to a lesser extent, a 6% and 18% decrease in the POS automation and banking market and restaurant solutions market, respectively. These decreases were partially offset by an increase in sales volume of 44% in the casino and gaming market. Although unit volume decreased during 2018 compared to 2017, the average selling price of our printers and terminals increased 7% during 2018 compared to 2017, due primarily to the decreased volume of lottery printers, which carry lower prices than our other products.

International sales increased \$3.5 million, or 46%, primarily driven by 81% higher international sales in the casino and gaming market. This increase was partially offset by a \$1.1 million sales decrease in our international lottery market during 2018 compared to 2017.

Restaurant solutions: Revenue from the restaurant solutions market includes sales of terminals that combine hardware and software in a device that includes an operating system, touchscreen and one or two thermal print mechanisms that print easy-to-read food rotation labels, grab and go labels for prepared foods, and "enjoy by" date labels to help food service establishments and restaurants (including fine dining, casual dining, quick-serve convenience and hospitality establishments) effectively manage food safety and automate and manage back-of-the-restaurant operations. A summary of sales of our worldwide restaurant solutions products for the years ended December 31, 2018 and 2017 is as follows (in thousands, except percentages):

	Year Ended		Year Ended		Change		
	Decembe	December 31, I		December 31,		%	
(In thousands)	2018		2017		Ф	70	
Domestic	\$4,133	90.3 %	\$4,384	92.1 %	\$ (251)	(5.7 %)	
International	446	9.7 %	374	7.9 %	6 72	19.3%	
	\$4,579	100.0%	\$4,758	100.0%	\$(179)	(3.8 %)	

The decrease in domestic restaurant solutions terminal sales in 2018 compared to 2017 was primarily driven by lower sales of our AccuDate 9700 terminal to McDonald's. This decrease was partially offset by increased sales of our newer AccuDate XL2e terminal to three large corporate customers. We expect sales of our restaurant solutions products to increase in 2019 compared to 2018 following the launch of our new BOHA! cloud-based applications and hardware solutions in the first quarter of 2019. The new BOHA! suite of products is designed to provide back-of-house automation solutions to restaurant and foodservice operators.

International restaurant solutions sales increased during 2018 compared to 2017 due to increased sales of the AccuDate 9700 for McDonald's through our Canadian distributor.

POS automation and banking: Revenue from the POS automation and banking market includes sales of thermal printers used primarily by quick serve restaurants located either at the checkout counter or within self-service kiosks to print receipts for consumers or print on linerless labels. In addition, revenue includes sales of inkjet printers used by banks, credit unions and other financial institutions to print deposit or withdrawal receipts and/or validate checks at bank teller stations. A summary of sales of our worldwide POS automation and banking products for the years ended December 31, 2018 and 2017 is as follows:

	Year Ended		Year Ended		Change		
	Decembe	December 31, I		er 31,	¢	%	
(In thousands)	2018		2017		Ф	70	
Domestic	\$7,122	97.9 %	\$7,596	96.1 %	\$(474)	(6.2 %)	
International	151	2.1 %	309	3.9 %	(158)	(51.1%)	
	\$7,273	100.0%	\$7,905	100.0%	\$(632)	(8.0 %)	

The decrease in domestic POS automation and banking sales in 2018 compared to 2017 was primarily driven by a 75% decrease in sales of our legacy banking and other POS printers. We do not expect any future sales of these legacy products, as we exited the banking market at the end of 2018 and have shifted our focus to our newer products. These decreases were partially offset by a slight increase in domestic sales of our Ithaca® 9000 printers of 1% during 2018 compared to 2017, as sales rebounded to prior year, near-record levels during the second and third quarters of 2018. We expect sales of our Ithaca® 9000 for McDonald's to decrease in 2019 compared to 2018.

International POS automation and banking sales decreased due to lower sales of our Ithaca® 9000 printer to our Canadian distributor for McDonald's during 2018 compared to 2017.

Casino and Gaming: Revenue from the casino and gaming market includes sales of thermal ticket printers used in slot machines, video lottery terminals, and other gaming machines that print tickets or receipts instead of issuing coins at

casinos and racetracks and other gaming venues worldwide. Revenue from this market also includes sales of thermal roll-fed printers used in the international off-premise gaming market in gaming machines such as Amusement with Prizes, Skills with Prizes and Fixed Odds Betting Terminals at non-casino gaming establishments. Revenue from this market also includes royalties related to our patented casino and gaming technology. In addition, casino and gaming market revenue includes sales of the EPICENTRALTM print system, our software solution (including annual software maintenance), that enables casino operators to create promotional coupons and marketing messages and to print them real-time at the slot machine. A summary of sales of our worldwide casino and gaming products for the years ended December 31, 2018 and 2017 is as follows:

			Year Ende	ed	Change		
			December 31,		¢	%	
(In thousands)	2018		2017		Þ	%	
Domestic	\$17,518	65.9 %	\$13,608	73.1 %	\$3,910	28.7%	
International	9,075	34.1 %	5,007	26.9 %	4,068	81.2%	
	\$26,593	100.0%	\$18,615	100.0%	\$7,978	42.9%	

The increase in domestic sales of our casino and gaming products was due primarily to a 20% increase in domestic sales of our thermal casino printer in 2018 compared to 2017, driven primarily by increased sales to our OEMs and a large order from a domestic casino operator for replacement printers. Domestic sales also increased due to a significant sale of our off-premise gaming printers to an OEM that we don't expect to reoccur in 2019. During the fourth quarter of 2018, we also sold our first order of our Epic Edge, our new thermal TITO casino printer, to a large domestic operator in connection with its upcoming casino opening. Sales of EPICENTRALTM software during 2018 were comparable with our 2017 EPICENTRALTM sales as we completed two new installations during both 2018 and 2017. Sales of EPICENTRALTM are project based, and as a result, may fluctuate significantly quarter-to-quarter and year-to-year.

The increase in international sales in 2018 compared to 2017 was due to a 143% increase of thermal casino printer sales. These increases were due to the success of the transition away from using our previous exclusive worldwide distributor whose contract ended at the end of 2017 and using our new direct sales team to sell to end user casino and gaming customers in Europe. These increases were partially offset by a 5% decrease in international sales of off-premise gaming printers.

We expect domestic and international casino and gaming sales in 2019 to be relatively consistent with the sales levels achieved during 2018.

Lottery: Revenue from the lottery market includes sales of thermal on-line and other lottery printers primarily to IGT and, to a lesser extent, other lottery system companies for various lottery applications. A summary of sales of our worldwide lottery printers for the years ended December 31, 2018 and 2017 is as follows:

	Year Ended		Year End	led	Change		
	December 31,		December 31,		¢	%	
(In thousands)	2018		2017		Φ	70	
Domestic	\$3,046	98.5 %	\$8,626	88.0 %	\$(5,580)	(64.7%)	
International	47	1.5 %	1,179	12.0 %	(1,132)	(96.0%)	
	\$3,093	100.0%	\$9,805	100.0%	\$(6,712)	(68.5%)	

Our sales to IGT are directly dependent on the timing and number of new and upgraded lottery terminal installations that IGT performs, and as a result, may fluctuate significantly quarter-to-quarter and year-to-year. However, our lottery market sales are not indicative of IGT's overall business or revenue. We expect lottery printer sales to be lower for 2019 compared to 2018, as we have shifted our focus away from the lottery market to our higher-value, technology enabled restaurant solutions and casino and gaming products.

The decrease in international lottery sales in 2018 compared to 2017 was primarily due to a sale of lottery printers to IGT for the Canadian lottery in 2017 and no comparable sale occurring in 2018.

Printrex: Printrex branded printers are sold into markets that include wide format, desktop and rack mounted and vehicle mounted black/white thermal printers used by customers to log and plot oil field, seismic and down hole well drilling data in the oil and gas exploration industry. It also includes high-speed color inkjet desktop printers used to print logs at the data centers of the oil and gas field service companies. Revenue in this market also includes sales of vehicle mounted printers used to print schematics and certain other critical information in emergency services vehicles and other mobile printing applications. A summary of sales of our worldwide Printrex printers for the years ended December 31, 2018 and 2017 is as follows (in thousands, except percentages):

	Year End	led	Year Ended		Change	
	December 31,		December 31,		¢	%
(In thousands)	2018		2017		Ф	70
Domestic	\$1,028	79.3 %	\$849	80.7 %	\$179	21.1%
International	269	20.7 %	203	19.3 %	66	32.5%
	\$1,297	100.0%	\$1,052	100.0%	\$245	23.3%

The increase in Printrex sales in 2018 compared to 2017 resulted from a 57% increase in domestic and international sales of our oil and gas printers due to a continued recovery in the oil and gas market. This increase was partially offset by 87% lower sales of domestic and international medical and mobile printers in 2018 compared to 2017. We expect total Printrex sales to increase slightly in 2019 compared to 2018, as we expect oil and gas sales to continue to increase. However, we do not expect any future medical and mobile printer sales, as we exited this market at the end of 2018 in order to focus on our higher value, technology-enabled restaurant solutions and casino and gaming products.

TSG: Revenue generated by our TSG includes sales of consumable products (inkjet cartridges, ribbons, receipt paper, color thermal paper, food safety labels and other printing supplies), replacement parts, maintenance and repair services, testing services, refurbished printers, and shipping and handling charges. A summary of sales in our worldwide TSG market for the years ended December 31, 2018 and 2017 is as follows:

	Year Ended		Year Ended		Change	
	December 31,		December 31,		¢	%
(In thousands)	2018		2017		Ф	70
Domestic	\$10,671	90.8 %	\$13,657	96.3 %	\$(2,986)	(21.9 %)
International	1,081	9.2 %	519	3.7 %	562	108.3%
	\$11,752	100.0%	\$14,176	100.0%	\$(2,424)	(17.1 %)

The decrease in domestic revenue from TSG in 2018 compared to 2017 was due primarily to lower sales of replacement parts, non-Printrex consumable products and service revenue. Replacement part sales decreased 36% due to lower sales of lottery printer spare parts to IGT. Non-Printrex consumables sales declined 10% due to lower sales of our legacy HP inkjet cartridges used in our banking printers, as we exited the banking market at the end of 2018. Service revenue declined 10% in 2018 compared to 2017 due to paper testing sales that occurred in 2017 but did not repeat in 2018. These decreases were partially offset by increased AccuDate label sales which more than quadrupled in 2018 compared 2017. Based on our backlog of orders and contractual commitments for replacement parts, primarily from IGT, for our installed base of lottery printers, we expect TSG sales to decrease in 2019 compared to 2018.

Internationally, TSG revenue increased primarily due to a 134% increase in sales of replacement parts and accessories in 2018 compared to 2017, as sales of replacement parts and accessories to international casino and gaming customers have increased upon the transition away from using our previous exclusive worldwide distributor and using our new direct sales team to sell to end user casino and gaming customers.

Gross Profit. Gross profit information for the years ended December 31, 2018 and 2017 is summarized below (in thousands, except percentages):

			Percen	t	Percen	ıt		
	Decembe	Percen	t	of		of		
				Total		Total		
					Sales -		Sales -	
	2018	2017	Change	e	2018		2017	
Year ended	\$26,743	\$26,662	0.3	%	49.0	%	47.3	%

Gross profit is measured as revenue less cost of sales, which includes primarily the cost of all raw materials and component parts, direct labor, manufacturing overhead expenses, cost of finished products purchased directly from our contract manufacturers and expenses associated with installations of our EPICENTRALTM print system. Gross profit increased \$81 thousand, or less than 1%, and gross margin increased 170 basis points due primarily to a more favorable sales mix in 2018 compared to 2017. The increased gross margin reflects a favorable shift in sales mix towards higher-value, technology driven solutions, as well as lower sales volume of lottery and POS printers, which carry lower margins than our other products.

Operating Expenses - Engineering, Design and Product Development. Engineering, design and product development information for the years ended December 31, 2018 and 2017 is summarized below (in thousands, except percentages):

				Percent	Percent
	December 31,		Percent	of	of
				Total	Total
				Sales -	Sales -
	2018	2017	Change	2018	2017
Year ended	\$4,576	\$4,303	6.3 %	8.4	% 7.6 %

Engineering, design and product development expenses primarily include salary and payroll related expenses for our hardware and software engineering staff, depreciation and design expenses (including prototype printer expenses, outside design, development and testing services, supplies and contracted software development expenses). Engineering, design and product development expenses increased \$273 thousand, or 6%, in 2018 compared to 2017 due primarily to the hiring of additional engineering staff and increased expenses related to product development for the restaurant solutions and casino and gaming markets. We expect engineering, design and product development expenses in 2019 to be consistent with 2018.

Operating Expenses - Selling and Marketing. Selling and marketing information for the years ended December 31, 2018 and 2017 is summarized below (in thousands, except percentages):

					Percen	t	Percen	ıt
	Decemb	er 31,	Percent	Percent			of	
				Total		Total		
					Sales -		Sales -	
	2018	2017	Change	;	2018		2017	
Year ended	\$7,203	\$7,561	(4.7	%)	13.2	%	13.4	%

Selling and marketing expenses primarily include salaries and payroll related expenses for our sales and marketing staff, sales commissions, travel expenses, expenses associated with the lease of sales offices, advertising, trade show expenses, e-commerce and other promotional marketing expenses. Selling and marketing expenses decreased \$358 thousand, or 5%, in 2018 compared to 2017 primarily due to the retirement of our EVP, Sales and Marketing in December 2017, whose position was replaced by an existing employee of TransAct, as well as the elimination of sales

commission expense to our former international casino and gaming distributor, Suzo-Happ. These decreases were partially offset by the hiring of additional sales staff to replace our former exclusive worldwide distributor with a direct selling team for our casino and gaming sales in Europe. We expect selling and marketing expense to increase significantly in 2019 compared to 2018 due to the full year impact from the hiring of additional sales staff during the year ended December 31, 2018, as well as new investments to support our new suite of BOHA! software and hardware solutions.

Operating Expenses - General and Administrative. General and administrative information for the years ended December 31, 2018 and 2017 is summarized below (in thousands, except percentages):

				Percent	Percent
	December 31,		Percent	of	of
				Total	Total
				Sales -	Sales -
	2018	2017	Change	2018	2017
Year ended	\$8,205	\$7,984	2.8 %	15.0 %	6 14.2 %

General and administrative expenses primarily include salaries, incentive compensation, and other payroll related expenses for our executive, accounting, human resources and information technology staff, expenses for our corporate headquarters, professional and legal expenses, telecommunication expenses, and other expenses related to being a publicly-traded company. General and administrative expenses increased \$221 thousand, or 3%, in 2018 compared to 2017 due primarily to increased legal expenses and increased administrative expenses related to the expansion of our restaurant solutions sales staff and transitioning to a direct selling model for the casino and gaming market in Europe. These increases were partially offset by lower incentive compensation expense in 2018 compared to 2017. We expect general and administrative expense to be higher in 2019 compared to 2018 due to higher incentive compensation and additional investment to support restaurant solutions.

