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 29, 2017

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 001-37961

ICHOR HOLDINGS, LTD.

(Exact name of registrant as specified in its charter)

Cayman Islands	**001-37961**	**Not Applicable**
(State or other jurisdiction of incorporation)	**(Commission File Number)**	**(IRS Employer Identification No.)**

3185 Laurelview Ct.
Fremont, California 94538
(Address of principal executive offices, including Zip Code)

(510) 897-5200
(Registrant's telephone number, including area code)

Not Applicable
(Former name or former address, if changed since last report)

Title of each class	**Name of exchange on which registered**
Ordinary Shares, $0.0001 par value	The NASDAQ Stock Market, LLC

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 and posted on its corporate Web site, if any, every Interactive Data File required to be submitted and posted pursuant to Rule 405 of Regulation S-T (§232.405 of this chapter) during the preceding 12 months (or for such shorter period that the registrant was required to submit and post such files). Yes ☒ No ☐

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

Indicate by check mark whether the registrant is a large accelerated filer, an accelerated filer, a non-accelerated filer, or a smaller reporting company. See the definitions of "large accelerated filer," "accelerated filer" and "smaller reporting company" in Rule 12b-2 of the Exchange Act.

Large accelerated filer	☐	Accelerated filer	☒
Non-accelerated filer	☐ (Do not check if a smaller reporting company)	Smaller reporting company	☐
Emerging Growth Company	☒		

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

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

There were 26,254,862 ordinary shares, $0.0001 par value, outstanding as of March 6, 2018. The aggregate market value of ordinary shares held by non-affiliates was $260,085,228 as of March 6, 2018.

DOCUMENTS INCORPORATED BY REFERENCE

The information required by Part III of Form 10-K is incorporated herein by reference to the registrant's definitive Proxy Statement relating to its 2018 General Meeting, which will be filed with the Securities and Exchange Commission within 120 days after the end of the registrant's fiscal year.

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CAUTIONARY STATEMENT CONCERNING FORWARD -LOOKING STATEMENTS

This report contains forward-looking statements within the meaning of the federal securities laws. All statements other than statements of historical fact included in this report are forward-looking statements. These statements relate to analyses and other information, which are based on forecasts of future results and estimates of amounts not yet determinable. These statements also relate to our future prospects, developments and business strategies. These forward-looking statements are identified by the use of terms and phrases such as “anticipate,” “believe,” “could,” “estimate,” “expect,” “intend,” “may,” “plan,” “predict,” “project,” “will” and similar terms and phrases, including references to assumptions. However, these words are not the exclusive means of identifying such statements. These statements are contained in many sections of this report, including those entitled “Business” and “Management’s Discussion and Analysis of Financial Condition and Results of Operations.” Although we believe that our plans, intentions and expectations reflected in or suggested by such forward-looking statements are reasonable, we cannot assure you that we will achieve those plans, intentions or expectations. All forward-looking statements are subject to risks and uncertainties that may cause actual results to differ materially from those that we expected.

Important factors that could cause actual results to differ materially from our expectations, or cautionary statements, are disclosed under the sections entitled “Risk Factors” and “Management’s Discussion and Analysis of Financial Condition and Results of Operations” in this report. All written and oral forward-looking statements attributable to us, or persons acting on our behalf, are expressly qualified in their entirety by the cautionary statements contained in this report under the heading “Risk Factors,” as well as other cautionary statements that are made from time to time in our other filings with the Securities and Exchange Commission and public communications. You should evaluate all forward-looking statements made in this report in the context of these risks and uncertainties.

We caution you that the important factors referenced above may not contain all of the factors that are important to you. In addition, we cannot assure you that we will realize the results or developments we expect or anticipate or, even if substantially realized, that they will result in the consequences or affect us or our operations in the way we expect. The forward-looking statements included in this report are made only as of the date hereof. We undertake no obligation to publicly update or revise any forward-looking statement as a result of new information, future events or otherwise, except as otherwise required by law.

PART I

ITEM 1. BUSINESS

Unless expressly indicated or the context requires otherwise, the terms “Ichor,” “Company,” “we,” “us,” “our,” and similar terms in this report refer to Ichor Holdings, Ltd. and its consolidated subsidiaries.

We use a 52 or 53 week fiscal year ending on the last Friday in December. The years ended December 29, 2017, December 30, 2016, and December 25, 2015 were 52 weeks, 53 weeks, and 52 weeks, respectively. All references to 2017, 2016, and 2015 are references to fiscal years unless explicitly stated otherwise.

Company Overview

We are a leader in the design, engineering and manufacturing of critical fluid delivery subsystems and components for semiconductor capital equipment. Our product offerings include gas and chemical delivery subsystems, collectively known as fluid delivery subsystems, which are key elements of the process tools used in the manufacturing of semiconductor devices. Our gas delivery subsystems deliver, monitor and control precise quantities of the specialized gases used in semiconductor manufacturing processes such as etch and deposition. Our chemical delivery subsystems precisely blend and dispense the reactive liquid chemistries used in semiconductor manufacturing processes such as chemical-mechanical planarization, electroplating, and cleaning. We also manufacture precision machined components, weldments, and proprietary products for use in fluid delivery systems for direct sales to our customers. This vertically integrated portion of our business is primarily focused on metal and plastic parts that are used in gas and chemical systems, respectively.

Fluid delivery subsystems ensure accurate measurement and uniform delivery of specialty gases and chemicals at critical steps in the semiconductor manufacturing processes. Any malfunction or material degradation in fluid delivery reduces yields and increases the likelihood of manufacturing defects in these processes. Historically, semiconductor original equipment manufacturers, or OEMs, internally designed and manufactured the fluid delivery subsystems used in their process tools. Currently, most OEMs outsource all or a portion of the design, engineering and manufacturing of their gas delivery subsystems to a few specialized suppliers, including us. Additionally, many OEMs are also increasingly outsourcing the design, engineering and manufacturing of their chemical delivery subsystems due to the increased fluid expertise required to manufacture these subsystems. Outsourcing these subsystems has allowed OEMs to leverage the suppliers’ highly specialized engineering, design and production skills while focusing their internal resources on their own value-added processes. We believe that this outsourcing trend has enabled OEMs to reduce their fixed costs and development time, as well as provided significant growth opportunities for specialized subsystems suppliers like us.

Our goal is to be a leading supplier of outsourced fluid delivery subsystems and components to OEMs engaged in manufacturing capital equipment to produce semiconductors and to leverage our technology to expand our addressable markets. To achieve this goal, we engage with our customers early in their design and development processes and utilize our deep engineering resources and operating expertise to jointly create innovative and advanced solutions that meet the current and future needs of our customers. These collaborations frequently involve our engineers working at our customers’ sites and serving as an extension of our customers’ product design teams. We employ this approach with two of the largest manufacturers of semiconductor capital equipment in the world. We believe this approach enables us to design subsystems that meet the precise specifications our customers demand, allows us to often be the sole supplier of these subsystems during the initial production ramp and positions us to be the preferred supplier for the full five to ten-year lifespan of the process tool.

The broad technical expertise of our engineering team, coupled with our early customer engagement approach, enables us to offer innovative and reliable solutions to complex fluid delivery challenges. With two decades of experience developing complex fluid delivery subsystems and meeting the constantly changing production requirements of leading semiconductor OEMs, we have developed expertise in fluid delivery that we offer to our OEM customers. In addition, our capital efficient model and the integration of our business systems with those of our customers provides us the flexibility to fulfill increased demand and meet changing customer requirements with relatively low levels of capital expenditures. With an aim to superior customer service, we have a global footprint with many facilities strategically located in close proximity to our customers. We have long standing relationships with top tier OEM customers, including Lam Research and Applied Materials, which were our two largest customers by sales in 2017.

We grew our revenue from continuing operations by 62% to $655.9 mil lion in 2017 from $405.7 million in 2016 (hereinafter, all references to "sales" or "revenue" relates to sales from continuing operations, unless explicitly stated otherwise). We generated net income from continuing operations of $56.9 million in 2017 and $20.8 million in 2016. We generated adjusted net income from continuing operations of $65.1 million in 2017 and $31.6 million in 2016. See *Item 7 – Management's Discussion and Analysis of Financial Condition and Results of Operations, Non-GAAP Results* for a discussion of adjusted net income from continuing operations, an accompanying presentation of the most directly comparable financial measure calculated in accordance with generally accepted accounting principles in the United States, net income from cont inuing operations, and a reconciliation of the differences between adjusted net income from continuing operations and net income from continuing operations.

Our Competitive Strengths

As a leader in the fluid delivery industry, we believe that our key competitive strengths include the following:

Deep Fluids Engineering Expertise

We believe that our engineering team, comprised of chemical engineers, mechanical engineers and software and systems engineers, has positioned us to expand the scope of our solutions, provide innovative subsystems and strengthen our incumbent position at our OEM customers. Many of our engineers are industry veterans and have spent a significant portion of their careers at our customers, bringing first-hand expertise and a heightened understanding of our customers' needs. Our engineering team acts as an extension of our customers' product development teams, providing our customers with technical expertise that is outside of their core competencies.

Early Engagement with Customers on Product Development

We seek to engage with our customers and potential customers very early in their process for new product development. We believe this approach enables us to collaborate on product design, qualification, manufacturing and testing in order to provide a comprehensive, customized solution. Through early engagement during the complex design stages, our engineering team gains early insight into our customers' technology roadmaps which enables us to pioneer innovative and advanced solutions. In many cases our early engagement with our customers enables us to be the sole source supplier when the product is initially introduced.