Operating Income. Operating income information for the years ended December 31, 2018 and 2017 is summarized below (in thousands, except percentages):

					Percen	ıt	Percer	ıt
	December 31,		Percen	t	of		of	
					Total		Total	
					Sales -	_	Sales -	_
	2018	2017	Change	•	2018		2017	
Year ended	\$6,759	\$6,814	(0.8	%)	12.4	%	12.1	%

Our operating income decreased by \$55 thousand, or 1%. Despite a sales decline of 3% our operating margin improved, increasing 30 basis points to 12.4% in 2018 compared to 12.1% in 2017, largely due to a 170 basis point increase in gross margin somewhat offset by a 1% increase in operating expenses.

Interest. We recorded net interest expense of \$27 thousand in 2018 compared to \$33 thousand in 2017.

Other, net. We recorded other expense of \$266 thousand in 2018 compared to \$9 thousand in 2017. The additional expense was due to higher foreign currency exchange losses recorded by our United Kingdom ("UK") subsidiary in 2018 compared to 2017. Going forward we may continue to experience more foreign exchange volatility as we increase our casino and gaming sales in Europe.

Income Taxes. We recorded an income tax provision during the year ended December 31, 2018 of \$1.0 million at an effective tax rate of 16.1%, compared to an income tax provision during the year ended December 31, 2017 of \$3.6 million at an effective tax rate of 52.6%. The effective tax rate in 2018 was lower than the effective tax rate in 2017 due to the enactment of the Tax Reform Act that was signed on December 22, 2017. Additionally, the effective tax rate in 2017 was unusually high due to the initial impact of the Tax Reform Act as we recognized a provisional \$1.3 million charge to income tax expense for the year ended December 31, 2017 as a result of revaluing our net deferred tax assets using the new U.S. corporate tax rate of 21%. The Tax Reform Act significantly changed U.S. tax law by, among other things, lowering corporate income tax rates, implementing a territorial tax system and imposing a one-time repatriation tax on undistributed foreign earnings. The Tax Reform Act reduced the U.S. corporate income tax rate from a maximum of 35% to a flat 21% rate effective January 1, 2018 and, as a result, reduced our statutory U.S. corporate income tax rate from 34% to 21%. We expect our annual effective tax rate for 2019 to be between 12% and 14%.

Net Income. We reported net income during 2018 of \$5.4 million, or \$0.70 per diluted share, compared to \$3.2 million, or \$0.42 per diluted share, for 2017.

Results of Operations: Year ended December 31, 2017 compared to year ended December 31, 2016

Net Sales. Net sales, which include printer, terminal and software sales as well as sales of replacement parts, consumables and maintenance and repair services, by market for the years ended December 31, 2017 and 2016 were as follows:

	Year Ended Y		Year End	Year Ended		
	December	: 31,	December	r 31,	\$	%
(In thousands)	2017		2016		Ф	70
Restaurant solutions	\$4,758	8.4 %	\$5,162	9.0 %	(s) \$(404)	(7.8 %)
POS automation and banking	7,905	14.0 %	10,518	18.4 %	(2,613)	(24.8%)
Casino and gaming	18,615	33.1 %	21,006	36.7 %	(2,391)	(11.4%)
Lottery	9,805	17.4 %	9,913	17.3 %	(108)	(1.1 %)
Printrex	1,052	1.9 %	540	1.0 %	512	94.8 %
TSG	14,176	25.2 %	10,096	17.6 %	4,080	40.4 %
	\$56,311	100.0%	\$57,235	100.0%	\$ (924)	(1.6 %)
International*	\$7,591	13.5 %	\$11,693	20.4 %	6 \$(4,102)	(35.1%)

^{*}International sales do not include sales of products made to domestic distributors or other customers who in turn ship those products to international destinations.

Net sales for 2017 decreased \$924 thousand, or 2%, from 2016. Printer and terminal sales volume decreased by 13% to approximately 150 thousand units, driven primarily by a 25% and 13% decrease in unit volume from the POS automation and banking market and casino and gaming market, respectively and, to a lesser extent a 3% decrease in the lottery market and 13% decrease in the restaurant solutions market. These decreases were partially offset by increased sales volume of 112% in the Printrex market. The average selling price of our printers and terminals increased 4% in 2017 compared to 2016, primarily due to decreased volume of POS automation and banking printers

sold in 2017, which carry lower prices than our other products.

Overall, international sales decreased \$4.1 million, or 35%, primarily driven by lower sales in the international casino and gaming market. This decrease was partially offset by a \$1 million sales increase in our international lottery market during 2017.

Restaurant solutions: A summary of sales of our worldwide restaurant solutions products for the years ended December 31, 2017 and 2016 is as follows:

	Year Ended		Year Ended		Change	
	Decembe	er 31,	Decembe	er 31,	\$	%
(In thousands)	2017		2016		Ф	%
Domestic	\$4,384	92.1 %	\$4,747	92.0	% \$(363)	(7.6%)
International	374	7.9 %	415	8.0	% (41)	(9.9%)
	\$4,758	100.0%	\$5,162	100.0	% \$(404)	(7.8%)

The decrease in domestic restaurant solutions terminal sales in 2017 compared to 2016 was primarily driven by lower sales of our AccuDate 9700 terminal to our U.S. distributor. This decrease was partially offset by increased sales of our AccuDate 9700 terminal to McDonald's, increased sales of our AccuDate Pro terminal and the initial sales of our AccuDate XL terminal in 2017.

International restaurant solution terminals decreased during 2017 compared to 2016 due to lower sales to our Latin American and Canadian distributors.

POS automation and banking: A summary of sales of our worldwide POS automation and banking products for the years ended December 31, 2017 and 2016 is as follows:

	Year Ended		Year Ended		Change	
	Decembe	er 31,	December	31,	¢	%
(In thousands)	2017		2016		Ф	70
Domestic	\$7,596	96.1 %	\$9,754	92.7 %	\$(2,158)	(22.1%)
International	309	3.9 %	764	7.3 %	(455)	(59.6%)
	\$7,905	100.0%	\$10,518	100.0%	\$(2,613)	(24.8%)

The decrease in both domestic and international POS automation and banking printer revenue in 2017 compared to 2016 was primarily driven by a 23% decrease in sales of our Ithaca® 9000 printer, as sales to McDonald's began to slow compared to the record pace experienced in 2016. Additionally, we experienced a 37% decline in sales of our legacy banking and other POS printers in 2017 compared to 2016.

Casino and gaming: A summary of sales of our worldwide casino and gaming products for the years ended December 31, 2017 and 2016 is as follows:

	Year Ende	d	Year Ende	ed	Change		
	December	31,	December	31,	¢	%	
(In thousands)	2017		2016		Ф	70	
Domestic	\$13,608	73.1 %	\$11,553	55.0 %	\$2,055	17.8 %	
International	5,007	26.9 %	9,453	45.0 %	(4,446)	(47.0%)	
	\$18,615	100.0%	\$21,006	100.0%	\$(2,391)	(11.4%)	

The increase in domestic sales of our casino and gaming products in 2017 compared to 2016 was due primarily to 26% higher sales of our thermal casino printers due mainly to market share gain, including higher sales to our OEMs to support two new casino openings. This increase was partially offset by a decrease in domestic EPICENTRALTM software sales of 34%. We completed two EPICENTRALTM installations in both 2017 and 2016, however in 2017 our installations consisted of one full-feature version of EPICENTRALTM and our first EPICENTRAL® SE version compared to two full-feature versions of EPICENTRALTM in 2016. Our EPICENTRAL® SE software is offered at a lower price compared to our full-feature version of EPICENTRALTM.

International casino and gaming printer sales declined in 2017 compared to 2016 due to a 46% decrease in international sales of our thermal casino printers in Europe, Asia and Australia, as well as a 46% decrease in international sales of our off-premise gaming printers to our former exclusive worldwide distributor in Europe and Australia. Sales of our off-premise gaming printers are largely project-oriented and therefore may fluctuate significantly from quarter-to-quarter and year-to-year. International EPICENTRALTM software sales also declined 79% as we completed no international EPICENTRALTM installations in 2017 compared to one completed international installation in 2016.

Lottery: A summary of sales of our worldwide lottery printers for the years ended December 31, 2017 and 2016 is as follows:

	Year End	ed	Year End	led	Change		
	Decembe	r 31,	Decembe	er 31,	¢	%	
(In thousands)	2017		2016		Ф	%	
Domestic	\$8,626	88.0 %	\$9,710	98.0 %	\$(1,084)	(11.2 %)	
International	1,179	12.0 %	203	2.0 %	976	480.8%	
	\$9,805	100.0%	\$9,913	100.0%	6 \$(108)	(1.1 %)	

Our sales to IGT are directly dependent on the timing and number of new and upgraded lottery terminal installations IGT performs, and as a result, may fluctuate significantly quarter-to-quarter and year-to-year and are not indicative of IGT's overall business or revenue.

International lottery sales increased due to sales of lottery printers to IGT for the Canadian lottery in 2017 and no comparable sales occurring in 2016.

Printrex: A summary of sales of our worldwide Printrex printers for the years ended December 31, 2017 and 2016 is as follows (in thousands, except percentages):

	Year Ended		Year Ended		Chang	e
	December 31,		December		¢	%
(In thousands)	2017		31, 201	.6	Ф	%
Domestic	\$849	80.7 %	\$463	85.7	% \$386	83.4 %
International	203	19.3 %	77	14.3	% 126	163.6%
	\$1,052	100.0%	\$540	100.0	% \$512	94.8 %

The increase in Printrex printers was due to an 83% increase in domestic and international sales of our oil and gas printers due to higher demand in 2017 compared to 2016 and a 149% increase in sales of medical and mobile printers primarily due to sales of our mobile printer to one customer.

TSG: A summary of sales in our worldwide TSG market for the years ended December 31, 2017 and 2016 is as follows:

	Year Ende	d	Year Ende	d	Change		
	December	31,	December	31,	\$	%	
(In thousands)	2017		2016		Ф	70	
Domestic	\$13,657	96.3 %	\$9,315	92.3 %	\$4,342	46.6 %	
International	519	3.7 %	781	7.7 %	(262)	(33.5%)	
	\$14,176	100.0%	\$10,096	100.0%	\$4,080	40.4 %	

The increase in domestic revenue from TSG was due primarily to a 108% increase in sales of replacement parts and accessories in 2017 compared to 2016 due to higher demand for spare parts in the lottery market in 2017. The increase, to a lesser extent, was also due to a 12% increase in project-oriented testing services that occurred in 2017 but did not occur to the same extent in 2016. These increases were partially offset by a 6% decrease in non-Printrex consumables, largely for legacy POS and banking printers in 2017 compared to 2016.

Gross Profit. Gross profit information for the years ended December 31, 2017 and 2016 is summarized below (in thousands, except percentages):

				Percent	t	Percen	ıt
	December 31,		Percent	of		of	
				Total		Total	
				Sales -		Sales -	
	2017	2016	Change	2017		2016	
Year ended	\$26,662	\$23,799	12.0 %	47.3	%	41.6	%

Gross profit increased \$2.9 million, or 12%, and our gross margin improved 570 basis points to a record 47.3%. These increases were driven by a more favorable sales mix in 2017 compared to 2016, as our 2017 sales included a greater proportion of spare parts sales and a lower portion of sales of POS automation and banking printers.

Operating Expenses - Engineering, Design and Product Development. Engineering, design and product development information for the years ended December 31, 2017 and 2016 is summarized below (in thousands, except percentages):

					Percen	ıt	Percer	ıt
	December 31,		Percent		of		of	
					Total		Total	
					Sales -		Sales -	-
	2017	2016	Change		2017		2016	
Year ended	\$4,303	\$4,425	(2.8 9	%)	7.6	%	7.7	%

Engineering, design and product development expenses decreased \$122 thousand or 3%, due primarily to higher product development costs during 2016 related to the substantial completion of certain software development projects for our EPICENTRALTM software compared to 2017.

Operating Expenses - Selling and Marketing. Selling and marketing information for the years ended December 31, 2017 and 2016 is summarized below (in thousands, except percentages):

			Percent	Percent
Decem	ber 31,	Percent	of	of
2017	2016	Change		

Total Total Sales - Sales - 2017 2016

Year ended \$7,561 \$6,907 9.5 % 13.4 % 12.1 %

Selling and marketing expenses increased \$654 thousand, or 10%, as we completed the build-out of our internal infrastructure, including the hiring of a direct sales force and implementation of a direct marketing campaign dedicated to the restaurant solutions market in 2017.

Operating Expenses - General and Administrative. General and administrative information for the years ended December 31, 2017 and 2016 is summarized below (in thousands, except percentages):

				Percent	Percent
	December 31,		Percent	of	of
				Total	Total
				Sales -	Sales -
	2017	2016	Change	2017	2016
Year ended	\$7,984	\$7,267	9.9 %	14.2	% 12.7 %

General and administrative expenses increased \$717 thousand, or 10%, due primarily to higher incentive compensation expenses incurred in 2017 compared to 2016 and higher recruiting expenses related to the expansion of our sales staff for our restaurant solutions market and European casino and gaming market.

Operating Income (Loss). Operating income information for the years ended December 31, 2017 and 2016 is summarized below (in thousands, except percentages):

					Percer	ıt	Percei	nt
	December 31,		Percent		of		of	
					Total		Total	
					Sales -	_	Sales -	_
	2017	2016	Change	•	2017		2016	
Year ended	\$6,814	\$5,200	31.0	%	12.1	%	9.1	%

Our operating income increased by \$1.6 million, or 31%, primarily due to a 570 basis point improvement in gross margin on a favorable product mix, partially offset by a 7% increase in operating expenses in 2017 compared to 2016.

Interest. We recorded net interest expense of \$33 thousand in 2017 compared to \$26 thousand in 2016.

Other, net. We recorded other expense of \$9 thousand in 2017 compared to \$4 thousand in 2016. The change was due to higher foreign currency exchange losses recorded by our UK subsidiary in 2017 compared to 2016. In addition, we recorded a gain of \$5 thousand on the disposal of fixed assets in 2016.

Income Taxes. In 2017, we recorded an income tax provision of \$3.6 million at an effective tax rate of 52.6% compared to an income tax provision in 2016 of \$1.6 million at an effective tax rate of 30.0%. The effective tax rate in 2017 was negatively impacted by the passage of the Tax Reform Act. As a result of the reduction of our U.S. corporate income tax rate from 34% to 21% under the Tax Reform Act, the Company revalued its ending net deferred tax asset at December 31, 2017 and recognized a provisional \$1.3 million charge to income tax expense in the Company's Consolidated Statements of Income for the year ended December 31, 2017.

Net Income. We reported net income during 2017 of \$3.2 million, or \$0.42 per diluted share, compared to \$3.6 million, or \$0.47 per diluted share, for 2016.

Liquidity and Capital Resources

We assess our liquidity in terms of our ability to generate cash to fund our operating, investing and financing activities. Significant factors affecting the management of liquidity are cash flows from operating activities, capital expenditures, treasury share repurchases, dividend payments, access to bank lines of credit and our ability to attract long-term capital with satisfactory terms.

Internal cash generation together with currently available cash and cash equivalents, available borrowing facilities and an ability to access credit lines, if needed, are expected to be sufficient to fund operations, capital expenditures, treasury share repurchases, dividend payments and any increase in working capital that would be required to accommodate a higher level of business activity. We actively seek to expand by acquisition as well as through the growth of our current business. While a significant acquisition may require additional debt and/or equity financing, although no assurances can be given, we believe that we would be able to obtain additional financing based on our historical earnings performance.

Cash Flow

During 2018 our cash balance decreased \$816 thousand, or 15%, from December 31, 2017 and we returned a substantial portion of our cash flow to shareholders in the form of \$2.7 million of cash dividends paid to common shareholders and \$2 million of repurchases of our common stock. Even after funding these items and our capital expenditures, we still ended 2018 with \$4.7 million in cash and cash equivalents, of which \$2.9 million was held by our UK subsidiary, and no debt outstanding.

Operating activities: The following significant factors primarily affected our cash provided by operating activities of \$5.1 million in 2018 as compared to \$5.9 million in 2017. During 2018:

We reported a net income of \$5.4 million.

We recorded depreciation and amortization of \$1.0 million and share-based compensation expense of \$629 thousand. Accounts receivable decreased \$2.7 million, or 25%, due to the collection of past due receivables from 2017 sales made to our former international casino and gaming distributor.

Inventories increased \$4.0 million, or 46%, due to the buildup of inventory on hand to support future anticipated sales in the casino and gaming market and restaurant solutions market.

Accounts payable decreased \$332 thousand, or 9%, due to the timing of inventory purchases in 2017 compared to 2018.

Accrued liabilities and other liabilities decreased \$186 thousand, or 5%, due primarily to a decrease in our accrued incentive compensation.

During 2017:

We reported a net income of \$3.2 million.

We recorded depreciation and amortization of \$1.1 million and share-based compensation expense of \$609 thousand.

Deferred income tax provision increased \$1.1 million largely due to a \$1.3 million charge to income tax expense in 2017 to revalue our net deferred tax asset due to the Tax Reform Act.

Accounts receivable increased \$355 thousand, or 3% due to a longer than normal collection process related to sales made to our international casino and gaming distributor.

Inventories decreased \$834 thousand, or 9%, due to the sell through of inventory on hand during 2017.

Accounts payable decreased \$988 thousand, or 20%, due primarily to increased inventory purchases made towards the end of the fourth quarter of 2016 to support anticipated sales of our restaurant solutions terminals and subsequently paid in 2017.

Accrued liabilities and other liabilities increased \$1.1 million, or 35%, due primarily to an increase in our accrued incentive compensation.

Investing activities: Our capital expenditures, including capitalized software costs, were \$1.5 million and \$1 million in 2018 and 2017, respectively. Expenditures in the 2018 period were primarily for computer and networking equipment and furniture and fixtures purchases related to investments made in our UK facility to support the build-out of our internal sales infrastructure to sell directly to slot machine manufacturers and end-user casino and gaming customers. To a lesser extent, expenditures in the 2018 period included computer and networking equipment for our U.S. operations and leasehold improvements made at our Las Vegas facility. Expenditures in 2017 were primarily comprised of computer and networking equipment, new product tooling equipment and, to a lesser extent, leasehold improvements at our Ithaca, New York facility to upgrade to LED lighting.

Capital expenditures and additions to capitalized software for 2019 are expected to be approximately \$1.3 million, primarily for software development for our new restaurant solutions BOHA! products, new product tooling, and new computer software and equipment purchases.

Financing activities: We used \$4.5 million of cash from financing activities during 2018 to pay dividends of \$2.7 million to common shareholders, purchase \$2 million of common stock for treasury and \$265 thousand related to the relinquishment of shares to pay for withholding taxes on stock issued from our stock compensation plan, partially offset by proceeds from stock option exercises of \$416 thousand. During 2017, we used \$1.9 million of cash from financing activities to pay cash dividends of \$2.6 million to common shareholders, purchase \$358 thousand of common stock for treasury and \$23 thousand related to the relinquishment of shares to pay for withholding taxes on stock issued from our stock compensation plan, offset by proceeds from stock option exercises of \$1 million.

Resource Sufficiency

We believe that our cash and cash equivalents on hand and cash flows generated from operating activities will provide sufficient resources to meet our working capital needs, finance our capital expenditures and additions to capitalized software, dividend payments and meet our liquidity requirements through at least the next twelve months.

Credit Facility and Borrowings

We maintain a credit facility (the "TD Bank Credit Facility") with TD Bank N.A. ("TD Bank) which provides for a \$20 million revolving credit line. On November 21, 2017, we signed an amendment to the TD Bank Credit Facility through November 28, 2022. Borrowings under the revolving credit line bear a floating rate of interest at the prime rate minus one percent and are secured by a lien on all of our assets. We also pay a fee of 0.125% on unused borrowings under the revolving credit line. The amendment increased the amount of revolving credit loans we may use to fund future cash dividend payments or treasury share buybacks to \$12.5 million from \$10 million.

The TD Bank Credit Facility imposes certain quarterly financial covenants on us and restricts, among other things, our ability to incur additional indebtedness and the creation of other liens. We were in compliance with all financial covenants of the TD Bank Credit Facility at December 31, 2018.

		Calculation
Financial Covenant	Requirement/Restriction	<u>at</u>
1 manetar Covenant	Requirement Restriction	<u>December</u>
		31, 2018
Operating cash flow / Total debt service	Minimum of 1.25 times	117.21
Funded debt / EBITDA	Maximum of 3.0 times	0 times

As of December 31, 2018, undrawn commitments under the TD Bank Credit facility were \$20 million.

Shareholder Dividend Payments

In 2012, our Board of Directors initiated a quarterly cash dividend program which is subject to the Board's approval each quarter. Our Board of Directors declared an increase to the quarterly cash dividend from \$0.06 to \$0.07 per share in May 2013, from \$0.07 to \$0.08 per share in May 2014, and from \$0.08 to \$0.09 per share in May 2017. Dividends declared and paid on our common stock totaled \$2.7 million or \$0.36 per share and \$2.6 million or \$0.35 per share, in 2018 and 2017, respectively. On February 11, 2019, our Board of Directors approved the first quarter 2019 dividend in the amount of \$0.09 per share payable on or about March 15, 2019 to common shareholders of record at the close of business on February 20, 2019.

Stock Repurchase Program

On March 1, 2018, our Board of Directors approved a new stock repurchase program. Under the 2018 Stock Repurchase Program, we are authorized to repurchase up to \$5 million of our outstanding shares of common stock from time to time in the open market at prevailing market prices based on market conditions, share price and other factors. The 2018 Stock Repurchase Program expires on December 31, 2019, if we do not discontinue the repurchase program prior to such time. We use the cost method to account for treasury stock purchases, under which the price paid for the stock is charged to the treasury stock account. Repurchases of our common stock are accounted for as of the settlement date. From the start of the 2018 Stock Repurchase Program on March 1, 2018 through December 31, 2018, we repurchased 156,410 shares of our common stock for approximately \$2 million at an average price per share of \$12.79.

During 2016 and 2017, under a prior repurchase program that was in place from February 25, 2016 through December 31, 2017, we purchased 499,843 shares of our common stock for \$3.9 million at an average price of \$7.86 per share. From January 1, 2005 through December 31, 2018, we repurchased a total of 4,044,842 shares of common stock for \$32.1 million, at an average price of \$7.94 per share.

Shareholders' Equity

Shareholders' equity increased \$1.6 million to \$27.6 million at December 31, 2018 from \$26 million at December 31, 2017. The increase was primarily due to net income of \$5.4 million, as well as \$148 thousand from the issuance of 96,615 shares of common stock related to employee stock awards, net of relinquishments and share-based compensation expense related to stock awards of \$629 thousand. These increases were partially offset by our payment of \$2.7 million in dividends and the purchase of 156,410 shares of treasury stock for \$2 million.

Off-Balance Sheet Arrangements

As of December 31, 2018, we had no off-balance sheet arrangements that have had or that we expect would be reasonably likely to have a future material effect on our financial condition, changes in financial condition, revenues or expenses, results of operations, liquidity, capital expenditures or capital resources.

Contractual Obligations

Our contractual obligations as of December 31, 2018 were as follows:

	Payments	s due by p	period		
					More
		Less			than
		than	1-3	3-5	5
	Total	1 year	years	years	years
1.11	Φ 4 2 6 5	•	\$1.742	•	\$ 000

 (In thousands)
 Total
 1 year
 years
 years
 years

 Operating lease obligations
 \$4,365
 \$1,035
 \$1,743
 \$698
 \$889

 Purchase obligations
 7,467
 \$7,467
 \$

 Total
 \$11,832
 \$8,502
 \$1,743
 \$698
 \$889

Purchase obligations are for purchases made in the normal course of business to meet operational requirements, primarily of fully assembled printers, terminals and component part inventory.

Impact of Inflation

We believe that our business has not been affected to a significant degree by inflationary trends during the past three years. However, inflation is still a factor in the worldwide economy and may increase the cost of purchasing products from our contract manufacturers in Asia, as well as the cost of certain raw materials, component parts and labor used in the production of our products. It also may increase our operating expenses, manufacturing overhead expenses and the cost to acquire or replace fixed assets. We have generally been able to maintain or improve our profit margins through productivity and efficiency improvements, cost reduction programs and to a lesser extent, price increases, and we expect to be able to do the same during 2019. As such, we do not believe that inflation will have a significant impact on our business during 2019.

Item 7A. Quantitative and Qualitative Disclosures about Market Risk.

Interest Rate Risk

Our exposure to market risk for changes in interest rates relates primarily to the investment of our available cash and cash equivalents. In accordance with our investment policy, we strive to achieve above market rates of return in exchange for accepting a prudent amount of incremental risk, which includes the risk of interest rate movements. Risk tolerance is constrained by an overriding objective to preserve capital. An increase or decrease of 10% in effective interest rates would not have a material effect on our results of operations or cash flows.

Foreign Currency Exchange Risk

Transaction Exposure – We transact business in foreign currencies and have international revenue, as well as costs denominated in foreign currencies which are the Euro and Pound Sterling. As a result, we are exposed to the risk of fluctuations in foreign currency exchange rates. Accordingly, changes in exchange rates, and in particular a strengthening of the U.S. dollar, would negatively affect our revenue and other operating results as expressed in U.S. dollars.

Beginning in 2018, we have experienced increased fluctuations in our net loss as a result of transaction gains or losses related to revaluation and ultimately settling certain asset and liability balances that are denominated in currencies other than the functional currency of our UK subsidiary, which is Pound Sterling. Net realized and unrealized foreign currency losses were \$267 thousand, \$11 thousand and \$9 thousand in 2018, 2017 and 2016, respectively. The increase in foreign currency losses from 2017 to 2018 is primarily a result of increased sales recognized by our UK subsidiary upon the adoption of a direct selling model in Europe. We do not use derivative financial instruments to manage foreign currency exchange risk exposure. As a result, both positive and negative currency fluctuations against the U.S. dollar may affect our results of operations. Based on our foreign currency exposures from monetary assets and liabilities, we estimate that a 10% change in exchange rates against the U.S. dollar would have resulted in a gain or loss of approximately \$300 thousand as of December 31, 2018.

Translation Exposure – We are also exposed to foreign exchange rate fluctuations as we translate the financial statements of our UK subsidiary into U.S. dollars in consolidation. If there is a change in foreign currency exchange rates, the translating adjustments resulting from the conversion of our UK subsidiary into U.S. dollars would result in a gain or loss recorded as a component of accumulated other comprehensive loss which is part of stockholders' equity.

Item 8. Financial Statements and Supplementary Data.

The financial statements of the Company are annexed to this Annual Report as pages F-3 through F-18. The "Report of Independent Registered Public Accounting Firm" is annexed to this Annual Report as of page F-2. An index to such materials appears on page F-1.

Item 9. Changes in and Disagreements with Accountants on Accounting and Financial Disclosure. None.

Item 9A. Controls and Procedures.

Evaluation of Disclosure Controls and Procedures

Our management, with the participation of our Chief Executive Officer and Chief Financial Officer (our principal executive officer and principal financial officer, respectively), evaluated the effectiveness of our disclosure controls and procedures as of December 31, 2018. Based upon that evaluation, our Chief Executive Officer and Chief Financial Officer concluded that, as of December 31, 2018, our disclosure controls and procedures are effective at the reasonable assurance level. The term "disclosure controls and procedures," as defined in Rules 13a-15(e) and 15d-15(e) under the Exchange Act, means controls and other procedures of a company that are designed to ensure that information required to be disclosed by a company in the reports that it files or submits under the Exchange Act is recorded, processed, summarized and reported within the time periods specified in the SEC's rules and forms. Disclosure controls and procedures include, without limitation, controls and procedures designed to ensure that information required to be disclosed by a company in the reports that it files or submits under the Exchange Act is accumulated and communicated to the company's management, including its principal executive and principal financial officers, as appropriate to allow timely decisions regarding required disclosure. Management recognizes that any controls and procedures, no matter how well designed and operated, can provide only reasonable assurance of achieving their objectives, and management necessarily applies its judgment in evaluating the cost-benefit relationship of possible controls and procedures.

Management's Annual Report on Internal Control Over Financial Reporting

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

Management assessed our internal control over financial reporting as of December 31, 2018. Management based its assessment on criteria established in Internal Control–Integrated Framework issued by the Committee of Sponsoring Organizations of the Treadway Commission ("2013 COSO"). Based on our assessment, management has concluded that our internal control over financial reporting was effective as of December 31, 2018.

Attestation Report of the Registered Public Accounting Firm

The effectiveness of the Company's internal control over financial reporting as of December 31, 2018 has been audited by PricewaterhouseCoopers LLP, an independent registered public accounting firm, as stated in the report which appears herein.

Changes in Internal Control Over Financial Reporting

There has been no change in the Company's internal control over financial reporting that occurred during the quarter ended December 31, 2018 that has materially affected, or is reasonably likely to materially affect, the Company's internal control over financial reporting.