Long History and Strong Relationships with Top Tier Customers

We have established deep relationships with top tier OEMs such as Lam Research and Applied Materials, which were our two largest customers by sales in 2017. Our customers are global leaders by sales in the increasingly concentrated semiconductor capital equipment industry. Our existing relationships with our customers have enabled us to effectively compete for new fluid delivery subsystems for our customers' next generation products in development. We leverage our deep rooted existing customer relationships with these market leaders to penetrate new business opportunities created through industry consolidation. Our close collaboration with them has contributed to our established market position and several key supplier awards.

Operational Excellence with Scale to Support the Largest Customers

Over our 18 year history of designing and building gas delivery systems, we have developed deep capabilities in operations. We have strategically located our manufacturing facilities near our customers' locations in order to provide fast and efficient responses to new product introductions, and accommodate configuration or design changes late in the manufacturing process. We also added significant capacity in our Singapore facility to support high volume products and will continue to add capacity as needed to support future growth. In addition to providing high quality and reliable fluid delivery subsystems, one of our principal strategies is delivering the lead-times that provide our customers the required flexibility needed in their production processes. We have accomplished this by investing in manufacturing systems and processes and an efficient supply chain. Our focus on operational efficiency and flexibility allows us to reduce manufacturing cycle times in order to respond quickly to customer requests and lead-times that are often less than four weeks.

Capital Efficient and Scalable Business Model

In general, our business is not capital intensive and we are able to grow sales with a low investment in property, plant and equipment. In 2017, 2016, and 2015, our total capital expenditures were $8.2 million, $4.3 million, and $1.4 million, respectively. The semiconductor capital equipment market has historically been cyclical. We have structured our business to minimize fixed manufacturing overhead and operating expenses to enable us to grow net income at a higher rate than sales during periods of growth. Conversely, our low fixed cost approach allows us to minimize the impact of cyclical downturns on our net income, but results in a lower level of gross margin leverage or improvement as a percentage of sales in times of increased demand. For example, from 2014 to 2017, sales grew at a compound annual growth rate, or CAGR, of 38% while adjusted net income from continuing operations grew at a CAGR of 77%. Conversely, our low fixed cost approach allows us to minimize the impact of cyclical downturns on our net income, but results in a smaller increase in gross margin as a percentage of sales in times of increased demand.

Our Growth Strategy

Our objective is to enhance our position as a leader in providing fluid delivery solutions, including subsystems, components, and tool refurbishment, to our customers by leveraging our core strengths. The key elements of our growth strategy are:

Grow Our Market Share within Existing Customer Base

We intend to grow our position with existing customers by continuing to leverage our specialized engineering talent and early collaboration approach with OEMs to foster long-term relationships. Each of our customers produces many different process tools for various process steps. At each customer, we are an outsourced supplier of fluid delivery subsystems for a subset of their entire process tool offerings. We are constantly looking to expand our market share at our existing customers. We believe that our early collaborative approach with customers positions us to deliver innovative and dynamic solutions, offer timely deployment and meet competitive cost targets, further enhancing our brand reputation. Through our recent acquisitions of a weldment company and a precision machining company completed in July and December 2017, respectively, as well as our 2016 acquisition of a plastic machining & fabrication company, we expanded our served market and entered the market for chemical delivery subsystems for wet process tools where we had only limited engagement in the past. Using this and our existing engineering capability, we developed a liquid delivery module and were qualified on a wet process equipment system at one of our two largest customers who is a market leader in this space.

Grow Our Total Available Market at Existing Customers with Expanded Product Offerings

We continue to work with our existing core customers on additional opportunities, including chemical delivery, one of our important potential growth areas. We believe that wet processes, clean and electro chemical deposition, or ECD, that require precise chemical delivery are currently an underpenetrated market opportunity for us. By leveraging our existing customer relationships and strong reputation in fluid mechanics, we intend to increase our chemical delivery module market share and introduce additional related products. Through our recent acquisitions of a weldment company and a precision machining company completed in July and December 2017, respectively, as well as our 2016 acquisition of a plastic machining & fabrication company, we expanded our served market and entered the market for chemical delivery subsystems. The acquisitions allow us to manufacture and assemble the complex plastic and metal products and precision machined components for the semiconductor equipment, aerospace, and general-industrial industries.

Expand Our Total Customer Base within Fluid Delivery Market

We have expanded our customer base and are currently a supplier for of gas delivery systems for a leading lithography system manufacturer in addition to a leading ALD system manufacturer. We continue to actively engage with new customers that are considering outsourcing their gas and chemical delivery needs.

Continue to Improve Our Manufacturing Process Efficiency

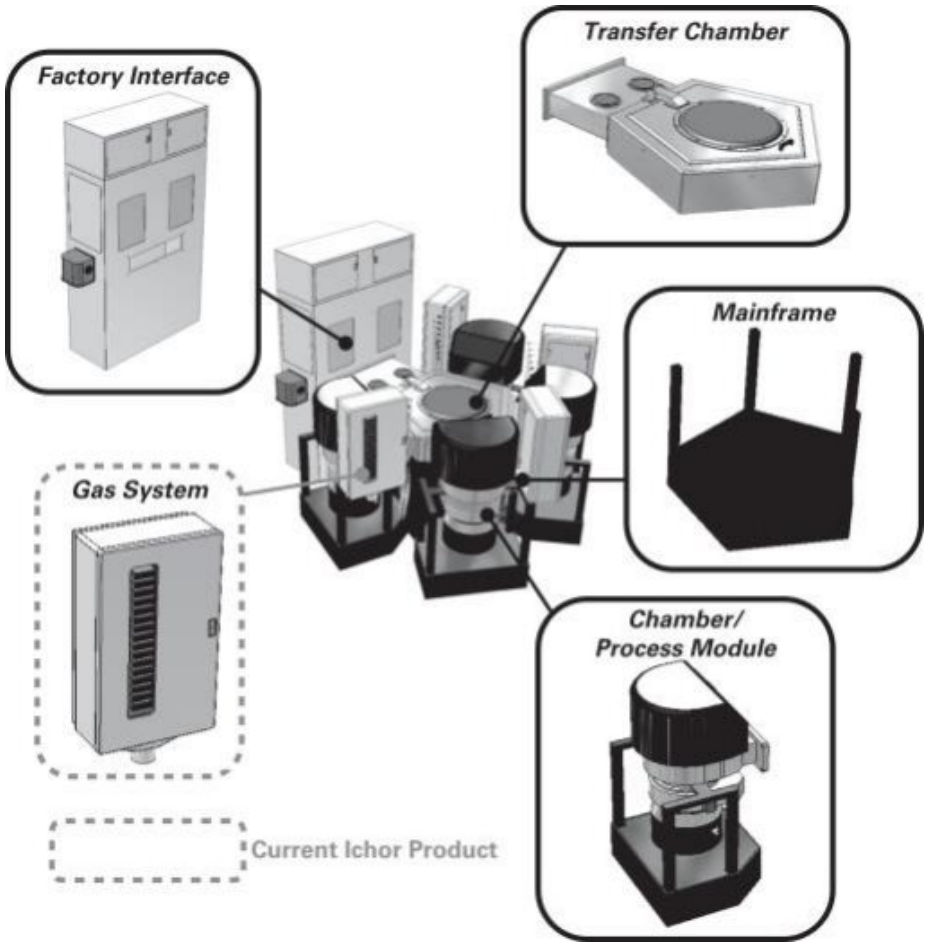
We continually strive to improve our processes to reduce our manufacturing process cycle time, improve our ability to respond to short lead-time and last minute configuration changes, reduce our manufacturing costs, and improve our inventory efficiency requirements in order to improve profitability and make our product offerings more attractive to new and existing customers.

Our Products and Services

We are a leader in the design, engineering and manufacturing of critical fluid delivery subsystems. Our product and service offerings are classified in the following categories:

Gas Delivery Subsystems

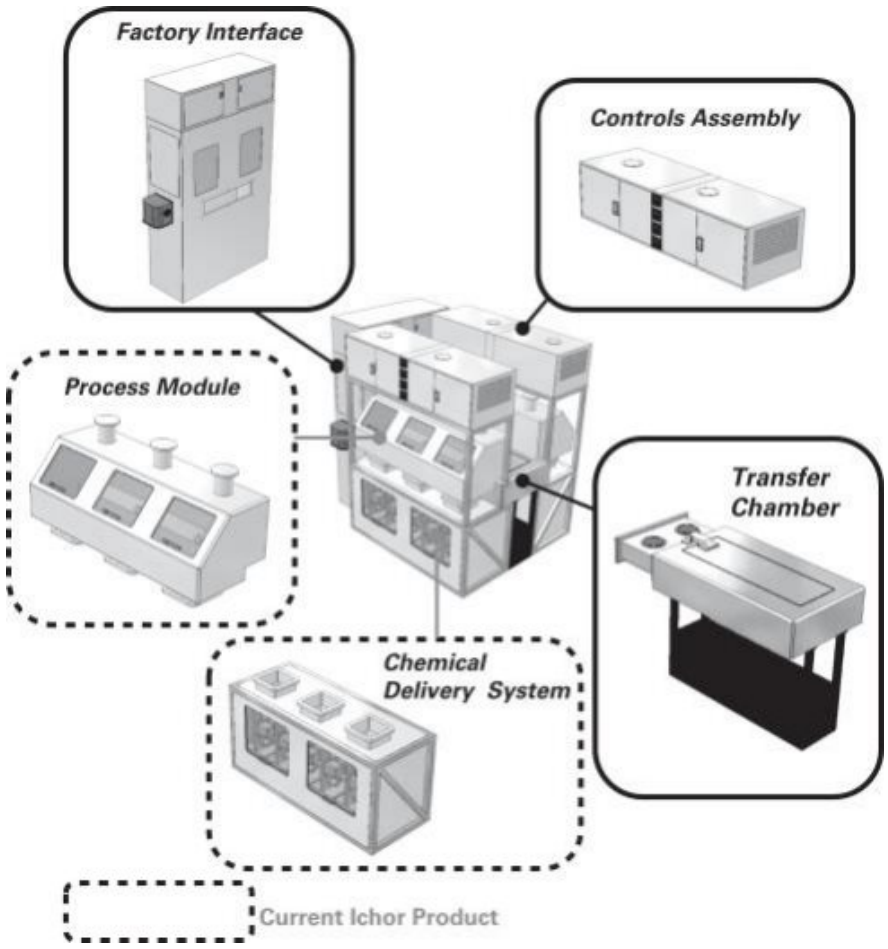
Gas delivery is among the most technologically complex functions in semiconductor capital equipment and is used to deliver, monitor and control precise quantities of the vapors and gases critical to the manufacturing process. Our gas delivery systems consist of a number of gas lines, each controlled by a series of mass flow controllers, regulators, pressure transducers and valves, and an integrated electronic control system. Our gas delivery subsystems are primarily used in equipment for "dry" manufacturing processes, such as etch, chemical vapor deposition, physical vapor deposition, epitaxy and strip.



Chemical Delivery Subsystems

Our chemical delivery subsystems are used to precisely blend and dispense reactive chemistries and colloidal slurries critical to the specific "wet" front-end process, such as wet clean, electro chemical deposition ("ECD"), and chemical-mechanical planarization ("CMP"). In addition to the chemical delivery subsystem, we also develop the process modules that apply the various chemicals directly to the wafer in a process and application-unique manner to create the desired chemical reaction.

The image below shows a typical wet-process front end semiconductor tool, with a chemical delivery subsystem and corresponding application process module highlighted:



Weldments

Our complete offering of weldments support the delivery of fluids through the process tool. We have developed both automated and manual welding process to support world class workmanship on all types of metals needed to support fluid delivery within the semiconductor market. The welded assemblies are used in both wet and dry processes.

Precision Machining

Precision machining provides the ability to supply our customers with components used in our gas delivery systems and weldments, while also providing custom machined solutions throughout customers' equipment. Many of these items are used downstream of the gas system and in process critical applications. Our precision machined products can be used in both wet and dry applications.

History

We were originally incorporated as Celerity, Inc. ("Celerity") in 1999. Our business of designing and manufacturing critical systems for semiconductor capital equipment manufacturers operated as a stand-alone business until 2009 when Celerity sold the business to a private equity fund. Francisco Partners acquired the business in December 2011 and formed Ichor Holdings, Ltd., an exempt company incorporated in the Cayman Islands, in March 2012 to serve as the parent company as part of a restructuring to accommodate the expansion of our business in Singapore and Malaysia. In April 2012, we acquired Semi Scenic UK Limited to provide refurbishment services for legacy tools. In April 2016, we purchased Ajax for $17.6 million to add chemical delivery subsystem capabilities with existing customers. We completed the initial public offering of our ordinary shares in December 2016. In July 2017 we acquired Cal-Weld, Inc. ("Cal-Weld") for $56.9 million to add to our gas delivery subsystem and weldment capabilities. In December 2017 we acquired Talon Innovations Corporation ("Talon") for $137.0 million to add to our gas delivery subsystem, precision machining, and component manufacturing capabilities. We intend to continue to evaluate opportunistic acquisitions to supplement our organic growth.

Customers, Sales and Marketing

We market and sell our products directly to equipment OEMs in the semiconductor equipment market. We are dependent upon a small number of customers, as the semiconductor equipment manufacturer market is highly concentrated with four companies accounting for over 80% of all process tool revenues. For 2017, our two largest customers were Lam Research and Applied Materials, which accounted for 53% and 40% of sales, respectively. We do not have long-term contracts that require customers to place orders with us in fixed or minimum volumes, and we generally operate on a purchase order basis with customers.

Our sales and marketing efforts focus on fostering close business relationships with our customers. As a result, we locate many of our account managers near the customer they support. Our sales process involves close collaboration between our account managers and engineering and operations teams. Account managers and engineers work together with customers and in many cases provide on-site support, including attending customers' internal meetings related to production and engineering design. Each customer project is supported by our account managers and customer support team, who ensure we are aligned with all of the customer's quality, cost and delivery expectations.

Operations, Manufacturing and Supply Chain Management

We have developed a highly flexible manufacturing model with cost-effective locations situated nearby the manufacturing facilities of our largest customers. We have facilities in the United States, Singapore, Malaysia, and the United Kingdom.

Operations

Our product cycle engagements begin by working closely with our customers to outline the solution specifications before design and prototyping even begin. Our design and manufacturing process is highly flexible, enabling our customers to make alterations to their final requirements throughout the design, engineering and manufacturing process. This flexibility results in significantly decreased order-to-delivery cycle times for our customers. For instance, it can take as little as 20 to 30 days for us to manufacture a gas delivery system with fully evaluated performance metrics after receiving an order.

Manufacturing

We are ISO 9001 qualified at each of our manufacturing locations, and our manufactured subsystems and modules adhere to strict design tolerances and specifications. We operate Class 100 and Class 10,000 clean room facilities for customer-specified testing, assembly and integration of high-purity gas and chemical delivery systems at our locations in Singapore; Tualatin, Oregon; and Austin, Texas. We operate a facility in Malaysia; Tualatin, Oregon; and Fremont, California for weldments and related components used in our gas delivery subsystems and a facility in Union City, California for critical components used in our chemical delivery subsystems. We operate a facility in Sauk Rapids, Minnesota for precision machining of components for sale to our customers and internal use. Our facilities are located in close proximity to our largest customers to allow us to collaborate with them on a regular basis and to enable us to deliver our products on a just-in-time basis, regardless of order size or the degree of changes in the applicable configuration or specifications.

We qualify and test key components that are integrated into our subsys tems, and test our fluid delivery subsystems during the design process and again prior to shipping. Our quality management system allows us to access real-time corrective action reports, non-conformance reports, customer complaints and controlled documenta tion. In addition, our senior management conducts quarterly reviews of our quality control system to evaluate effectiveness. Our customers also complete quarterly surveys which allow us to measure satisfaction.

Supply Chain Management

We use a wide range of components and materials in the production of our gas and chemical delivery systems, including filters, mass flow controllers, regulators, pressure transducers and valves. We obtain components and materials from a large number or sources, including single source and sole source suppliers. We use consignment material and just-in-time stocking programs to better manage our component inventories and better respond to changing customer requirements. These approaches enable us to significantly reduce our inventory levels and maintain flexibility in responding to changes in product demand.

In addition, a key part of our strategy is to identify multiple suppliers with a strong global reach that are located within close proximity to our manufacturing locations.

Technology Development and Engineering

We have a long history of engineering innovation and development. Over time, we have transitioned from being simply an integration engineering and components company into a gas and chemical delivery subsystem leader with complete system engineering and integration expertise. Our industry continues to experience rapid technological change, requiring us to continuously invest in technology and product development and to regularly introduce new products and features that meet our customers' evolving requirements.

We have built a team of gas delivery experts, many of whom have previously worked for certain of our customers. As of December 29, 2017, our engineering team consisted of approximately 65 engineers and designers with mechanical, electrical, chemical, systems and software expertise. Our engineers are closely connected with our customers and typically work at our customers' sites and operate as an extension of our customers' design team. We engineer within our customers' processes, design vaults, drawing standards and part numbering systems. These development efforts are designed to meet specific customer requirements in the areas of subsystem design, materials, component selection and functionality. The majority of our sales are generated from projects during which our engineers cooperated with our customer early in the design cycle. Through this early collaborative process, we become an integral part of our customers' design and development processes, and we are able to quickly anticipate and respond to our customers' changing requirements.

Our engineering team also works directly with our suppliers to help them identify new component technologies and make necessary changes in, and enhancements to, the components that we integrate into our products. Our analytical and testing capabilities enable us to evaluate multiple supplier component technologies and provide customers with a wide range of appropriate component and design choices for their gas and chemical delivery systems and other critical subsystems. Our analytical and testing capabilities also help us anticipate technological changes and the requirements in component features for next-generation gas delivery systems and other critical subsystems.

Competition

The markets for our products are very competitive. When we compete for new business, we face competition from other suppliers of gas or chemical delivery subsystems, as well as the internal manufacturing groups of OEMs. While many OEMs have outsourced the design and manufacture of their gas and chemical delivery systems, we would face additional competition if in the future these OEMs elected to develop these systems internally.

The gas delivery subsystem market is highly concentrated and we face competition primarily from Ultra Clean Technology, with limited competition from regional or specialized suppliers. The chemical delivery subsystem industry is fragmented and we face competition from numerous suppliers. In addition, the market for tool refurbishment is fragmented and we compete with many regional competitors. The primary competitive factors we emphasize include:

- early engagement with customers;
- size and experience of engineering staff;

- design-to-delivery cycle times;
- flexible manufacturing capabilities; and
- customer relationships.