Item 9B. Other Information. Not applicable.

PART III

Item 10. Directors, Executive Officers and Corporate Governance.

Set forth below is certain information regarding our executive officers. The remaining information in response to this item will be contained in our Proxy Statement for our 2019 Annual Meeting of Stockholders (the "Proxy Statement") under the headings, "Section 16(a) Beneficial Ownership Reporting Compliance," "Corporate Governance," "Proposal 1: Election of Directors," "Audit Committee Report," "Executive Compensation – Compensation Committee Report," "Compensation Committee Interlocks and Insider Participation," "Stockholder Proposals for 2020 Annual Meeting," "Procedures for Submitted Director Nominations and Recommendations" and "Stockholder Communications with the Board of Directors Policy," which will be filed within 120 days after the end of the year covered by this Form 10-K and is incorporated herein by reference.

Executive Officers of the Registrant

The following list is included as an unnumbered item in Part III of this Report in lieu of being included in the Proxy Statement for the Annual Meeting of Stockholders to be held on May 28, 2019.

The following is a list of the names and ages of all executive officers of the registrant, indicating all positions and offices with the registrant held by each such person and each person's principal occupations and employment during at least the past five years.

Name Age Position

Bart C. Shuldman 61 Chairman of the Board and Chief Executive Officer Steven A. DeMartino 49 President, Chief Financial Officer, Treasurer and Secretary Donald E. Brooks 66 Senior Vice President-Engineering 59 Senior Vice President, Casino, Gaming and Lottery Sales Tracey S. Chernay 61 Senior Vice President, Operations Andrew J. Hoffman David B. Peters 40 Vice President and Chief Accounting Officer 33 Senior Vice President, Global Restaurant Solution Sales

Bart C. Shuldman has been Chief Executive Officer, President and a Director of the Company since its formation in June 1996. In February 2001, Mr. Shuldman was elected Chairman of the Board. Mr. Shuldman relinquished the President title, effective June 1, 2010, to focus on new products and markets, international expansion and potential acquisitions.

Steven A. DeMartino was named as TransAct's President, Chief Financial Officer, Treasurer and Secretary on June 1, 2010. Previously, Mr. DeMartino served as Executive Vice President, Chief Financial Officer, Treasurer and Secretary from June 2004 to May 2010, Senior Vice President, Finance and Information Technology from October 2001 to May 2004, Vice President and Corporate Controller from January 1998 to October 2001, and Corporate Controller from August 1996 to December 1997. Mr. DeMartino is a certified public accountant.

Donald E. Brooks was appointed Senior Vice President of Engineering in April 2012. Previously, Mr. Brooks served as Vice President, Engineering from September 2004 to April 2012, Senior Project Engineer from February 1998 to September 2004, Project Engineer from June 1997 to February 1998, Director of Electrical Engineering from March 1986 to June 1997 and Manager of Electronic Development from December 1983 to March 1986.

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Raymond T. Walsh, Jr.

Tracey S. Chernay was appointed Senior Vice President, Casino and Gaming Sales and Marketing in June 2010, with responsibility for the sales and marketing of all casino and gaming products. Previously, Ms. Chernay served as Senior Vice President, Sales and Marketing from June 2007 to May 2010, Senior Vice President, Marketing and Sales, POS and Banking with the Company from July 2006 to June 2007, and joined TransAct in May of 2005 as Senior Vice President, Marketing. Prior to joining TransAct, Ms. Chernay was employed with Xerox Corporation where she held the role of Manager, Worldwide Marketing since 2003, and Manager, Sales Operations from 2000 to 2002. She joined Xerox Corporation in 1983.

Andrew J. Hoffman was appointed Senior Vice President, Operations for TransAct worldwide in November 2004. He served as Vice President, Operations from September 1994 to November 2004.

David B. Peters was appointed Vice President and Chief Accounting Officer on March 1, 2018. Previously, Mr. Peters served as Director, SEC and Financial Reporting since joining TransAct in March 2014. Prior to joining TransAct, Mr. Peters was employed with United Technologies Corporation from November 2006 to March 2014 where he served in various financial management positions. Mr. Peters is a certified public accountant.

Raymond T. Walsh, Jr. was appointed Senior Vice President, Global Restaurant Solution Sales on February 27, 2019. Previously, Mr. Walsh served as Vice President, Global Sales since 2018. Mr. Walsh joined TransAct in 2006 and has held several sales positions of increasing responsibility with the Company. Prior to joining TranAct, Mr. Walsh served as the Senior Manager of Business Development at Nerac.

Code of Ethics

We maintain a Code of Business Conduct that includes our code of ethics that is applicable to all employees, including our Chief Executive Officer, Chief Financial Officer and Controller. Our Code of Business Conduct, which requires continued observance of high ethical standards, such as honesty, integrity and compliance with the law in the conduct of our business, is available for public access on our Internet website at https://transacttech.gcs-web.com/corporate-governance. Any person may request a copy of our Code of Business Conduct free of charge by calling (203) 859-6800.

Item 11. Executive Compensation.

The information in response to this item will be contained in the Proxy Statement under the heading "Executive Compensation," and is incorporated herein by reference.

Item 12. Security Ownership of Certain Beneficial Owners and Management and Related Stockholder Matters. Set forth below is certain information regarding our equity compensation plans. The remaining information in response to this item will be contained in the Proxy Statement under the heading, "Security Ownership of Certain Beneficial Owners and Management," and is incorporated herein by reference.

Equity Compensation Plan Information

Information regarding our equity compensation plans as of December 31, 2018 is as follows:

Plan category	(a)	(b)	(c)
	Number of	Weighted-average	Number of
	securities to	exercise price of	securities
	be issued	outstanding	remaining
	upon	options, warrants	available for
	exercise	and rights	future
	of		issuance
	outstanding		under equity
	options,		compensation
	warrants		plans

	and rights			(excluding securities reflected in column (a))	
Equity compensation plans approved by security holders:					
2005 Equity Incentive Plan	368,375	\$	9.14	_	
2014 Equity Incentive Plan	762,749		7.71	495,291	
Total	1,131,124	\$	8.17	495,291	

In May 2014, our stockholders approved the adoption of the 2014 Equity Incentive Plan. In May 2017, our stockholders approved an amendment to the 2014 Equity Incentive Plan to increase the number of shares of common stock which may be subject to awards granted under the plan from 600,000 to its current level of 1,400,000. The Company also maintains the 2005 Equity Incentive Plan; however no new awards will be available for future issuance under this plan. Both plans generally provide for award in the form of: (i) incentive stock options, (ii) non-qualified stock options, (iii) restricted stock, (iv) restricted stock units (which may include performance-based vesting), (v) stock appreciation rights or (vi) limited stock appreciation rights. The Company does not have any equity plans that have not been approved by its stockholders.

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

The information in response to this item will be contained in the Proxy Statement under the headings "Certain Relationships and Related Transactions" and is incorporated herein by reference.

Item 14. Principal Accountant Fees and Services.

The information in response to this item will be contained in the Proxy Statement under the headings, "Policy Regarding Pre-Approval of Services Provided by the Independent Registered Public Accounting Firm" and "Independent Registered Public Accounting Firm's Services and Fee's" and is incorporated herein by reference.

PART IV

Item 15. Exhibits and Financial Statement Schedules.

Index to Exhibits

3.1(a)	Certificate of Incorporation of TransAct Technologies Incorporated ("TransAct" or the "Company"), fil with the Secretary of State of Delaware on June 17, 1996.	ed (2)
3.1(b)	Certificate of Amendment of Certificate of Incorporation of the Company, filed with the Secretary of State of Delaware on June 4, 1997.	(3)
3.1(c)	Certificate of Designation, Series A Preferred Stock, filed with the Secretary of State of Delaware on December 2, 1997.	(6)
3.1(d)	Certificate of Designation, Series B Preferred Stock, filed with the Secretary of State of Delaware on April 6, 2000.	(8)
<u>3.2</u>	Amended and Restated By-laws of the Company.	(7)
<u>4</u>	Specimen Common Stock Certificate.	(2)
10.1(x)	2005 Equity Incentive Plan.	(11)
10.2(x)	2014 Equity Incentive Plan.	(4)
10.3(x)	Amendment to 2014 Equity Incentive Plan approved by Shareholders on May 22, 2017	(26)
10.4(x)	2014 Equity Incentive Plan Time-based Restricted Unit Agreement	(23)
10.5(x)	2014 Equity Incentive Plan Performance-based Restricted Stock Unit Agreement	(24)
10.6(x)	Employment Agreement, dated July 31, 1996, by and between TransAct and Bart C. Shuldman.	(2)
10.7(x)	Severance Agreement by and between TransAct and Steven A. DeMartino, dated June 1, 2004.	(10)
10.8(x)	Severance Agreement by and between TransAct and Tracey S. Chernay, dated July 29, 2005.	(14)
<u>10.9(x)</u>	Amendment to Employment Agreement, effective January 1, 2008, by and between TransAct and Bart C. Shuldman.	(15)
10.10(x)	Amendment to Severance Agreement by and between TransAct and Steven A. DeMartino, effective January 1, 2008.	(15)
10.11(x)	Amendment to Severance Agreement by and between TransAct and Tracey S. Chernay, effective	(15)
10.12	Lagge Agreement by and between Romay Properties and Ithage, dated as of March 23, 1002	(2)
10.13	Second Amendment to Lease Agreement by and between Bomax Properties and Ithaca, dated December 2, 1996.	r ₍₅₎
10.14	Agreement regarding the Continuation and Renewal of Lease by and between Bomax Properties, LLC and TransAct, dated July 18, 2001.	(9)
<u>10.15</u>	Amendment No. 1 to Lease Agreement between Bomax Properties, LLC and TransAct.	(18)
	Amendment No. 2 to Lease Agreement between Bomax Properties, LLC and TransAct, dated January	
<u>10.16</u>	14, 2016.	(22)
<u>10.17</u>	Lease Agreement by and between Las Vegas Airport Properties LLC and TransAct dated December 2, 2004.	(10)
<u>10.18</u>	First Amendment to Lease Agreement by and between Las Vegas Airport Properties LLC and TransAct dated August 31, 2009.	(16)
<u>10.19</u>	Second Amendment to Lease Agreement by and between The Realty Associates Fund IX LP and TransAct dated June 30, 2015.	(21)
10.20	Lease Agreement by and between 2319 Hamden Center I, L.L.C. and TransAct dated November 27, 2006.	(12)
10.21	First Amendment to Lease by and between 2319 Hamden Center I, L.L.C. and TransAct dated January 3, 2017	(25)
10.22	OEM Purchase Agreement by and between IGT (f/k/a GTECH Corporation) and TransAct, dated May 29, 2015. (Pursuant to Rule 24-b-2 under the Exchange Act, the Company has requested confidential treatment of portions of this exhibit deleted from the filed copy).	(21)

10.23	Amended and Restated Revolving Credit and Security Agreement between TransAct and TD	(12)
	Bankhorth, N.A. dated November 28, 2000.	
10.24	First Amendment to Amended and Restated Revolving Credit and Security Agreement between	(13)
	TransAct and 1D Banknorth, N.A. effective September 30, 2007.	
10.25	Second Amendment to Amended and Restated Revolving Credit and Security Agreement between	(17)
	TransAct and 1D Bank, N.A. effective November 22, 2011.	
10.26	Third Amendment to Amended and Restated Revolving Credit and Security Agreement effective	(19)
	September 7, 2012.	
10.27	Fourth Amendment to Amended and Restated Revolving Credit and Security Agreement effective	(20)
	November 26, 2014.	
10.28	Fifth Amendment to Amended and Restated Revolving Credit and Security Agreement effective	(27)
	November 21, 2017.	
<u>21</u>		(1)
<u>23</u>	Rule 13a-14(a) Certification of Chief Executive Officer in accordance with Section 302 of the	(1)
31.1	Sarbanes-Oxley Act of 2002.	(1)
	Rule 13a-14(a) Certification of Chief Financial Officer in accordance with Section 302 of the	
31.2	Sarbanes-Oxley Act of 2002.	(1)
	Cartification of Chief Evacutive Officer and Chief Financial Officer pursuant to 18 U.S.C. Section 1350	
<u>32</u>	as adopted pursuant to Section 906 of the Sarbanes-Oxley Act of 2002.	(1)
101.INS	· ·	(1)
101.SCH		(1)
101.CAL		(1)
101.DEF	XBRL Taxonomy Extension Definition Linkbase Document.	(1)
101.LAB	XBRL Taxonomy Extension Label Linkbase Document.	(1)
101.PRE	XBRL Taxonomy Extension Presentation Linkbase Document.	(1)
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20		

- (1) These exhibits are filed herewith.
- These exhibits, which were previously filed with the Company's Registration Statement on Form S-1 (No. 333-06895), are incorporated by reference.
- (3) Incorporated by reference to Exhibit 3.1(b) of the Company's Current Report on Form 8-K (SEC File No. 000-21121) filed with the SEC on May 19, 2014.
- (4) Incorporated by reference to Exhibit 10.1 of the Company's Current Report on Form 8-K (SEC File No. 000-21121) filed with the SEC on May 19, 2014.
- (5) Incorporated by reference to Exhibit 10.27 of the Company's Annual Report on Form 10-K (SEC File No. 000-21121) filed with the SEC on March 31, 1998.
- (6) Incorporated by reference to Exhibit C of the Company's Current Report on Form 8-K (SEC File No. 000-21121) filed with the SEC on February 18, 1999.
- (7) Incorporated by reference to Exhibit 3.2 of the Company's Annual Report on Form 10-K (SEC File No. 000-21121) filed with the SEC on March 29, 1999.
- (8) Incorporated by reference to Exhibit 3.1(c) of the Company's Quarterly Report on Form 10-Q (SEC File No. 000-21121) filed with the SEC on May 8, 2000.
- (9) Incorporated by reference to Exhibit 10.8 of the Company's Annual Report on Form 10-K (SEC File No. 000-21121) filed with the SEC on March 29, 2002.
- These exhibits, which were previously filed with the Company's Annual Report on Form 10-K for the year ended December 31, 2004, are incorporated by reference (No. 000-21121).
- (11) Incorporated by reference to Exhibit 99.1 of the Company's Current Report on Form 8-K (SEC File No. 000-21121) filed with the SEC on June 1, 2005.
- These exhibits, which were previously filed with the Company's Annual Report on Form 10-K for the year ended December 31, 2006, are incorporated by reference (No. 000-21121).
- Incorporated by reference to Exhibit 10.20 of the Company's Quarterly Report on Form 10-Q (SEC File No. 000-21121) filed with the SEC on November 9, 2007.
- Incorporated by reference to Exhibit 10.9 of the Company's Annual Report on Form 10-K (SEC File No. 000-21121) filed with the SEC on March 14, 2009.
- (15) This exhibit, which was previously filed with the Company's Annual Report on Form 10-K for the year ended December 31, 2008, is incorporated by reference (No. 000-21121).
- (16) Incorporated by reference to Exhibit 10.19 of the Company's Annual Report on Form 10-K (SEC File No. 000-21121) filed with the SEC on March 16, 2010.
- Incorporated by reference to Exhibit 10.25 of the Company's Annual Report on Form 10-K (SEC File No. 000-21121) filed with the SEC on March 12, 2012.
- Incorporated by reference to Exhibit 10.16 of the Company's Quarterly Report on Form 10-Q (SEC File No. 000-21121) filed with the SEC on May 10, 2012.
- (19) Incorporated by reference to Exhibit 10.26 of the Company's Current Report on Form 8-K (SEC File No. 000-21121) filed with the SEC on September 11, 2012.
- (20) Incorporated by reference to Exhibit 99.1 of the Company's Current Report on Form 8-K (SEC File No. 000-21121) filed with the SEC on December 1, 2014.
- This exhibit, which was previously filed with the Company's Quarterly Report on Form 10-Q for the period ended June 30, 2015, is incorporated by reference
- Incorporated by reference to Exhibit 10.13 of the Company's Annual Report on Form 10-K (SEC File No. 000-21121) filed with the SEC on March 11, 2016.
- Incorporated by reference to Exhibit 10.2 of the Company's Quarterly Report on Form 10-Q (SEC File No. 000-21121) filed with the SEC on May 6, 2016.
- Incorporated by reference to Exhibit 10.1 of the Company's Quarterly Report on Form 10-Q (SEC File No. 000-211121) filed with the SEC on August 8, 2016.
- (25) Incorporated by reference to Exhibit 10.20 of the Company's Annual Report on Form 10-K (SEC File No. 000-21121).
- (26) Incorporated by reference to Exhibit 10.1 of the Company's Quarterly Report on Form 10-Q (SEC File No. 000-21121) filed with the SEC on August 9, 2017.

- Incorporated by reference to Exhibit 99.1 to the Company's Current Report on Form 8-K (SEC File No. 000-21121) filed with the SEC on November 22, 2017.
- (x) Management contract or compensatory plan or arrangement.

EXHIBIT LIST

The following exhibits are filed herewith.

Exhibit

- 21 Subsidiaries of the Company
- 23 Consent of PricewaterhouseCoopers LLP.
- Rule 13a-14(a) Certification of Chief Executive Officer in accordance with Section 302 of the Sarbanes-Oxley Act of 2002.
- Rule 13a-14(a) Certification of Chief Financial Officer in accordance with Section 302 of the Sarbanes-Oxley Act of 2002.
- Certification of Chief Executive Officer and Chief Financial Officer pursuant to 18 U.S.C. Section 1350 as adopted pursuant to Section 906 of the Sarbanes-Oxley Act of 2002.
- 101.INS XBRL Instance Document.
- 101.SCH XBRL Taxonomy Extension Schema Document.
- 101.CALXBRL Taxonomy Extension Calculation Linkbase Document.
- 101.DEF XBRL Taxonomy Extension Definition Linkbase Document.
- 101.LABXBRL Taxonomy Extension Label Linkbase Document.
- 101.PRE XBRL Taxonomy Extension Presentation Linkbase Document.

Item 16. Form 10-K Summary.

Not applicable.

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.

TRANSACT TECHNOLOGIES INCORPORATED

By: /s/ Bart C. Shuldman Name: Bart C. Shuldman

Title: Chairman of the Board and Chief Executive Officer

Date: March 18, 2019

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

Signature	Title	Date
/s/ Bart C. Shuldman Bart C. Shuldman	Chairman of the Board and Chief Executive Officer (Principal Executive Officer)	March 18, 2019
/s/ Steven A. DeMartino Steven A. DeMartino	President, Chief Financial Officer, Treasurer and Secretary (Principal Financial Officer)	March 18, 2019
/s/ David B. Peters David B. Peters	Vice President and Chief Accounting Officer (Principal Accounting Officer)	March 18, 2019
/s/ John M. Dillon John M. Dillon	Director	March 18, 2019
/s/ Haydee Olinger Haydee Olinger	Director	March 18, 2019
/s/ Thomas R. Schwarz Thomas R. Schwarz	Director	March 18, 2019
/s/ Graham Y. Tanaka Graham Y. Tanaka	Director	March 18, 2019
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TRANSACT TECHNOLOGIES INCORPORATED INDEX TO FINANCIAL STATEMENTS

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Report of Independent Registered Public Accounting Firm

To the Board of Directors and Shareholders of TransAct Technologies Incorporated

Opinions on the Financial Statements and Internal Control over Financial Reporting

We have audited the accompanying consolidated balance sheets of TransAct Technologies Incorporated and its subsidiaries (the "Company") as of December 31, 2018 and 2017, and the related consolidated statements of income, comprehensive income, changes in shareholders' equity and cash flows for each of the three years in the period ended December 31, 2018, including the related notes (collectively referred to as the "consolidated financial statements"). We also have audited the Company's internal control over financial reporting as of December 31, 2018, based on criteria established in Internal Control - Integrated Framework (2013) issued by the Committee of Sponsoring Organizations of the Treadway Commission (COSO).

In our opinion, the consolidated financial statements referred to above 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 three years in the period ended December 31, 2018 in conformity with accounting principles generally accepted in the United States of America. Also in our opinion, the Company maintained, in all material respects, effective internal control over financial reporting as of December 31, 2018 based on criteria established in Internal Control - Integrated Framework (2013) issued by the COSO.

Basis for Opinions

The Company's management is responsible for these consolidated financial statements, for maintaining effective internal control over financial reporting, and for its assessment of the effectiveness of internal control over financial reporting, included in Management's Annual Report on Internal Control Over Financial Reporting appearing under Item 9A. Our responsibility is to express opinions on the Company's consolidated financial statements and on the Company's internal control over financial reporting 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 audits to obtain reasonable assurance about whether the consolidated financial statements are free of material misstatement, whether due to error or fraud, and whether effective internal control over financial reporting was maintained in all material respects.

Our audits of the consolidated financial statements 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. Our audit of internal control over financial reporting included obtaining an understanding of internal control over financial reporting, assessing the risk that a material weakness exists, and testing and evaluating the design and operating effectiveness of internal control based on the assessed risk. Our audits also included performing such other procedures as we considered necessary in the circumstances. We believe that our audits provide a reasonable basis for our opinions.

Definition and Limitations of Internal Control over Financial Reporting

A company's internal control over financial reporting is a process designed to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with generally accepted accounting principles. A company's internal control over financial reporting includes those policies and procedures that (i) pertain to the maintenance of records that, in reasonable detail, accurately and fairly reflect the transactions and dispositions of the assets of the company; (ii) provide reasonable assurance that transactions are recorded as necessary to permit preparation of financial statements in accordance with generally accepted accounting principles, and that receipts and expenditures of the company are being made only in accordance

with authorizations of management and directors of the company; and (iii) provide reasonable assurance regarding prevention or timely detection of unauthorized acquisition, use, or disposition of the company's 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. Also, projections of any evaluation of effectiveness to future periods are subject to the risk that controls may become inadequate because of changes in conditions, or that the degree of compliance with the policies or procedures may deteriorate.

/s/PricewaterhouseCoopers LLP Hartford, Connecticut March 18, 2019

We have served as the Company's auditor since 1996.

TRANSACT TECHNOLOGIES INCORPORATED

CONSOLIDATED BALANCE SHEETS

(In thousands, except share data)

	December 31, 2018	December 31, 2017
Assets:		
Current assets: Cash and cash equivalents	\$4,691	\$5,507
Accounts receivable, net	8,025	10,948
Inventories, net	12,835	8,875
Prepaid income taxes	809	514
Other current assets	677	517
Total current assets	27,037	26,361
	27,037	20,501
Fixed assets, net	2,272	2,169
Goodwill	2,621	2,621
Deferred tax assets	2,198	2,308
Intangible assets, net	797	458
Other assets	31	33
	7,919	7,589
Total assets	34,956	33,950
Liabilities and Shareholders' Equity:		
Current liabilities:		
Accounts payable	\$3,483	\$3,841
Accrued liabilities	2,765	3,339
Deferred revenue	384	169
Total current liabilities	6,632	7,349
Deferred revenue, net of current portion	265	69
Deferred rent, net of current portion	250	271
Other liabilities	242	247
	757	587
Total liabilities	7,389	7,936
Commitments and contingencies (Note 9)		
Shareholders' equity:		
Preferred stock, \$0.01 value, 4,800,000 authorized, none issued and outstanding	_	_
Preferred stock, Series A, \$0.01 par value, 200,000 authorized, none issued and outstanding	_	_
Common stock, \$0.01 par value, 20,000,000 authorized at December 31, 2018 and 2017;		
11,463,141 and 11,366,526 shares issued; 7,418,299 and 7,478,094 shares outstanding, at	115	114
December 31, 2018 and 2017, respectively	115	114
Additional paid-in capital	32,129	31,353
Retained earnings	27,515	24,756
Accumulated other comprehensive loss, net of tax	(82)	(99)
Treasury stock, 4,044,842 and 3,888,432 shares, at cost	(32,110)	
Total shareholders' equity Total liabilities and shareholders' equity	27,567 \$ 34,056	26,014 \$ 33,050
Total liabilities and shareholders' equity	\$34,956	\$33,950

See accompanying notes to Consolidated Financial Statements.

TRANSACT TECHNOLOGIES INCORPORATED CONSOLIDATED STATEMENTS OF INCOME

(In thousands, except per share data)

	Year End 2018	ed Decem 2017	aber 31, 2016		
Net sales Cost of sales	\$54,587 27,844	\$56,311 29,649	\$57,235 33,436		
Gross profit	26,743	23,799			
Operating expenses: Engineering, design and product development Selling and marketing General and administrative	4,576 7,203 8,205 19,984	4,303 7,561 7,984 19,848	4,425 6,907 7,267 18,599		
Operating income Interest and other income (expense): Interest expense Interest income Other, net	6,759 (27) - (266) (293)	(9)	7 (4)		
Income before income taxes Income tax provision Net income	6,466 1,040 \$5,426	6,772 3,561 \$3,211	5,170 1,553 \$3,617		
Net income per common share: Basic Diluted	\$0.73 \$0.70	\$0.43 \$0.42	\$0.48 \$0.47		
Shares used in per-share calculation: Basic Diluted	7,444 7,759	7,423 7,592	7,610 7,655		
Dividends declared and paid per common share:	\$0.36	\$0.35	\$0.32		

See accompanying notes to Consolidated Financial Statements.

TRANSACT TECHNOLOGIES INCORPORATED CONSOLIDATED STATEMENTS OF COMPREHENSIVE INCOME (In thousands, except share data)

Year Ended December

31,

2018 2017 2016

Net income \$5,426 \$3,211 \$3,617

Foreign currency translation adjustment, net of tax 17 10 (29)

Comprehensive income \$5,443 \$3,221 \$3,588

See accompanying notes to Consolidated Financial Statements.

TRANSACT TECHNOLOGIES INCORPORATED CONSOLIDATED STATEMENTS OF CHANGES IN SHAREHOLDERS' EQUITY (In thousands, except share data)

	Common St		Additiona Paid-in	Retained	·	Accumulate Other Comprehen Income	siv T otal
Balance, December 31, 2015 Issuance of shares from exercise of	Shares 7,782,292	Amount \$ 112	Capital \$ 28,921	Earnings \$22,956	Stock \$(26,181)	(Loss) \$ (80	Equity) \$25,728
stock options	3,750	_	23	_	_	_	23
Issuance of deferred stock units Issuance of common stock on deferred stock units, net of	_	_	202	-	-	_	202
relinquishments Tax shortfall related to employee	10,700	_	(51) –	_	_	(51)
stock sales	_	_	1	_	_	_	1
Purchase of treasury stock Dividends declared and paid on	(463,378)	_	_	_	(3,571)	_	(3,571)
common stock	_	_	_	(2,416)	_	_	(2,416)
Share-based compensation expense Reversal of deferred tax asset in connection with stock options	_	-	611	_	_	_	611
forfeited	_	_	(6) –	_	_	(6)
Foreign currency translation adjustment, net of tax	_	_	_	-	_	(29) (29)
Net income	- 7.222.264	— Ф 110	- Ф 20 701	3,617	- (00.750)	т ф. (100	3,617
Balance, December 31, 2016 Issuance of shares from exercise of	7,333,364	\$ 112	\$ 29,701	\$24,157	\$(29,752)	\$ (109) \$24,109
stock options Issuance of common stock on	166,600	2	1,041	_	_	_	1,043
restricted stock units Issuance of common stock on	8,300	_	_	_	_	_	-
deferred stock units Relinquishment of stock awards and deferred stock units to pay	8,663	_	-	_	_	_	_
withholding taxes	(2,368)	_	(29) –	_	_	(29)
Purchase of treasury stock Dividends declared and paid on	(36,465)	_	_	_	(358)	_	(358)
common stock	_	_	_	(2,581)	_	_	(2,581)
Share-based compensation expense Adjustment upon adoption of ASU	_	_	609	_	_	_	609
2016-09 Foreign currency translation	_	_	31	(31)	_	_	_
adjustment, net of tax Net income	_	_	_	- 3,211	_	10	10 3,211
Balance, December 31, 2017 Issuance of shares from exercise of	7,478,094	\$ 114	\$31,353	\$24,756	\$(30,110)	\$ (99) \$26,014
stock options	58,146 33,935	1 –	415 -	_ _	_ _	_ _	416 -

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Issuance of common stock on							
restricted stock units							
Issuance of common stock on							
deferred stock units	23,578	_	_	_	_	_	_
Relinquishment of stock awards and							
deferred stock units to pay							
withholding taxes	(19,044)	_	(268) –	_	_	(268)
Purchase of treasury stock	(156,410)	_	_	_	(2,000)	_	(2,000)
Dividends declared and paid on							
common stock	_	_	_	(2,667)	_	_	(2,667)
Share-based compensation expense	_	_	629	_	_	_	629
Foreign currency translation							
adjustment, net of tax	_	_	_	_	_	17	17
Net income	_	_	_	5,426	_	_	5,426
Balance, December 31, 2018	7,418,299	\$ 115	\$ 32,129	\$27,515	\$(32,110) \$	(82	\$27,567

See accompanying notes to Consolidated Financial Statements.