We expect our competitors to continue to improve the performance of their current products and to introduce new products or new technologies that could adversely affect sales of our current and future products. In addition, the limited number of potential customers in our industry further intensifies competition. We anticipate that increased competitive pressures will cause intensified price-based competition and we may have to reduce the prices of our products. In addition, we expect to face new competitors as we enter new markets.

Intellectual Property

Our success depends, in part, upon our ability to maintain and protect our technology and products and to conduct our business without infringing the proprietary rights of others. We continue to invest in securing intellectual property protection for our technology and products and protect our technology by, among other things, filing patent applications. We also rely on a combination of trade secrets and confidentiality provisions, and to a much lesser extent, copyrights and trademarks, to protect our proprietary rights. We have historically focused our patent protection efforts in the United States. As of December 29, 2017, we held 33 patents, 16 of which were U.S. patents. While we consider our patents to be valuable assets, we do not believe the success of our business or our overall operations are dependent upon any single patent or group of related patents. In addition, we do not believe that the loss or expiration of any single patent or group of related patents would materially affect our business.

Intellectual property that we develop on behalf of our customers is generally owned exclusively by those customers. In addition, we have agreed to indemnify certain of our customers against claims of infringement of the intellectual property rights of others with respect to our products. Historically, we have not paid any claims under these indemnification obligations, and we do not have any pending indemnification claims against us.

Employees and Labor Relations

As of December 29, 2017, we had approximately 1,420 full-time employees, 320 contract or temporary workers , and 20 part-time employees, which allow flexibility as business conditions and geographic demand change. Of our total employees, approximately 65 are engineers, 60 are engaged in sales and marketing, 1,530 are engaged in manufacturing, and 100 perform executive and administrative functions. None of our employees are unionized, but in various countries, local law requires our participation in works councils. We have not experienced any material work stoppages at any of our facilities. We consider our relationship with our employees to be good.

Environmental, Health, and Safety Regulations

Our operations and facilities are subject to federal, state and local regulatory requirements and foreign laws and regulations, relating to environmental, waste management and health and safety matters, including those relating to the release, use, storage, treatment, transportation, discharge, disposal and remediation of contaminants, hazardous substances and wastes, as well as practices and procedures applicable to the construction and operation of our facilities. We believe that our business is operated in substantial compliance with applicable regulations. However, in the future we could incur substantial costs, including cleanup costs, fines or civil or criminal sanctions, or third-party property damage or personal injury claims, in the event of violations or liabilities under these laws and regulations, or non-compliance with the environmental permits required at our facilities. Potentially significant expenditures could be required in order to comply with environmental laws that may be adopted or imposed in the future. We are not aware of any threatened or pending environmental investigations, lawsuits or claims involving us, our operations or our current or former facilities.

Available Information

Our internet address is www.ichorsystems.com. We make a variety of information available, free of charge, at our Investor Relations website, ir.ichorsystems.com. This information includes our Annual Reports on Form 10-K, our Quarterly Reports on Form 10-Q, our Current Reports on Form 8-K, and any amendments to those reports as soon as reasonably practicable after we electronically file those reports with or furnish them to the Securities and Exchange Commission ("SEC"), as well as our Code of Business Ethics and Conduct and other governance documents.

The public may read and copy materials filed by us with the Securities and Exchange Commission, or the SEC, at the SEC's Public Reference Room at 100 F Street, NE Washington, DC 20549. The public may obtain information on the operation of the Public Reference Room by calling the SEC at 1 -800 -SEC -033 0. The SEC maintains an internet site that contains reports, proxy and information statements and other information regarding issuers that file documents electronically with the SEC at www.sec.gov.

The contents of these websites, or the information connected to those websites, are not incorporated into this report. References to websites in this report are provided as a convenience and do not constitute, and should not be viewed as, incorporation by reference of the information contained on, or available through, the website.

ITEM 1A. RISK FACTORS

There are many factors that affect our business and the results of operations, some of which are beyond our control. The following is a description of some important factors that may cause the actual results of operations in future periods to differ materially from those currently expected or desired.

Risks Related to Our Business

Our business depends significantly on expenditures by manufacturers in the semiconductor capital equipment industry, which, in turn, is dependent upon the semiconductor device industry. When that industry experiences cyclical downturns, demand for our products and services is likely to decrease, which would likely result in decreased sales. We may also be forced to reduce our prices during cyclical downturns without being able to proportionally reduce costs.

Our business, financial condition and results of operations depend significantly on expenditures by manufacturers in the semiconductor capital equipment industry. In turn, the semiconductor capital equipment industry depends upon the current and anticipated market demand for semiconductor devices. The semiconductor device industry is subject to cyclical and volatile fluctuations in supply and demand and in the past has periodically experienced significant downturns, which often occur in connection with declines in general economic conditions, and which have resulted in significant volatility in the semiconductor capital equipment industry. The semiconductor device industry has also experienced recurring periods of over-supply of products that have had a severe negative effect on the demand for capital equipment used to manufacture such products. We have experienced, and anticipate that we will continue to experience, significant fluctuations in customer orders for our products and services as a result of such fluctuations and cycles. Any downturns in the semiconductor device industry could have a material adverse effect on our business, financial condition and results of operations.

In addition, we must be able to appropriately align our cost structure with prevailing market conditions, effectively manage our supply chain and motivate and retain employees, particularly during periods of decreasing demand for our products. We may be forced to reduce our prices during periods of decreasing demand. While we operate under a low fixed cost model, we may not be able to proportionally reduce all of our costs if we are required to reduce our prices. If we are not able to timely and appropriately adapt to the changes in our business environment, our business, financial condition and results of operations will be materially adversely affected. The cyclical and volatile nature of the semiconductor device industry and the absence of long-term fixed or minimum volume contracts make any effort to project a material reduction in future sales volume difficult.

We rely on a very small number of OEM customers for a significant portion of our sales. Any adverse change in our relationships with these customers could materially adversely affect our business, financial condition and results of operations.

The semiconductor capital equipment industry is highly concentrated and has experienced significant consolidation in recent years. As a result, a relatively small number of OEM customers have historically accounted for a significant portion of our sales, and we expect this trend to continue for the foreseeable future. For 2017, our top two customers accounted for approximately 53% and 40%, respectively, of sales, and we expect that our sales will continue to be concentrated among a very small number of customers. We do not have any long-term contracts that require customers to place orders with us in fixed or minimum volumes. Accordingly, the success of our business depends on the success of our customers and those customers and other OEMs continuing to outsource the manufacturing of critical subsystems and process solutions to us. Because of the small number of OEMs in the markets we serve, a number of which are already our customers, it would be difficult to replace lost sales resulting from the loss of, or the reduction, cancellation or delay in purchase orders by, any one of these customers, whether due to a reduction in the amount of outsourcing they do, their giving orders to our competitors, their acquisition by an OEM who is not a customer or with whom we do less business, or otherwise. We have in the past lost business from customers for a number of these reasons. If we are unable to replace sales from customers who reduce the volume of products and services they purchase from us or terminate their relationship with us entirely, such events could have a material adverse impact on our business, financial condition and results of operations.

Additionally, if one or more of the largest OEMs were to decide to single- or sole-source all or a significant portion of manufacturing and assembly work to a single equipment manufacturer, such a development would heighten the risks discussed above.

Our customers exert a significant amount of negotiating leverage over us, which may require us to accept lower prices and gross margins or increased liability risk in order to retain or expand our market share with them.

By virtue of our largest customers' size and the significant portion of our sales that is derived from them, as well as the competitive landscape, our customers are able to exert significant influence and pricing pressure in the negotiation of our commercial arrangements and the conduct of our business with them. Our customers often require reduced prices or other pricing, quality or delivery commitments as a condition to their purchasing from us in any given period or increasing their purchase volume, which can, among other things, result in reduced gross margins in order to maintain or expand our market share. Our customers' negotiating leverage also can result in customer arrangements that may contain significant liability risk to us. For example, some of our customers require that we provide them indemnification against certain liabilities in our arrangements with them, including claims of losses by their customers caused by our products. Any increase in our customers' negotiating leverage may expose us to increased liability risk in our arrangements with them, which, if realized, may have a material adverse effect on our business, financial condition and results of operations. In addition, new products often carry lower gross margins than existing products for several quarters following their introduction. If we are unable to retain and expand our business with our customers on favorable terms, or if we are unable to achieve gross margins on new products that are similar to or more favorable than the gross margins we have historically achieved, our business, financial condition and results of operations may be materially adversely affected.

The industries in which we participate are highly competitive and rapidly evolving, and if we are unable to compete effectively, our business, financial condition and results of operations could be materially adversely affected.

We face intense competition from other suppliers of gas or chemical delivery subsystems, as well as the internal manufacturing groups of OEMs. Increased competition has in the past resulted, and could in the future result, in price reductions, reduced gross margins or loss of market share, any of which would materially adversely affect our business, financial condition and results of operations. We are subject to significant pricing pressure as we attempt to maintain and increase market share with our existing customers. Our competitors may offer reduced prices or introduce new products or services for the markets currently served by our products and services. These products may have better performance, lower prices and achieve broader market acceptance than our products. OEMs also typically own the design rights to their products. Further, if our competitors obtain proprietary rights to these designs such that we are unable to obtain the designs necessary to manufacture products for our OEM customers, our business, financial condition and results of operations could be materially adversely affected.

Certain of our competitors may have or may develop greater financial, technical, manufacturing and marketing resources than we do. As a result, they may be able to respond more quickly to new or emerging technologies and changes in customer requirements, devote greater resources to the development, promotion, sale and support of their products and services, and reduce prices to increase market share. In addition to organic growth by our competitors, there may be merger and acquisition activity among our competitors and potential competitors that may provide our competitors and potential competitors with an advantage over us by enabling them to expand their product offerings and service capabilities to meet a broader range of customer needs. The introduction of new technologies and new market entrants may also increase competitive pressures.

We are exposed to risks associ ated with weakness in the global economy and geopolitical instability.

Our business is dependent upon manufacturers of semiconductor capital equipment, whose businesses in turn ultimately depend largely on consumer spending on semiconductor devices. Continuing uncertainty regarding the global economy continues to pose challenges to our business. Economic uncertainty and related factors, including current unemployment levels, uncertainty in European debt markets, geopolitical instability in various parts of the world, fiscal uncertainty in the U.S. economy, market volatility and the slow rate of recovery of many countries from recent recessions, exacerbate negative trends in business and consumer spending and may cause certain of our customers to push out, cancel or refrain from placing orders for products or services, which may reduce sales and materially adversely affect our business, financial condition and results of operations. Difficulties in obtaining capital, uncertain market conditions or reduced profitability may also cause some customers to scale back operations, exit businesses, merge with other manufacturers, or file for bankruptcy protection and potentially cease operations, leading to customers' reduced research and development funding and/or capital expenditures and, in turn, lower orders from our customers and/or additional slow moving or obsolete inventory or bad debt expense for us. These conditions may also similarly affect our key suppliers, which could impair their ability to deliver parts and result in delays for our products or require us to either procure products from higher-cost suppliers, or if no additional suppliers exist, to reconfigure the design and manufacture of our products, and we may be unable to fulfill some customer orders. Any of these conditions or events could have a material adverse effect on our business, financial condition and results of operations.

If we do not keep pace with developments in the industries we serve and with technological innovation generally, our products and services may not be competitive.

Rapid technological innovation in the markets we serve requires us to anticipate and respond quickly to evolving customer requirements and could render our current product offerings, services and technologies obsolete. In particular, the design and manufacturing of semiconductors is constantly evolving and becoming more complex in order to achieve greater power, performance and efficiency with smaller devices. Capital equipment manufacturers need to keep pace with these changes by refining their existing products and developing new products.

We believe that our future success will depend upon our ability to design, engineer and manufacture products that meet the changing needs of our customers. This requires that we successfully anticipate and respond to technological changes in design, engineering and manufacturing processes in a cost-effective and timely manner. If we are unable to integrate new technical specifications into competitive product designs, develop the technical capabilities necessary to manufacture new products or make necessary modifications or enhancements to existing products, our business, financial condition and results of operations could be materially adversely affected.

The timely development of new or enhanced products is a complex and uncertain process which requires that we:

- design innovative and performance-enhancing features that differentiate our products from those of our competitors;
- identify emerging technological trends in the industries we serve, including new standards for our products;
- accurately identify and design new products to meet market needs;
- collaborate with OEMs to design and develop products on a timely and cost-effective basis;
- ramp-up production of new products, especially new subsystems, in a timely manner and with acceptable yields;
- manage our costs of product development and the costs of producing the products that we sell;
- successfully manage development production cycles; and
- respond quickly and effectively to technological changes or product announcements by others.

If we are unsuccessful in keeping pace with technological developments for the reasons above or other reasons, our business, financial condition and results of operations could be materially adversely affected.

We must design, develop and introduce new products that are accepted by OEMs in order to retain our existing customers and obtain new customers.

The introduction of new products is inherently risky because it is difficult to foresee the adoption of new standards, coordinate our technical personnel and strategic relationships and win acceptance of new products by OEMs. We attempt to mitigate this risk by collaborating with our customers during their design and development processes. We cannot, however, assure you that we will be able to successfully introduce, market and cost-effectively manufacture new products, or that we will be able to develop new or enhanced products and processes that satisfy customer needs. In addition, new capital equipment typically has a lifespan of five to ten years, and OEMs frequently specify which systems, subsystems, components and instruments are to be used in their equipment. Once a specific system, subsystem, component or instrument is incorporated into a piece of capital equipment, it will often continue to be purchased for that piece of equipment on an exclusive basis for 18 to 24 months before the OEM generates enough sales volume to consider adding alternative suppliers. Accordingly, it is important that our products are designed into the new systems introduced by the OEMs. If any of the new products we develop are not launched or successful in the market, our business, financial condition and results of operations could be materially adversely affected.

The manufacturing of our products is highly complex, and if we are not able to manage our manufacturing and procurement process effectively, our business, financial condition and results of operations may be materially adversely affected.

The manufacturing of our products is a highly complex process that involves the integration of multiple components and requires effective management of our supply chain while meeting our customers' design-to-delivery cycle time requirements. Through the course of the manufacturing process, our customers may modify design and system configurations in response to changes in their own customers' requirements. In order to rapidly respond to these modifications and deliver our products to our customers in a timely manner, we must effectively manage our manufacturing and procurement process. If we fail to manage this process effectively, we risk losing customers and damaging our reputation. We may also be subject to liability under our agreements with our customers if we or our suppliers fail to re- configure manufacturing processes or components in response to these modifications. In addition, if we acquire inventory in excess of demand or that does not meet customer specifications, we could incur excess or obsolete inventory charges. We have from time to time experienced bottlenecks and production difficulties that have caused delivery delays and quality control problems. These risks are even greater as we seek to expand our business into new subsystems. In addition, certain of our suppliers have been, and may in the future be, forced out of business as a result of the economic environment. In such cases, we may be required to procure products from higher-cost suppliers or, if no additional suppliers exist, reconfigure the design and manufacture of our products. This could materially limit our growth, adversely impact our ability to win future business and have a material adverse effect on our business, financial condition and results of operations.

Defects in our products could damage our reputation, decrease market acceptance of our products and result in potentially costly litigation.

A number of factors, including design flaws, material and component failures, contamination in the manufacturing environment, impurities in the materials used and unknown sensitivities to process conditions, such as temperature and humidity, as well as equipment failures, may cause our products to contain undetected errors or defects. Errors, defects or other problems with our products may:

- cause delays in product introductions and shipments;
- result in increased costs and diversion of development resources;
- cause us to incur increased charges due to unusable inventory;
- require design modifications;
- result in liability for the unintended release of hazardous materials;
- create claims for rework, replacement and/or damages under our contracts with customers, as well as indemnification claims from customers;
- decrease market acceptance of, or customer satisfaction with, our products, which could result in decreased sales and increased product returns; or
- result in lower yields for semiconductor manufacturers.

If any of our products contain defects or have reliability, quality or compatibility problems, our reputation may be damaged and customers may be reluctant to buy our products. We may also face a higher rate of product defects as we increase our production levels in periods of significant growth. Product defects could result in warranty and indemnification liability or the loss of existing customers or impair o ur ability to attract new customers. In addition, we may not find defects or failures in our products until after they are installed in a manufacturer's fabrication facility. We may have to invest significant capital and other resources to correct these pr oblems. Our current or potential customers also might seek to recover from us any losses resulting from defects or failures in our products. In addition, hazardous materials flow through and are controlled by certain of our products and an unintended relea se of these materials could result in serious injury or death. Liability claims could require us to spend significant time and money in litigation or pay significant damages.

We may incur unexpected warranty and performance guarantee claims that could materially adversely affect our business, financial condition and results of operations.

In connection with our products and services, we provide various product warranties, performance guarantees and indemnification rights. Warranty or other performance guarantee or indemnification claims against us could cause us to incur significant expense to repair or replace defective products or indemnify the affected customer for losses. In addition, quality issues can have various other ramifications, including delays in the recognition of sales, loss of sales, loss of future sales opportunities, increased costs associated with repairing or replacing products, and a negative impact on our reputation, all of which could materially adversely affect our business, financial condition and results of operations.

Our dependence on a limited number of suppliers may harm our production output and increase our costs, and may prevent us from delivering acceptable products on a timely basis.

Our ability to meet our customers' demand for our products depends upon obtaining adequate supplies of quality components and other raw materials on a timely basis. In addition, our customers often specify components from particular suppliers that we must incorporate into our products. We also use consignment and just-in-time stocking programs, which means we carry very little inventory of components or other raw materials, and we rely on our suppliers to deliver necessary components and raw materials in a timely manner. However, our suppliers are under no obligation to provide us with components or other raw materials. As a result, the loss of or failure to perform by any of our key suppliers could materially adversely affect our ability to deliver products on a timely basis. In addition, if a supplier was unable to provide the volume of components we require on a timely basis and at acceptable prices and quality, we would have to identify and qualify replacements from alternative sources of supply. However, the process of qualifying new suppliers for complex components is also lengthy and could delay our production. We may also experience difficulty in obtaining sufficient supplies of components and raw materials in times of significant growth in our business. If we are unable to procure sufficient quantities of components or raw materials from suppliers, our customers may elect to delay or cancel existing orders or not place future orders, which could have a material adverse effect on our business, financial condition and results of operations.

We are subject to order and shipment uncertainties, and any significant reductions, cancellations or delays in customer orders could have a material adverse effect on our business, financial condition and results of operations.