TRANSACT TECHNOLOGIES INCORPORATED CONSOLIDATED STATEMENTS OF CASH FLOWS (In thousands)

	Year Ended December 31, 2018 2017 2016		
Cash flows from operating activities:			
Net income	\$5,426	\$3,211	\$3,617
Adjustments to reconcile net income to net cash provided by operating activities:			
Share-based compensation expense	629	609	611
Depreciation and amortization	997	1,081	1,331
Deferred income tax (benefit) provision	(107)	1,117	(295)
Provision for doubtful accounts	105	50	_
Gain on sale of fixed assets	_	_	(5)
Foreign currency transaction losses	199	11	4
Changes in operating assets and liabilities:			
Accounts receivable	2,688	(405)	(3,434)
Inventories	(4,049)	834	1,580
Prepaid income taxes	(100)	(518)	(5)
Other current and long term assets	(161)	(137)	53
Accounts payable	(332)	(988)	2,255
Accrued liabilities and other liabilities	(186)	1,053	(1,088)
Net cash provided by operating activities	5,109	5,918	4,624
Cash flows from investing activities:			
Capital expenditures	(1,007)	(835)	(608)
Additions to capitalized software	(466)	(150)	_
Proceeds from sale of fixed assets	_	_	8
Net cash used in investing activities	(1,473)	(985)	(600)
Cash flows from financing activities:			
Proceeds from stock option exercises	416	1,043	23
Purchases of common stock for treasury	(2,000)	(358)	
Payment of dividends on common stock	(2,667)	(2,581)	(2,416)
Withholding taxes paid on stock issuances	(265)	(23)	_
Net cash used in financing activities	(4,516)	(1,919)	(5,964)
Effect of exchange rate changes on cash and cash equivalents	64	(10)	(30)
Increase (decrease) in cash and cash equivalents	(816)	3,004	(1,970)
Cash and cash equivalents, beginning of period	5,507	2,503	4,473
Cash and cash equivalents, end of period	\$4,691	\$5,507	\$2,503
Supplemental cash flow information:			
Interest paid	\$25	\$30	\$31
Income taxes paid	1,249	2,991	2,065
Non-cash capital expenditure items	21	44	113

See accompanying notes to Consolidated Financial Statements.

TRANSACT TECHNOLOGIES INCORPORATED NOTES TO CONSOLIDATED FINANCIAL STATEMENTS

1. Description of business

TransAct Technologies Incorporated ("TransAct" or the "Company"), which has its headquarters in Hamden, CT and its primary operating facility in Ithaca, New York, operates in one operating segment: software-driven technology and printing solutions for high growth markets including restaurant solutions, casino and gaming, lottery, POS automation and banking, and oil and gas markets. Our solutions are designed from the ground up based on market and customer requirements and are sold under the AccuDateTM Ithaca®, Epic, EPICENTRAM and Printrex® product brands. We sell our products to original equipment manufacturers, value-added resellers, select distributors, and directly to end-users. Our product distribution spans across the Americas, Europe, the Middle East, Africa, Asia, Australia, the Caribbean Islands and the South Pacific. TransAct also provides world-class service, spare parts, accessories and printing supplies to its growing worldwide installed base of products. We also generate revenue from the after-market side of the business, providing printer and terminal service, supplies and spare parts in addition to revenue from our software solution, the EPICENTRALTM Print System ("EPICENTRAL^{EM}"), that enables casino operators to create promotional coupons and marketing messages and print them in real-time at the slot machine.

2. Summary of significant accounting policies

Principles of consolidation: The accompanying Consolidated Financial Statements include the accounts of TransAct and its wholly-owned subsidiaries, which require consolidation, after the elimination of intercompany accounts, transactions and unrealized profit.

Use of estimates: The preparations of consolidated financial statements in conformity with accounting principles generally accepted in the United States of America ("GAAP") requires management to make estimates and assumptions that affect the reported amounts of assets, liabilities, revenue and expenses, and disclosure of contingent assets and liabilities as of the date of the Consolidated Financial Statements and the reported amounts of sales and expenses during the reporting period. Actual results could differ from those estimates.

Segment reporting: We apply the provisions of the Financial Accounting Standards Board ("FASB") Accounting Standards Codification ("ASC") 280, "Segment Reporting." We view our operations and manage our business as one segment: the design, development and marketing of software-driven technology and printing solutions and providing printer and terminal related software, services, supplies and spare parts. Factors used to identify TransAct's single operating segment include the organizational structure of the Company and the financial information available for evaluation by the chief operating decision-maker in making decisions about how to allocate resources and assess performance.

Cash and cash equivalents: We consider all highly liquid investments with a maturity date of three months or less at date of purchase to be cash equivalents.

Allowance for doubtful accounts: We establish an allowance for doubtful accounts to ensure trade receivables are valued appropriately. We maintain an allowance for doubtful accounts based on a variety of factors, including the length of time receivables are past due, significant one-time events and historical experience. We record a specific allowance for individual accounts when we become aware of a customer's inability to meet its financial obligations, such as in the case of bankruptcy filings or deterioration in the customer's operating results or financial position. If circumstances related to customers change, we would further adjust estimates of the recoverability of receivables. Allowances for doubtful accounts on accounts receivable balances were \$205 thousand and \$100 thousand as of December 31, 2018 and 2017, respectively.

The following table summarizes the activity recorded in the valuation account for accounts receivable:

Year Ended
December 31,

(In thousands)

Balance, beginning of period
Additions charged to costs and expenses
Balance, end of period

Year Ended
December 31,
2018 2017 2016

\$100 \$50 \$50

\$205 \$100 \$50

Inventories: Inventories are stated at the lower of cost (principally standard cost, which approximates actual cost on a first-in, first-out basis) or net realizable value. We review net realizable value based on estimated selling prices in the ordinary course of business less estimated costs of completions, disposal and transportation, historical usage and estimates of future demand. Based on these reviews, inventory write-downs are recorded, as necessary, to reflect estimated obsolescence, excess quantities and net realizable value.

Fixed assets: Fixed assets are stated at cost. Depreciation is recorded using the straight-line method over the estimated useful lives. The estimated useful life of tooling is five years; machinery and equipment is ten years; furniture and office equipment is five to ten years; and computer software and equipment is three to seven years. Leasehold improvements are amortized over the shorter of the term of the lease or the useful life of the asset. Costs related to repairs and maintenance are expensed as incurred. The costs of sold or retired assets are removed from the related asset and accumulated depreciation accounts and any gain or loss is recognized. Depreciation expense was \$870 thousand, \$844 thousand and \$987 thousand in 2018, 2017, and 2016, respectively.

Leases: Rent expense under non-cancelable operating leases with scheduled rent increases or free rent periods are accounted for on a straight-line basis over the lease term, beginning on the date of control of physical use of the asset or of initial possession. The amount of the excess of straight-line rent expense over scheduled payments is recorded as a deferred liability. Construction allowances and other such lease incentives are recorded as deferred credits, and are amortized on a straight-line basis as a reduction of rent expense beginning in the period they are deemed to be earned, which generally coincides with the occupancy date.

Goodwill and Intangible assets: We acquire businesses in purchase transactions that result in the recognition of goodwill and intangible assets. The determination of the value of intangible assets requires management to make estimates and assumptions. In accordance with ASC 350-20 "Goodwill", acquired goodwill is not amortized but is subject to impairment testing at least annually and when an event occurs or circumstances change, that indicate it is more likely than not an impairment exists. Factors considered that may trigger an impairment review of either acquired goodwill or intangible assets are: significant underperformance relative to expected historical or projected future operating results; significant changes in the manner of use of acquired assets or the strategy for the overall business; significant negative industry or economic trends; and significant decline in market capitalization relative to net book value. Finite lived intangible assets are amortized and are tested for impairment when appropriate. We have determined that no goodwill or intangible asset impairment has occurred and the fair value of goodwill was substantially higher than our carrying value based on our assessment as of December 31, 2018 when the impairment review is performed.

Revenue recognition: ASU No. 2014-09, "Revenue from Contracts with Customers" and its related amendments (collectively, ASC 606) are effective for reporting periods beginning after December 15, 2017, and interim periods therein. This ASU is intended to clarify the principles for recognizing revenue by removing inconsistencies 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. Entities have the option of using either a full retrospective approach or modified retrospective approach to adopt the amended guidance. We adopted ASC 606 effective January 1, 2018 and elected the modified retrospective approach. The results for periods before 2018 were not adjusted for the new standard and there was no cumulative effect for the change in accounting at the date of adoption.

In accordance with ASC 606, a performance obligation is a promise in a contract with a customer to transfer a distinct good or service to the customer. Some of our contracts with customers contain a single performance obligation, while other contracts contain multiple performance obligations (most commonly when contracts include product and extended warranties). A contract's transaction price is allocated to each distinct performance obligation and recognized as revenue when, or as, the performance obligation is satisfied. When there are multiple performance obligations within a contract, we allocate the transaction price to each performance obligation based on its standalone selling price.

The transaction price is determined based on the consideration to which the Company will be entitled in exchange for transferring services to the customer. To the extent the transaction price includes variable consideration, such as price protection, reserves for returns and other allowances, the Company estimates the amount of variable consideration that should be included in the transaction price utilizing either the "expected value" method or the "most likely amount" method depending on the nature of the variable consideration. Variable consideration is included in the transaction price if, in the Company's judgment, it is probable that a significant future reversal of cumulative revenue under the contract will not occur.

For a majority of our revenue, which consists of printers, terminals, consumables, and replacement parts, the Company recognizes revenue as of a point of time. The transaction price is recognized upon shipment of the order when control of the goods is transferred to the customer and at the time the performance obligation is fulfilled. We also sell a software solution, EPICENTRALTM, that enables casino operators to create promotional coupons and marketing messages and to print them in real-time at the slot machine. EPICENTRALTM is primarily comprised of both a software component, which is licensed to the customer, and a hardware component. EPICENTRALTM software and hardware are integrated to deliver the system's full functionality. The transaction prices from EPICENTRALTM software license and hardware are recognized upon installation and formal acceptance by the customer when control of the license is transferred to the customer. For out-of-warranty repairs, the transaction price is recognized after completion of the repair work is completed and the printer or terminal is returned to the customer, as control of the product is transferred to the customer and our performance obligation is completed.

Performance obligations are satisfied over time if the customer receives the benefits as we perform work, if the customer controls the asset as it is being produced, or if the product being produced for the customer has no alternative use and we have a contractual right to payment. For our separately priced extended warranty, technical support for our restaurant solution terminals and maintenance agreements (including free one-year maintenance received by the customers upon completion of EPICENTRALTM installation) revenue is recognized over time as the customer receives the benefit. The transaction price from the maintenance services is recognized ratably over time, using output methods, as control of the services is transferred to the customer. For extended warranties, the transaction price is recognized ratably over the warranty period, using output methods, as control of the services is transferred to the customer.

In the cases where there is more than one performance obligation in a customer arrangement, the Company typically uses the "standalone selling price" method to determine the transaction price to allocate to each performance obligation. The Company sells the performance obligations separately and has established standalone selling prices for its products and services. In the case of an overall price discount, the discount is applied to each performance obligation proportionately based on standalone selling price. To determine the standalone selling price for initial EPICENTRALTM installations, the Company uses the adjusted market assessment approach.

Disaggregation of revenue

The following table disaggregates our revenue by market-type, as we believe it best depicts how the nature, amount, timing and uncertainty of our revenue and cash flows are affected by economic factors. Sales and usage-based taxes are excluded from revenues.

	Year Ended				
	December 31, 2018				
	United				
	States	International	Total		
	(In thous	ands)			
Restaurant solutions	\$4,133	\$ 446	\$4,579		
POS Automation and Banking	7,122	151	7,273		
Casino and Gaming	17,518	9,075	26,593		
Lottery	3,046	47	3,093		
Printrex	1,028	269	1,297		
TransAct Services Group	10,671	1,081	11,752		
Total net sales	\$43,518	\$ 11,069	\$54,587		

Changes in accounting policies and financial statement impact of adopting ASC 606

Except for the changes below, we have consistently applied the accounting policies to all periods presented in the consolidated financial statements. As noted above, we adopted ASC 606 using the modified retrospective approach which allows the Company to record any changes using the cumulative effect. The adoption of ASC 606 did not require the Company to record an adjustment to retained earnings at January 1, 2018, and did not have an impact on the consolidated income statement during the year ended December 31, 2018, basic or diluted earnings per share, consolidated statement of cash flows, consolidated statement of shareholder's equity, or consolidated balance sheet, at December 31, 2018.

Costs to Obtain a Contract – Costs to obtain a contract, such as sales commissions, were previously expensed as incurred. The Company applied the practical expedient for contracts with customers for a term of twelve months or less, in accordance with ASC 340-40-25-4, which allows TransAct to continue to expense sales commissions as incurred, since the expected amortization period of the cost to obtain a contract is less than 12 months. No amounts were capitalized as of the adoption of ASC 606 or as of December 31, 2018.

Contract balances

Our contract liabilities consist of customer pre-payments and deferred revenue. Customer prepayments are reported as "Accrued Liabilities" in current liabilities in the Condensed Consolidated Balance Sheets and represent customer payments made in advance of performance obligations in instances where credit has not been extended and is recognized as revenue when the performance obligation is complete. Deferred revenue is reported separately in current liabilities and non-current liabilities and consists of our extended warranty contracts, technical support for our restaurant solution terminals, EPICENTRALTM maintenance contracts and testing service contracts, and is recognized as revenue as (or when) we perform under the contract. The increase in current and non-current deferred revenue is due to the sale of extended warranties and technical support for our restaurant solution terminals. We do not have any contract asset balances as of December 31, 2018 or 2017. During the year ended December 31, 2018, we recognized revenue of \$1.2 million related to our contract liabilities at January 1, 2018. Total contract liabilities consist of the following:

December
31, January
2018 1, 2018
(In thousands)
\$50 \$ 79

Customer pre-payments

Deferred revenue, current 384 169
Deferred revenue, non-current 265 69
Total contract liabilities \$699 \$ 317

Remaining performance obligations

Remaining performance obligations represent the transaction price of firm orders for which a good or service has not been delivered to our customer. As of December 31, 2018, the aggregate amount of the transaction price allocated to remaining performance obligations was \$5.6 million. The Company expects to recognize revenue on \$4.1 million of our remaining performance obligations within the next 12 months, \$1.4 million within the next 24 months and the balance of these remaining performance obligations recognized within the next 36 months.

Concentration of credit risk: Financial instruments that potentially expose us to concentrations of credit risk are limited to cash and cash equivalents held by our banks in excess of insured limits and accounts receivable.

Accounts receivable from customers representing 10% or more of total accounts receivable were as follows:

	Decemb	er 31,		
	2018		2017	
International				
Gaming				
Technology				
("IGT")	21	%	48	%
Suzo-Happ	0	%	13	%

Sales to customers representing 10% or more of total net sales were as follows:

	Year Ended						
	December 31,						
	20	18	2017	7	2016)	
IGT	18	3%	35	%	26	%	
Suzo-Happ	1	%	8	%	15	%	

Warranty: We generally warrant our products for up to 24 months and record the estimated cost of such product warranties at the time the sale is recorded. Estimated warranty costs are based upon actual past experience of product repairs and the related estimated cost of labor and material to make the necessary repairs.

The following table summarizes the activity recorded in the accrued product warranty liability:

	Year Ended			
	December 31,			
(In thousands)	2018	2017	2016	
Balance, beginning of period	\$267	\$267	\$277	
Warranties issued	269	259	254	
Warranty settlements	(263)	(259)	(264)	
Balance, end of period	\$273	\$267	\$267	

\$192 thousand and \$186 thousand of the accrued product warranty liability were classified as current in Accrued liabilities at December 31, 2018 and 2017, respectively. The remaining \$81 thousand of the accrued product warranty liability as of December 31, 2018 and 2017 is classified as long-term in Other liabilities.

Engineering, design and product development: Research and development ("R&D") expenses include expenses incurred in connection with specialized engineering and design to introduce new products and to customize existing products, and are expensed as a component of operating expenses as incurred. We recorded \$4.6 million, \$4.3 million and \$4.4 million of research and development expenses in 2018, 2017, and 2016, respectively.

Costs incurred in researching and developing a computer software product are charged to expense until technological feasibility has been established, at which point all material software costs are capitalized within Intangible assets in our Consolidated Balance Sheet until the product is available for general release to customers. While judgment is required in determining when technological feasibility of a product is established, we have determined that it is reached after all high-risk development issues have been documented in a formal detailed plan design. The amortization of these costs have been included in cost of sales over the estimated life of the product. During 2018, we contracted several third-parties to develop software for our restaurant solutions products. Unamortized development

costs for such software were \$586 thousand as of December 31, 2018. The total amount charged to cost of sales for capitalized software development costs was \$30 thousand, \$2 thousand and \$29 thousand in 2018, 2017, and 2016, respectively.

Advertising: Advertising costs are expensed as incurred. Advertising expenses, which are included in selling and marketing expense on the accompanying Consolidated Statements of Income, for 2018, 2017, and 2016 totaled \$1.0 million, \$1.0 million and \$0.7 million, respectively. These expenses include items such as consulting and professional services, tradeshows, and print advertising.

Income taxes: The income tax amounts reflected in the accompanying Consolidated Financial Statements are accounted for under the liability method in accordance with ASC 740, "Income Taxes." Deferred tax assets and liabilities are recognized for the estimated future tax consequences attributable to differences between the financial statement carrying amounts of existing assets and liabilities and their respective tax bases and operating loss and tax credit carryforwards. Deferred tax assets and liabilities are measured using enacted tax rates in effect for the year in which those temporary differences are expected to be recovered or settled. We assess the likelihood that net deferred tax assets will be realized from future taxable income, and to the extent that we believe that realization is not likely, we establish a valuation allowance. In accordance with ASC 740, we identified, evaluated and measured the amount of benefits to be recognized for our tax return positions. See Note 11 for information regarding our accounting for income taxes and additional provision items recorded in regards to the Tax Reform Act.

Foreign currency translation: The financial position and results of operations of our foreign subsidiary in the UK are measured using local currency as the functional currency. Assets and liabilities of such subsidiary have been translated into U.S. dollars at the year-end exchange rate, related sales and expenses have been translated at the exchange rate as of the date the transaction was recognized, and shareholders' equity has been translated at historical exchange rates. The resulting translation gains or losses, net of tax, are recorded in shareholders' equity as a cumulative translation adjustment, which is a component of accumulated other comprehensive income. Foreign currency transaction gains and losses, including those related to intercompany balances, are recognized in Other, net on the Consolidated Statements of Income.

Share-based payments: At December 31, 2018, we have share-based employee compensation plans, which are described more fully in Note 10 - Stock incentive plans. We account for those plans under the recognition and measurement principles of ASC 718, "Compensation – Stock Compensation." Share-based compensation expense is measured at the grant date, based on the estimated fair value of the award, and is recognized as expense over the employee's requisite service period.

We use the Black-Scholes option-pricing model to calculate the fair value of share based awards. The key assumptions for this valuation method include the expected term of the option, stock price volatility, risk-free interest rate, dividend yield, market price of our underlying stock and exercise price. Many of these assumptions are judgmental and highly sensitive in the determination of compensation expense. Beginning in the first quarter of 2017, we recognize forfeitures as they occur.

In May 2017, the FASB issued ASU No. 2017-09, "Compensation-Stock Compensation: Scope of modification accounting". ASU 2017-09 provides guidance about which changes to the terms or conditions of a share-based payment award require an entity to apply modification accounting in Topic 718. ASU No. 2017-09 is effective for fiscal years beginning after December 15, 2017. The amendments are applied prospectively to an award modified on or after the adoption date. We adopted this guidance in the first quarter of 2018 and the adoption has not resulted in a change to our financial statements.

Net income and loss per share: We report net income or loss per share in accordance with ASC 260, "Earnings per Share (EPS)." Under this guidance, basic EPS, which excludes dilution, is computed by dividing income or loss available to common shareholders by the weighted average number of common shares outstanding for the period. Diluted EPS reflects the potential dilution that could occur if securities or other contracts to issue common stock were exercised or converted into common stock. Diluted EPS includes in-the-money stock options using the treasury stock method. During a loss period, the assumed exercise of in-the-money stock options has an anti-dilutive effect, and therefore, these instruments are excluded from the computation of dilutive EPS. See Note 12 - Earnings per share.

3. Inventories, net

The components of inventories are:

	December 31,		
(In thousands)	2018	2017	
Raw materials and purchased component parts	\$6,593	\$6,322	
Work-in-process	29	_	
Finished goods	6,213	2,553	
	\$12,835	\$8,875	

4. Fixed assets

The components of fixed assets, net are:

	December 31,	
(In thousands)	2018	2017
Tooling, machinery and equipment	\$11,177	\$11,019
Furniture and office equipment	1,690	1,651
Computer software and equipment	6,930	6,503
Leasehold improvements	2,666	2,475
	22,463	21,648
Less: Accumulated depreciation and amortization	(20,518)	(19,752)

	1,945	1,896
Construction in-process	327	273
	\$2,272	\$2,169

5. Intangible assets

Identifiable intangible assets are recorded in Intangible assets in the accompanying Consolidated Balance Sheets and are comprised of the following:

	Decemb	er 31,			
	2018		2017		
	Gross	Accumulated	Gross	Accumulated	l
(In thousands)	Amount	Amortization	Amount	Amortization	l
Purchased technology	\$2,221	\$ (1,558	\$1,754	\$ (1,481)
Customer relationships	1,300	(1,300) 1,300	(1,300)
Trademark	480	(354) 480	(306)
Covenant not to compete	146	(146) 146	(146)
Patents	57	(49) 57	(46)
Other	80	(80) 80	(80)
Total	\$4,284	\$ (3,487	\$3,817	\$ (3,359)

Amortization expense was \$128 thousand, \$237 thousand and \$343 thousand in 2018, 2017 and 2016, respectively. Amortization expense for each of the next five years ending December 31 is expected to be as follows: \$289 thousand in 2019; \$175 thousand in 2020; \$124 thousand in 2021; \$93 thousand in 2022; \$93 thousand in 2023; and \$23 thousand thereafter.

6. Accrued liabilities

The components of accrued liabilities are:

	December 31,		
(In thousands)	2018	2017	
Salaries and compensation related	\$1,817	\$2,288	
Warranty	192	186	
Professional and consulting	231	209	
Other	525	656	
	\$2,765	\$3,339	

7. Retirement savings plan

We maintain a 401(k) plan under which all full-time employees are eligible to participate at the beginning of each month immediately following their date of hire. We match employees' contributions at a rate of 50% of employees' contributions up to the first 6% of the employees' compensation contributed to the 401(k) plan. Our matching contributions were \$237 thousand, \$264 thousand and \$295 thousand in 2018, 2017, and 2016, respectively.

8. Borrowings

We maintain a credit facility (the "TD Bank Credit Facility") with TD Bank N.A. ("TD Bank) which provides for a \$20 million revolving credit line. On November 21, 2017, we signed an amendment extending the term to the TD Bank Credit Facility through November 28, 2022. Borrowings under the revolving credit line bear a floating rate of interest at the prime rate minus one percent and are secured by a lien on all of our assets. We also pay a fee of 0.125% on unused borrowings under the revolving credit line. The amendment increased the amount of revolving credit loans we may use to fund future cash dividend payments or treasury share buybacks to \$12.5 million from \$10 million.

The TD Bank Credit Facility imposes certain quarterly financial covenants on us and restricts, among other things, our ability to incur additional indebtedness and the creation of other liens. We were in compliance with all financial covenants of the TD Bank Credit Facility at December 31, 2018.

As of December 31, 2018, undrawn commitments under the TD Bank Credit facility were \$20 million.

9. Commitments and contingencies

At December 31, 2018, we were the lessee on operating leases for equipment and real property. Rent expense was \$1.1 million, \$1.1 million and \$1.0 million in 2018, 2017, and 2016, respectively. Minimum aggregate rental payments required under operating leases that have initial or remaining non-cancelable lease terms in excess of one year as of December 31, 2018 are as follows: \$1.0 million in 2019; \$1.0 million in 2020; \$0.7 million in 2021; \$0.4 million in 2022, \$0.3 million in 2023 and \$0.9 million thereafter.

10. Stock incentive plans

Stock incentive plans. We currently have two primary stock incentive plans: the 2005 Equity Incentive Plan and 2014 Equity Incentive Plan, which provide for awards to executives, key employees, directors and consultants. The plans generally provide for awards in the form of: (i) incentive stock options, (ii) non-qualified stock options, (iii) restricted stock, (iv) restricted stock units (which may include performance-based vesting), (v) stock appreciation rights or (vi) limited stock appreciation rights. Awards granted under these plans have exercise prices equal to 100% of the fair market value of the common stock at the date of grant. Awards granted have a ten-year term and generally vest over a two- to five-year period, unless automatically accelerated for certain defined events. As of May 2014, no new awards

were made under the 2005 Equity Incentive Plan. Under our 2014 Equity Incentive Plan, we may authorize awards for up to 1,400,000 shares of TransAct common stock. At December 31, 2018, 495,291 shares of common stock remained available for issuance under the 2014 Equity Incentive Plan.

Under the assumptions indicated below, the weighted-average per share fair value of stock option grants for 2018, 2017, and 2016 was \$4.38, \$1.95 and \$1.70, respectively. In 2018 and 2017, we also issued restricted share units for certain executives and directors that vest over a specified period of time, and in some instances require achieving certain performance metrics. The weighted-average per share fair value of these restricted share units was \$12.91, \$7.53 and \$7.31 in 2018, 2017 and 2016 respectively. No restricted share units were issued in 2016.

The table below indicates the key assumptions used in the option valuation calculations for options granted in 2018, 2017, and 2016 and a discussion of our methodology for developing each of the assumptions used in the valuation model:

	Year Ended				
	December 31,				
	2018	2017	2016		
Expected option term (in years)	6.8	6.8	6.9		
Expected volatility	38.0%	36.2%	38.8%		
Risk-free interest rate	2.7 %	2.1 %	1.2 %		
Dividend yield	2.6 %	4.3 %	4.5 %		

Expected Option Term - This is the weighted average period of time over which the options granted are expected to remain outstanding giving consideration to our historical exercise patterns. Options granted have a maximum term of ten years and an increase in the expected term will increase compensation expense.

Expected Volatility – The stock volatility for each grant is measured using the weighted average of historical daily price changes of our common stock over the most recent period approximately equal to the expected option term of the grant. An increase in the expected volatility factor will increase compensation expense.

Risk-Free Interest Rate - This is the U.S. Treasury rate in effect at the time of grant having a term approximately equal to the expected term of the option. An increase in the risk-free interest rate will increase compensation expense.

Dividend Yield –The dividend yield is calculated by dividing the annual dividend declared per common share by the weighted average market value of our common stock on the date of grant. An increase in the dividend yield will decrease compensation expense.

For 2018, 2017, and 2016, we recorded \$629 thousand, \$609 thousand, and \$611 thousand of share-based compensation expense, respectively, included primarily in general and administrative expense in our Consolidated Statements of Income. We also recorded income tax benefits of \$138 thousand, \$134 thousand, and \$184 thousand in 2018, 2017, and 2016 respectively, related to such share-based compensation. At December 31, 2018, these benefits are recorded as a deferred tax asset in the Consolidated Balance Sheets.

Equity award activity in the 2005 Equity Incentive Plan and 2014 Equity Incentive Plan is summarized below:

		Restricted Share
	Stock Options	Units
	Number of Average	Number Average
	Shares Price*	of Units Price**
Outstanding at December 31, 2017	919,639 \$ 8.13	101,275 \$8.21
Granted	147,300 13.65	37,400 13.69
Exercised	(58,146) 7.16	(33,935) 8.31
Forfeited	(2,000) 7.63	(6,140) 8.64
Expired	(2,500) 5.24	
Outstanding at December 31, 2018	1,004,293 \$ 9.00	98,600 \$ 9.82

^{*}weighted average exercise price per share

The following summarizes information about equity awards outstanding that are vested and expect to vest and equity awards that are exercisable at December 31, 2018:

	Equity Awa	ırds Vesteo	d and Expec	ted to Vest	Equity Av	wards That	Are Exerci	sable
		Aggregate					Aggregate	
		Average	Intrinsic	Remaining		Average	Intrinsic	Remaining
	Awards	Price*	Value	Term**	Awards	Price*	Value	Term**
Stock Options	1,004,293	\$ 9.00	\$ 1,051	6.1	562,252	\$ 8.38	\$ 656	4.7
Restricted stock units	82,692	_	743	1.9	_	_	_	_

^{*}weighted average exercise price per share

^{**} weighted-average grant stock price per share

^{**} weighted-average contractual remaining term in years

Shares that are issued upon exercise of employee stock awards are newly issued shares and not issued from treasury stock. As of December 31, 2018, unrecognized compensation cost related to non-vested equity awards granted under our stock incentive plans is approximately \$1.2 million, which is expected to be recognized over a weighted average period of 2.2 years.