Our sales are difficult to forecast because we generally do not have a material backlog of unfilled orders and because of the short time frame within which we are often required to manufacture and deliver products to our customers. Most of our sales for a particular quarter depend on customer orders placed during that quarter or shortly before it commences. Our contracts generally do not require our customers to commit to minimum purchase volumes. While most of our customers provide periodic rolling forecasts for product orders, those forecasts do not become binding until a formal purchase order is submitted, which generally occurs only a short time prior to shipment. As a result of the foregoing and the cyclicality and volatility of the industries we serve, it is difficult to predict future orders with precision. Occasionally, we order component inventory and build products in advance of the receipt of actual customer orders. Customers may cancel order forecasts, change production quantities from forecasted volumes or delay production for reasons beyond our control. Furthermore, reductions, cancellations or delays in customer order forecasts usually occur without penalty to, or compensation from, the customer. Reductions, cancellations or delays in forecasted orders could cause us to hold inventory longer than anticipated, which could reduce our gross profit, restrict our ability to fund our operations and result in unanticipated reductions or delays in sales. If we do not obtain orders as we anticipate, we could have excess components for a specific product and/or finished goods inventory that we would not be able to sell to another customer, likely resulting in inventory write-offs, which could have a material adverse effect on our business, financial condition and results of operations.

B ecause our customers generally require that they qualify our engineering, documentation, manufacturing and quality control procedures, our ability to add new customers quickly is limited.

We are generally required to qualify and maintain our status as a supplier for each of our customers. This is a time-consuming process that involves the inspection and approval by a customer of our engineering, documentation, manufacturing and quality control procedures before that customer will place orders with us. Our ability to lessen the adverse effect of any loss of, or reduction in sales to, an existing customer through the rapid addition of one or more new customers is limited in part because of these qualification requirements. Consequently, the risk that our business, financial condition and results of operations would be materially adversely affected by the loss of, or any reduction in orders by, any of our significant customers is increased. Moreover, if we lost our existing status as a qualified supplier to any of our customers, such customer could cancel its orders from us or otherwise terminate its relationship with us, which could have a material adverse effect on our business, financial condition and results of operations.

We may be subject to interruptions or failures in our information technology systems .

We rely on our information technology systems to process transactions, summarize our operating results and manage our business. Our information technology systems are subject to damage or interruption from power outages, computer and telecommunications failures, computer viruses, cyber-attack or other security breaches, catastrophic events, such as fires, floods, earthquakes, tornadoes, hurricanes, acts of war or terrorism, and usage errors by our employees. If our information technology systems are damaged or cease to function properly, we may have to make a significant investment to fix or replace them, and we may suffer loss of critical data and interruptions or delays in our operations.

We may be the target of attempted cyber attacks, computer viruses, malicious code, phishing attacks, denial of service attacks and other information security threats. To date, cyber attacks have not had a material impact on our financial condition, results or business; however, we could suffer material financial or other losses in the future and we are not able to predict the severity of these attacks. Our risk and exposure to these matters remains heightened because of, among other things, the evolving nature of these threats, the current global economic and political environment, our prominent size and scale and our role in the financial services industry, the outsourcing of some of our business operations, the ongoing shortage of qualified cyber security professionals, and the interconnectivity and interdependence of third parties to our systems. The occurrence of a cyber attack, breach, unauthorized access, misuse, computer virus or other malicious code or other cyber security event could jeopardize or result in the unauthorized disclosure, gathering, monitoring, misuse, corruption, loss or destruction of confidential and other information that belongs to us, our customers, our counterparties, third-party service providers or borrowers that is processed and stored in, and transmitted through, our computer systems and networks. The occurrence of such an event could also result in damage to our software, computers or systems, or otherwise cause interruptions or malfunctions in our, our customers', our counterparties' or third parties' operations. This could result in significant losses, loss of customers and business opportunities, reputational damage, litigation, regulatory fines, penalties or intervention, reimbursement or other compensatory costs, or otherwise adversely affect our business, financial condition or results of operations.

The reliability and capacity of our information technology systems is critical to our operations and the implementation of our growth initiatives. Any material disruption in our information technology systems, or delays or difficulties in implementing or integrating new systems or enhancing current systems, could have an adverse effect on our business, and results of operations.

Restrictive covenants under our Credit Facilities may limit our current and future operations. If we fail to comply with those covenants, the lenders could cause outstanding amounts, which are currently substantial, to become immediately due and payable, and we might not have sufficient funds and assets to pay such loans.

As of December 29, 2017, we had $179.5 million of indebtedness outstanding under our term loan facility, or our Term Loan Facility, and $10.0 million of indebtedness outstanding under our revolving credit facility, or our Revolving Credit Facility, and together with our Term Loan Facility, our Credit Facilities. The outstanding amount of our Credit Facilities reflected in our consolidated financial statements included elsewhere in this report on Form 10-K is net of $2.8 million of debt issuance costs. On February 14, 2018, we amended and restated the credit agreement governing our Credit Facilities resulting in a $175.0 million Term Loan Facility and a Revolving Credit Facility enabling borrowing up to $125.0 million. We may incur additional indebtedness in the future. Our Credit Facilities contain certain restrictive covenants and conditions, including limitations on our ability to, among other things:

- incur additional indebtedness or contingent obligations;
- create or incur liens, negative pledges or guarantees;
- make investments;
- make loans;

- sell or otherwise dispose of assets;
- merge, consolidate or sell substantially all of our assets;
- make certain payments on indebtedness;
- pay dividends on or make distributions in respect of capital stock or make certain other restricted payments or investments;
- enter into certain agreements that restrict distributions from restricted subsidiaries;
- enter into transactions with affiliates;
- change the nature of our business; and
- amend the terms of our organizational documents.

As a result of these covenants, we may be restricted in our ability to pursue new business opportunities or strategies or to respond quickly to changes in the industries that we serve. A violation of any of these covenants would be deemed an event of default under our Credit Facilities. In such event, upon the election of the lenders, the loan commitments under our Credit Facilities would terminate and the principal amount of the loans and accrued interest then outstanding would be due and payable immediately. A default may also result in the acceleration of any other debt to which a cross-acceleration or cross-default provision applies. In the event our lenders accelerate the repayment of our borrowings, we cannot assure you that we and our subsidiaries would have sufficient funds to repay such indebtedness or be able to obtain replacement financing on a timely basis or at all. These events could force us into bankruptcy or liquidation, which could have a material adverse effect on our business, financial condition and results of operations.

We also may need to negotiate changes to the covenants in the agreements governing our Credit Facilities in the future if there are material changes in our business, financial condition or results of operations, but we cannot assure you that we will be able to do so on terms favorable to us or at all.

Certain of our customers require that we consult with them in connection with specified fundamental changes in our business, and address any concerns or requests such customer may have in connection with a fundamental change. While those customers do not have contractual approval or veto rights with respect to fundamental changes, our failure to consult with such customers or to satisfactorily respond to their requests in connection with any such fundamental change could constitute a breach of contract or otherwise be detrimental to our relationships with such customers.

Certain of our key customers require that we consult with them in connection with specified fundamental changes in our business, including, among other things:

- entering into any new line of business;
- amending or modifying our organizational documents;
- selling all or substantially all of our assets, or merging or amalgamating with a third party;
- incur borrowings in excess of a specific amount;
- making senior management changes;
- entering into any joint venture arrangement; and
- effecting an initial public offering.

These customers do not have contractual approval or veto rights with respect to any fundamental changes in our business. However, our failure to consult with such customers or to satisfactorily respond to their requests in connection with any such fundamental change could constitute a breach of contract or otherwise be detrimental to our relationships with such customers, which could have a material adverse effect on our business, financial condition and results of operations.

We may not be able to generate sufficient cash to service all of our indebtedness, including under our Credit Facilities, and may be forced to take other actions to satisfy ou r obligations under our indebtedness, which may not be successful.

Our ability to make scheduled payments on or to refinance our indebtedness, including under our Credit Facilities, depends on our financial condition and results of operations, which are subject to prevailing economic and competitive conditions and other factors beyond our control. We may be unable to maintain a level of cash flows from operating activities sufficient to permit us to fund our day-to-day operations or to pay the principal, premium, if any, and interest on our indebtedness. If our cash flows and capital resources are insufficient to fund our debt service obligations, we could face substantial liquidity problems and could be forced to reduce or delay investments and capital expenditures or to sell assets or operations, seek additional capital or restructure or refinance our indebtedness. If we cannot make scheduled payments on our debt, we will be in default and, as a result, the lenders under our Credit Facilities could terminate their commitments to loan money, or foreclose against the assets securing such borrowings, and we could be forced into bankruptcy or liquidation, in each case, which would have a material adverse effect on our business, financial condition and results of operations.

Our business is largely dependent on the know-how of our employees, and we generally do not have an intellectual property position that is protected by patents.

We believe that the success of our business depends in part on our proprietary technology, information, processes and know-how and on our ability to operate without infringing on the proprietary rights of third parties. We rely on a combination of trade secrets and contractual confidentiality provisions and, to a much lesser extent, patents, copyrights and trademarks to protect our proprietary rights. Accordingly, our intellectual property position is more vulnerable than it would be if it were protected primarily by patents. We cannot assure you that we have adequately protected or will be able to adequately protect our technology, that our competitors will not be able to utilize our existing technology or develop similar technology independently, that the claims allowed with respect to any patents held by us will be broad enough to protect our technology or that foreign intellectual property laws will adequately protect our intellectual property rights. If we fail to protect our proprietary rights successfully, our competitive position could suffer. Any future litigation to enforce patents issued to us, to protect trade secrets or know-how possessed by us or to defend ourselves or to indemnify others against claimed infringement of the rights of others could have a material adverse effect on our business, financial condition and results of operations.

Third parties have claimed and may in the future claim we are infringing their intellectual property, which could subject us to litigation or licensing expenses, and we may be prevented from selling our products if any such claims prove successful.

We may in the future receive claims that our products, processes or technologies infringe the patents or other proprietary rights of third parties. In addition, we may be unaware of intellectual property rights of others that may be applicable to our products. Any litigation regarding our patents or other intellectual property could be costly and time-consuming and divert our management and key personnel from our business operations, any of which could have a material adverse effect on our business, financial condition and results of operations. The complexity of the technology involved in our products and the uncertainty of intellectual property litigation increase these risks. Claims of intellectual property infringement may also require us to enter into costly license agreements. However, we may not be able to obtain licenses on terms acceptable to us, or at all. We also may be subject to significant damages or injunctions against the development, manufacture and sale of certain of our products if any such claims prove successful. We also rely on design specifications and other intellectual property of our customers in the manufacture of products for such customers. While our customer agreements generally provide for indemnification of us by a customer if we are subjected to litigation for third-party claims of infringement of such customer's intellectual property, such indemnification provisions may not be sufficient to fully protect us from such claims, or our customers may breach such indemnification obligations to us, which could result in costly litigation to defend against such claims or enforce our contractual rights to such indemnification.

From time to time, we may become involved in other litigation and regulatory proceedings, which could require significant attention from our management and result in significant expense to us and disruptions in our business.

In addition to any litigation related to our intellectual property rights, we may in the future be named as a defendant from time to time in other lawsuits and regulatory actions relating to our business, such as commercial contract claims, employment claims and tax examinations, some of which may claim significant damages or cause us reputational harm. Due to the inherent uncertainties of litigation and regulatory proceedings, we cannot predict the ultimate outcome of any such proceeding. An unfavorable outcome could have a material adverse effect on our business, financial condition and results of operations or limit our ability to engage in certain of our business activities. In addition, regardless of the outcome of any litigation or regulatory proceeding, such proceedings are often expensive, time-consuming and disruptive to normal business operations and require significant attention from our management. As a result, any such lawsuits or proceedings could materially adversely affect our business, financial condition and results of operations.

The technology labor market is very competitive, and our business will suffer if we are unable to hire and retain key personnel.

Our future success depends in part on the continued service of our key executive officers, as well as our research, engineering, sales and manufacturing personnel, most of whom are not subject to employment or non-competition agreements. Competition for qualified personnel in the technology industry is particularly intense, and we operate in geographic locations in which labor markets are competitive. Our management team has significant industry experience and deep customer relationships, and therefore would be difficult to replace. In addition, our business is dependent to a significant degree on the expertise and relationships which only a limited number of engineers possess. Many of these engineers often work at our customers' sites and serve as an extension of our customers' product design teams. The loss of any of our key executive officers or key engineers and other personnel, including our engineers working at our customers' sites, or the failure to attract additional personnel as needed, could have a material adverse effect on our business, financial condition and results of operations and could lead to higher labor costs, the use of less-qualified personnel and the loss of customers. In addition, if any of our key executive officers or other key employees were to join a competitor or form a competing company, we could lose customers, suppliers, know-how and key personnel.

We do not maintain key-man life insurance with respect to any of our employees. Our business will suffer if we are unable to attract, employ and retain highly skilled personnel.

Future acquisitions may present integration challenges, and if the goodwill, indefinite-lived intangible assets and other long-term assets recorded in connection with such acquisitions become impaired, we would be required to record impairment charges, which may be significant.

We have acquired strategic businesses in the past and if we find appropriate opportunities in the future, we may acquire businesses, products or technologies that we believe are strategic. The process of integrating an acquired business, product or technology may produce unforeseen operating difficulties and expenditures, fail to result in expected synergies or other benefits and absorb significant attention of our management that would otherwise be available for the ongoing development of our business. In addition, we may record a portion of the assets we acquire as goodwill, other indefinite-lived intangible assets or finite-lived intangible assets. We do not amortize goodwill and indefinite-lived intangible assets, but rather review them for impairment on an annual basis or whenever events or changes in circumstances indicate that their carrying value may not be recoverable. The recoverability of goodwill and indefinite-lived intangible assets is dependent on our ability to generate sufficient future earnings and cash flows. Changes in estimates, circumstances or conditions, resulting from both internal and external factors, could have a significant impact on our fair valuation determination, which could then have a material adverse effect on our business, financial condition and results of operations.

Our quarterly sales and operating results fluctuate significantly from period to period, and this may cause volatility in our share price.

Our quarterly sales and operating results have fluctuated significantly in the past, and we expect them to continue to fluctuate in the future for a variety of reasons, including the following:

- demand for and market acceptance of our products as a result of the cyclical nature of the industries we serve or otherwise, often resulting in reduced sales during industry downturns and increased sales during periods of industry recovery or growth;
- overall economic conditions;
- changes in the timing and size of orders by our customers;
- strategic decisions by our customers to terminate their outsourcing relationship with us or give market share to our competitors;
- consolidation by our customers;
- cancellations and postponements of previously placed orders;
- pricing pressure from either our competitors or our customers, resulting in the reduction of our product prices or loss of market share;
- disruptions or delays in the manufacturing of our products or in the supply of components or raw materials that are incorporated into or used to manufacture our products, thereby causing us to delay the shipment of products;
- decreased margins for several or more quarters following the introduction of new products, especially as we introduce new subsystems or other products or services;

- changes in design-to-delivery cycle times;
- inability to reduce our costs quickly in step with reductions in our prices or in response to decreased demand for our products;
- changes in our mix of products sold;
- write-offs of excess or obsolete inventory;
- one-time expenses or charges; and
- announcements by our competitors of new products, services or technological innovations, which may, among other things, render our products less competitive.

As a result of the foregoing, we believe that quarter-to-quarter comparisons of our sales and results of operations may not be meaningful and that these comparisons may not be an accurate indicator of our future performance. Changes in the timing or terms of a small number of transactions could disproportionately affect our results of operations in any particular quarter. Moreover, our results of operations in one or more future quarters may fail to meet our guidance or the expectations of securities analysts or investors. If this occurs, we would expect to experience an immediate and significant decline in the trading price of our ordinary shares.

Labor disruptions could materially adversely affect our business, financial condition and results of operations.

As of December 29, 2017, we had approximately 1,420 full time employees, 320 contract or temporary workers, and 20 part-time employees worldwide. None of our employees are unionized, but in various countries, local law requires our participation in works councils. While we have not experienced any material work stoppages at any of our facilities, any stoppage or slowdown could cause material interruptions in manufacturing, and we cannot assure you that alternate qualified capacity would be available on a timely basis, or at all. As a result, labor disruptions at any of our facilities could materially adversely affect our business, financial condition and results of operations.

As a global company, we are subject to the risks of doing business internationally, including periodic foreign economic downturns and political instability, which may adversely affect our sales and cost of doing business in those regions of the world.

Foreign economic downturns have adversely affected our business and results of operations in the past and could adversely affect our business and results of operations in the future. In addition, other factors relating to the operation of our business outside of the United States may have a material adverse effect on our business, financial condition and results of operations in the future, including:

- the imposition of governmental controls or changes in government regulations, including tax regulations;
- difficulties in enforcing our intellectual property rights;
- difficulties in developing relationships with local suppliers;
- difficulties in attracting new international customers;
- difficulties in complying with foreign and international laws and treaties;
- restrictions on the export of technology;
- compliance with U.S. and international laws involving international operations, including the Foreign Corrupt Practices Act, export control laws and export license requirements;
- difficulties in achieving headcount reductions due to unionized labor and works councils;
- restrictions on transfers of funds and assets between jurisdictions;
- geo-political instability; and
- trade restrictions and changes in taxes and tariffs.

In the future, we may seek to expand our presence in certain foreign markets or enter emerging markets. Evaluating or entering into an emerging marke t may require considerable management time, as well as start-up expenses for market development before any significant sales and earnings are generated. Operations in new foreign markets may achieve low margins or may be unprofitable, and expansion in exis ting markets may be affected by local political, economic and market conditions. As we continue to operate our business globally, our success will depend, in part, on our ability to anticipate and effectively manage these and the other risks noted above. T he impact of any one or more of these factors could materially adversely affect our business, financial condition and results of operations.

We are subject to fluctuations in foreign currency exchange rates which could cause operating results and reported financial results to vary significantly from period to period.

The vast majority of our sales are denominated in U.S. Dollars. Many of the costs and expenses associated with our Singapore, Malaysian and U.K. operations are paid in Singapore Dollars, Malaysian Ringgit or British Pounds (or Euros), respectively, and we expect our exposure to these currencies to increase as we increase our operations in those countries. As a result, our risk exposure from transactions denominated in non-U.S. currencies is primarily related to the Singapore Dollar, Malaysian Ringgit, British Pound and Euro. In addition, because the majority of our sales are denominated in the U.S. Dollar, if one or more of our competitors sells to our customers in a different currency than the U.S. Dollar, we are subject to the risk that the competitors' products will be relatively less expensive than our products due to exchange rate effects. We have not historically established transaction-based hedging programs. Foreign currency exchange risks inherent in doing business in foreign countries could have a material adverse effect on our business, financial condition and results of operations.

We are subject to numerous environmental laws and regulations, which could require us to incur environmental liabilities, increase our manufacturing and related compliance costs or otherwise adversely affect our business.