The total fair value of awards vested during the years ended December 31, 2018, 2017, and 2016 was \$1.1 million, \$1.1 million, and \$1.0 million, respectively. The total intrinsic value (which is the amount by which the stock price exceeded the exercise price on the date of exercise) of stock options exercised during the years ended December 31, 2018, 2017, and 2016 was \$280 thousand, \$958 thousand and \$6 thousand, respectively. Cash received from option exercises was \$416 thousand, \$1.0 million and \$23 thousand for 2018, 2017, and 2016, respectively. We recorded a realized tax benefit in 2018, 2017, and 2016 from equity-based awards of \$17 thousand, \$150 thousand and \$1 thousand, respectively, related to options exercised. Upon adoption of ASU 2016-09 in 2017 tax benefits realized on stock options exercises are included in income tax expense and are no longer included as a component of cash flows.

Restricted stock:

We paid a portion of the 2015 incentive bonus for the chief executive officer and chief financial officer in the form of 28,231 deferred stock units, respectively, with a corresponding credit recorded to Additional Paid in Capital (net of share relinquishments) in the amount of \$151 thousand in 2016. Such deferred stock units were granted in February 2016 and were fully vested at the time of grant. These units will be converted three years from the grant date to shares of the Company's common stock on a one-for-one basis. The weighted average exercise price of the deferred stock units was \$7.17. Starting with the 2016 incentive bonus program, all incentive bonus payments are made in cash with no portion of the award paid in deferred stock units.

11. Income taxes

The components of the income tax provision are as follows:

	Year Ended December				
	31,				
(In thousands)	2018	2017	2016		
Current:					
Federal	\$1,049	\$2,379	\$1,776		
State	85	114	70		
Foreign	13	(49)	2		
	1,147	2,444	1,848		
Deferred:					
Federal	(117)	1,097	(257)		
State	10	20	(38)		
Foreign	_	_	_		
	(107)	1,117	(295)		
Income tax provision	\$1,040	\$3,561	\$1,553		

On December 22, 2017, the United States enacted significant changes to U.S. tax law following the passage and signing of the Tax Reform Act. The legislation significantly changes U.S. tax law by, among other things, lowering corporate income tax rates, implementing a territorial tax system and imposing a one-time repatriation tax on undistributed foreign earnings. The Tax Reform Act permanently reduces the U.S. corporate income tax rate from a maximum of 35% to a flat 21% rate, effective January 1, 2018. Income tax effects resulting from changes in tax laws are accounted for by the Company in accordance with authoritative guidance, which requires that these tax effects be recognized in the period in which the law is enacted.

On December 22, 2017, the Securities and Exchange Commission ("SEC") staff issued Staff Accounting Bulletin No. 118 ("SAB 118") to address the application of U.S. GAAP in situations where a registrant does not have the necessary information available, prepared, or analyzed in reasonable detail to complete the accounting for certain income tax effects of the Tax Reform Act. SAB 118 provides a measurement period, not to exceed one year from the enactment of the Tax Reform Act. In accordance with SAB 118, the Company has recognized provisional tax impacts related to the revaluation of deferred tax assets and liabilities and included these amounts in its consolidated financial statements for the year ended December 31, 2017, and no changes were made to these provisional amounts during the year ended December 31, 2018. As of December 22, 2018 our accounting for the impact of the Tax Reform Act was complete. The Company uses the asset and liability method of accounting for income taxes. Under this method, deferred tax assets and liabilities are recognized for future tax consequences attributable to differences between the financial statement carrying amounts of existing assets and liabilities and their respective tax basis. Deferred tax assets and liabilities are measured using enacted tax rates expected to apply to taxable income in the years in which those temporary differences are expected to reverse. As a result of the reduction of TransAct's U.S. corporate income tax rate from 34% to 21% under the Tax Reform Act, the Company revalued its ending net deferred tax assets at December 31, 2017 and recognized a provisional \$1.3 million charge to income tax expense in the Company's consolidated statement of income for the year ended December 31, 2017.

The Tax Reform Act also provided for a one-time deemed mandatory repatriation of post-1986 undistributed foreign subsidiary earnings and profits ("E&P") through the year ended December 31, 2017. The Company had no undistributed foreign E&P subject to the one-time mandatory repatriation and, therefore, did not recognize any income tax expense related to undistributed foreign subsidiary E&P for the year ended December 31, 2017.

While the Tax Reform Act provides for a territorial tax system, beginning in 2018, it includes two new U.S. tax base erosion provisions, the global intangible low-taxed income ("GILTI") provisions and the base-erosion and anti-abuse

tax ("BEAT") provisions. The GILTI provisions require the Company to include in its U.S. income tax return foreign subsidiary earnings in excess of an allowable return on the foreign subsidiary's tangible assets. The BEAT provisions in the Tax Reform Act eliminate the deduction of certain base-erosion payments made to related foreign corporations, and impose a minimum tax if greater than regular tax. The Company is not currently subject to these taxes and therefore has not included any tax impacts of GILTI or BEAT in its consolidated financial statements for the year ended December 31, 2018 or 2017.

Our effective tax rates were 16.1%, 52.6%, and 30.0% for 2018, 2017, and 2016, respectively. The effective tax rate in 2018 was significantly lower due to the impact of the Tax Reform Act. In addition to the lowering of the corporate from 34% to 21%, the Tax Reform Act also provided the Company with a new deduction, the foreign-derived intangible income deduction. The effective tax rate in 2017 was unusually high due to the initial impact of the Tax Reform Act as we recognized a provisional \$1.3 million charge to income tax expense for the year ended December 31, 2017 as a result of revaluing our net deferred tax assets using the new U.S. corporate tax rate of 21%.

At December 31, 2018, we have no federal or state net operating loss carryforwards, no R&D credit carryforwards, and no state tax credit carryforwards. Foreign loss before taxes was \$286 thousand, \$563 thousand, and \$235 thousand in 2018, 2017, and 2016, respectively.

Deferred income taxes arise from temporary differences between the tax basis of assets and liabilities and their reported amounts in the Consolidated Financial Statements. Our deferred tax assets and liabilities were comprised of the following:

	December 31,		
(In thousands)	2018	2017	
Deferred tax assets:			
Foreign net operating losses	\$390	\$328	
Depreciation	71	107	
Inventory reserves	879	845	
Deferred revenue	16	16	
Warranty reserve	60	59	
Stock compensation expense	682	694	
Other accrued compensation	233	363	
Other liabilities and reserves	278	246	
Gross deferred tax assets	2,609	2,658	
Valuation allowance	(390)	(328)	
Net deferred tax assets	2,219	2,330	
Deferred tax liabilities:			
Other	21	22	
Net deferred tax liabilities	21	22	
Total net deferred tax assets	\$2,198	\$2,308	

As of December 31, 2018 a valuation allowance of \$390 thousand has been established for foreign net operating loss carryforwards that are not expected to be used. The following table summarizes the activity recorded in the valuation allowance on the deferred tax assets:

	Year Ended December 31,		
(In thousands)	2018	2017	2016
Balance, beginning of period	\$328	\$423	\$340
Additions charged to income tax provision	62	67	83
Reductions credited to income tax provision	_	(162)) —
Balance, end of period	\$390	\$328	\$423

Differences between the U.S. statutory federal income tax rate and our effective income tax rate are analyzed below:

	Year Ended December 31,			
	2018	2017	2016	
Federal statutory tax rate	21.0%	34.0%	34.0%	
State income taxes, net of federal income taxes	1.2	1.3	0.4	
Valuation allowance and tax accruals	1.0	1.6	1.6	
Miscellaneous permanent items	0.7	(0.5)	(1.2)	
U.S. corporate tax rate change	0.0	19.4	0.0	
Stock option cancellations	0.0	1.7	0.0	
Uncertain tax positions	0.0	(0.1)	(0.1)	
Stock award excess tax benefit	(1.5)	(1.4)	0.0	
Foreign-derived intangible income deduction	(1.5)	0.0	0.0	

R&D credit	(4.9)	(3.3)	(4.6)
Other	0.1	(0.1)	(0.1)
Effective tax rate	16.1%	52.6%	30.0%

At both December 31, 2018 and 2017, we had \$104 thousand of total gross unrecognized tax benefits that, if recognized, would favorably affect the effective income tax rate in any future periods. We are not aware of any events that could occur within the next twelve months that could cause a significant change in the total amount of unrecognized tax benefits. A tabular reconciliation of the gross amounts of unrecognized tax benefits at the beginning and end of the year is as follows:

	December	
	31,	
(In thousands)	2018 2017	
Unrecognized tax benefits as of January 1	\$104 \$111	
Tax positions taken during the current period	28 24	
Lapse of statute of limitations	(28) (31)	
Unrecognized tax benefits as of December 31	\$104 \$104	

We expect \$25 thousand of the \$104 thousand of unrecognized tax benefits will reverse in 2019 upon the expiration of the statute of limitations.

We recognize interest and penalties related to uncertain tax positions in the income tax provision. We have accrued interest and penalties related to uncertain tax positions of \$17 thousand as of December 31, 2018 and 2017.

We are subject to U.S. federal income tax as well as income tax of certain state and foreign jurisdictions. We have substantially concluded all U.S. federal income tax, state and local, and foreign tax matters through 2014. However, our federal tax returns for the years 2015 through 2017 remain open to examination. Various state and foreign tax jurisdiction tax years remain open to examination as well, though we believe that any additional assessment would be immaterial to the Consolidated Financial Statements.

12. Earnings per share

For 2018, 2017, and 2016, earnings per share was computed as follows (in thousands, except per share amounts):

	Year Ended December		
	31,		
	2018	2017	2016
Net income	\$5,426	\$3,211	\$3,617
Shares:			
Basic: Weighted average common shares outstanding	7,444	7,423	7,610
Add: Dilutive effect of outstanding equity awards as determined by the treasury stock			
method	315	169	45
Diluted: Weighted average common and common equivalent shares outstanding	7,759	7,592	7,655
Net income per common share:			
Basic	\$0.73	\$0.43	\$0.48
Diluted	0.70	0.42	0.47

The computation of diluted earnings per share excludes the effect of the potential exercise of stock awards, including stock options, restricted stock units and performance stock awards, when the average market price of the common stock is lower than the exercise price of the related stock award during the period. These outstanding stock awards are not included in the computation of diluted earnings per share because the effect would be anti-dilutive. Anti-dilutive stock awards excluded from the computation of earnings per dilutive share were 149,000, and 341,000, at December 31, 2018 and 2017 respectively.

13. Stock repurchase program

On March 1, 2018, our Board of Directors approved a new stock repurchase program (the "2018 Stock Repurchase Program"). Under the 2018 Stock Repurchase Program, we are authorized to repurchase up to \$5 million of our outstanding shares of common stock from time to time in the open market at prevailing market prices based on market conditions, share price and other factors. The 2018 Stock Repurchase Program expires on December 31, 2019, if we do not discontinue the repurchase program prior to such time. We use the cost method to account for treasury stock purchases, under which the price paid for the stock is charged to the treasury stock account. Repurchases of our common stock are accounted for as of the settlement date. From the start of the 2018 Stock Repurchase Program on March 1, 2018 through December 31, 2018, we repurchased 156,410 shares of our common stock for approximately \$2.0 million at an average price per share of \$12.79.

During 2016 and 2017, under a prior repurchase program that was in place from February 25, 2016 through December 31, 2017, we purchased 499,843 shares of our common stock for \$3.9 million at an average price of \$7.86 per share. From January 1, 2005 through December 31, 2018, we repurchased a total of 4,044,842 shares of common stock for \$32.1 million, at an average price of \$7.94 per share.

14. Geographic area information

Information regarding our operations by geographic area is contained in the following table. These amounts in the geographic area table are based on the location of the customer and asset.

Year Ended December 31,				
2018	2017	2016		
\$43,518	\$48,720	\$45,542		
11,069	7,591	11,693		
\$54,587	\$56,311	\$57,235		
\$1,767	\$1,548	\$1,581		
505	621	660		
\$2,272	\$2,169	\$2,241		
	2018 \$43,518 11,069 \$54,587 \$1,767 505	2018 2017 \$43,518 \$48,720 11,069 7,591 \$54,587 \$56,311 \$1,767 \$1,548 505 621		

Sales to international customers were 20%, 14%, and 20% of total sales in 2018, 2017, and 2016 respectively. Sales to Europe represented 56%, 44%, and 56%, sales to the Pacific Rim (which includes Australia and Asia) represented 36%, 32%, and 34%, and sales to Canada represented 6%, 18%, and 8% of total international sales in 2018, 2017, and 2016 respectively. International long-lived assets consist of net fixed assets located at our foreign subsidiary in the UK as well as our contract manufacturers in China, Thailand, Malaysia and Mexico.

15. Quarterly results of operations (unaudited)

Our quarterly results of operations for 2018 and 2017 are as follows:

	Quarte March	er Ended 1	Septe	mber I	Decemb	er
(In thousands, except per share amount	s) 31	June 3	30 30	3	31	
2018:						
Net sales	\$12,2	43 \$14,7	51 \$ 15,8	338	\$ 11,755	;
Gross profit	5,86	2 6,99	1 8,00)4	5,886	
Net income	680	1,21	0 2,57	' 4	962	
Net income per common share:						
Basic	0.09	0.16	0.35	j	0.13	
Diluted	0.09	0.16	0.33	;	0.12	
2017:						
Net sales	\$13,997	\$13,596	\$15,524	\$13,19	94	
Gross profit	6,093	6,430	7,519	6,620	0	
Net income (loss)	943	867	1,813	(412)	
Net income (loss) per common share:						
Basic	0.13	0.12	0.24	(0.06)	ó)	
Diluted	0.13	0.12	0.24	(0.06)	5)	

16. Accounting pronouncements

In February 2016, the Financial Accounting Standards Board ("FASB") issued Accounting Standards Update ("ASU") No. 2016-02, Leases (Topic 842), which sets out the principles for the recognition, measurement, presentation and disclosure of leases for both parties to a contract (i.e., lessees and lessors). The new standard requires lessees to apply a dual approach, classifying leases as either finance or operating leases based on the principle of whether or not the lease is effectively a financed purchase by the lessee. This classification will determine whether lease expense is recognized based on an effective interest method or on a straight-line basis over the term of the lease, respectively. A lessee is also required to record a right-of-use asset and a lease liability for all leases with a term of greater than 12 months regardless of their classification. Leases with a term of 12 months or less will be accounted for similar to existing guidance for operating leases today. ASU 2016-02 supersedes the previous leases standard, ASC 840, Leases, and is effective for public entities for annual periods beginning after December 15, 2018 and for interim periods within those fiscal years. Early adoption is permitted. The Company does have leases for equipment and real property which exceed 12 months and we are in the process of finalizing our evaluation of the impact of Topic 842. The Company intends to elect the package of practical expedients and currently expects that most of its operating lease commitments will be subject to the new standard and recognized as operating lease liabilities and right-of-use assets upon adoption of Topic 842. While we expect to record material right-of-use assets and corresponding lease liability upon adoption of Topic 482, we do not expect adoption of the guidance will result in a material impact on the Company's results of operations or cash flows.