We are subject to a variety of federal, state, local and foreign laws and regulations governing the protection of the environment. These environmental laws and regulations include those relating to the use, storage, handling, discharge, emission, disposal and reporting of toxic, volatile or otherwise hazardous materials used in our manufacturing processes. These materials may have been or could be released into the environment at properties currently or previously owned or operated by us, at other locations during the transport of materials or at properties to which we send substances for treatment or disposal. In addition, we may not be aware of all environmental laws or regulations that could subject us to liability in the United States or internationally. If we were to violate or become liable under environmental laws and regulations or become non-compliant with permits required at some of our facilities, we could be held financially responsible and incur substantial costs, including cleanup costs, fines and civil or criminal sanctions, third-party property damage or personal injury claims.

Failure to maintain effective internal controls in accordance with Section 404 of the Sarbanes-Oxley Act could have a material adverse effect on our business and stock price.

As a publicly traded company, we are required to comply with the SEC's rules implementing Section 302 and 404 of the Sarbanes-Oxley Act, which require management to certify financial and other information in our quarterly and annual reports and provide an annual management report on the effectiveness of controls over financial reporting. Pursuant to the JOBS Act, our independent registered public accounting firm will not be required to attest to the effectiveness of our internal control over financial reporting until the later of the year following our first annual report required to be filed with the SEC or the date we are no longer an emerging growth company, which may be up to five full fiscal years following our initial public offering in December 2016.

If we identify weaknesses in our internal control over financial reporting, are unable to comply with the requirements of Section 404 in a timely manner or to assert that our internal control over financial reporting is effective, or if our independent registered public accounting firm is unable to express an opinion as to the effectiveness of our internal control over financial reporting, investors may lose confidence in the accuracy and completeness of our financial reports and the market price of our common stock could be negatively affected, and we could become subject to investigations by NASDAQ, the SEC or other regulatory authorities, which could require additional financial and management resources.

In the second quarter of 2017, we identified material weaknesses in our internal control over financial reporting and may identify additional material weaknesses in the future that ma y cause us to fail to meet our reporting obligations or result in material misstatements of our financial statements. If our internal control over financial reporting or our disclosure controls and procedures are not effective, we may not be able to accura tely report our financial results, prevent fraud or file our periodic reports in a timely manner, which may cause investors to lose confidence in our reported financial information and may lead to a decline in our share price.

During the second quarter of 2017, we identified a material weakness in our internal control over financial reporting related to ineffective periodic risk assessment over control activities that ensure the ending inventory balances of our Malaysia and Singapore subsidiaries were recorded at the appropriate U.S. Dollar functional currency rate. During our previous consolidation process, we had a manual process that translated these inventory balances into the U.S. Dollar functional currency at incorrect rates for these subsidiaries due to system limitations, and we did not implement a control to reconcile the ending inventory balance at our Malaysia and Singapore subsidiaries to the final inventory balance reported in our consolidated financial statements. This material weakness resulted in an accumulated overstatement of inventory as of March 31, 2017 of approximately $1.75 million. We corrected this overstatement in the second quarter of 2017 with a charge to cost of sales of $1.75 million. Additionally, we re-implemented our Oracle system, which allows for a systems‐based calculation of inventory purchases and ending inventory at the proper U.S. Dollar functional currency rates, and implemented a control to reconcile the final Malaysia and Singapore inventory sub‐ledger balances to the final balances recorded in consolidation. These improvements to our internal controls, implemented during 2017, were in place and demonstrated a sustained period of effective operation during 2017 to enable management of the Company to conclude the material weakness has been remediated as of December 29, 2017.

If our internal control over financial reporting or our disclosure controls and procedures are not effective, we may not be able to accurately report our financial results, prevent fraud or file our periodic reports in a timely manner, which may cause investors to lose confidence in our reported financial information and may lead to a decline in our stock price.

There are limitations on the effectiveness of controls, and the failure of our control systems may materially and adversely impact us.

We do not expect that disclosure controls or internal controls over financial reporting will prevent all errors and all fraud. A control system, no matter how well designed and operated, can provide only reasonable, not absolute, assurance that the control system's objectives will be met. Further, the design of a control system must reflect the fact that there are resource constraints and the benefits of controls must be considered relative to their costs. Because of the inherent limitations in all control systems, no evaluation of controls can provide absolute assurance that all control issues and instances of fraud, if any, have been detected. Failure of our control systems to prevent error or fraud could have a material adverse effect on our business, financial condition and results of operations.

Compliance with recently adopted rules of the SEC relating to "conflict minerals" may require us and our suppliers to incur substantial expense and may result in disclosure by us that certain minerals used in products we manufacture are not "DRC conflict free."

Section 1502 of the Dodd-Frank Wall Street Reform and Consumer Protection Act, or the Dodd-Frank Act, required the SEC to promulgate rules requiring disclosure by a public company of any "conflict minerals" (tin, tungsten, tantalum and gold) necessary to the functionality or production of a product manufactured or contracted to be manufactured by such company. The SEC adopted final rules in 2012 which took effect at the end of January 2013. Because we manufacture products which may contain tin, tungsten, tantalum or gold, we will be required under these rules to determine whether those minerals are necessary to the functionality or production of our products and, if so, conduct a country of origin inquiry with respect to all such minerals. If any such minerals may have originated in the Democratic Republic of the Congo, or the DRC, or any of its adjoining countries, or the "covered countries," then we and our suppliers must conduct diligence on the source and chain of custody of the conflict minerals to determine if they did originate in one of the covered countries and, if so, whether they financed or benefited armed groups in the covered countries. Disclosures relating to the products which may contain conflict minerals, the country of origin of those minerals and whether they are "DRC conflict free" must be provided in a Form SD (and accompanying conflict minerals report if one is required to disclose the diligence undertaken by us in sourcing the minerals and our conclusions relating to such diligence). If we are required to submit a conflict minerals report, that report must be audited by an independent auditor pursuant to existing government auditing standards, unless (for the first two years) we are unable to determine whether the minerals are "DRC conflict free." Compliance with this new disclosure rule may be very time consuming for management and our supply chain personnel (as well as time consuming for our suppliers) and could involve the expenditure of significant amounts of money and resources by us and them. Disclosures by us mandated by the new rules which are perceived by the market to be "negative" may cause customers to refuse to purchase our products. We are currently unable to assess the cost of compliance with this rule, and we cannot assure you that such cost will not have a material adverse effect on our business, financial condition and results of operations.

Our business is subject to the risks of earthquakes, fire, power outages, floods, and other catastrophic events, and to interruption by man-made disruptions, such as terrorism.

Our facilities could be subject to a catastrophic loss caused by natural disasters, including fires and earthquakes. If any of our facilities were to experience a catastrophic loss, it could disrupt our operations, delay production and shipments, reduce sales and result in large expenses to repair or replace the facility. In addition, we may experience extended power outages at our facilities. Disruption in supply resulting from natural disasters or other causalities or catastrophic events may result in certain of our suppliers being unable to deliver sufficient quantities of components or raw materials at all or in a timely manner, disruptions in our operations or disruptions in our customers' operations. To the extent that natural disasters or other calamities or causalities should result in delays or cancellations of customer orders, or the delay in the manufacture or shipment of our products, our business, financial condition and results of operations would be adversely affected.

Changes in tax laws, tax rates or tax assets and liabilities could materially adversely affect our financial condition and results of operations.

As a global company, we are subject to taxation in the United States and various other countries. Significant judgment is required to determine and estimate worldwide tax liabilities. Our future annual and quarterly tax rates could be affected by numerous factors, including changes in applicable tax laws, the amount and composition of pre-tax income in countries with differing tax rates or valuation of our deferred tax assets and liabilities. We have significant operations in the United States and our holding company structure includes entities organized in the Cayman Islands, Netherlands, Singapore and Scotland. As a result, changes in applicable tax laws in these jurisdictions could have a material adverse effect on our financial condition and results of operations.

On December 22, 2017, Congress passed the Tax Cuts and Jobs Act (the "Tax Act"). Among a number of significant changes to the U.S. federal income tax rules, the Tax Act reduces the marginal U.S. corporate income tax rate from 35% to 21%, limits the deduction for net interest expense, limits the deduction for net operating losses and eliminates net operating loss carrybacks, modifies or repeals many business deductions and credits, shifts the United States toward a more territorial tax system, and imposes new taxes to combat erosion of the U.S. federal income tax base. Our net deferred tax assets and liabilities will be revalued at the newly enacted U.S. corporate rate, and the impact will be recognized in our tax expense in the year of enactment. We continue to examine the impact this tax reform legislation may have on our business. However, the effect of the Tax Act on us and our affiliates, whether adverse or favorable, is uncertain, and may not become evident for some period of time.

We are also subject to regular examination by the Internal Revenue Service and other tax authorities, and from time to time we initiate amendments to previously filed tax returns. We regularly assess the likelihood of favorable or unfavorable outcomes resulting from these examinations and amendments to determine the adequacy of our provision for income taxes, which requires estimates and judgments. Although we believe our tax estimates are reasonable, we cannot assure you that the tax authorities will agree with such estimates. We may have to engage in litigation to achieve the results reflected in the estimates, which may be time-consuming and expensive. We cannot assure you that we will be successful or that any final determination will not be materially different from the treatment reflected in our historical income tax provisions and accruals, which could materially and adversely affect our financial condition and results of operations.

Risks Related to Ownership of Our Ordinary Shares

The price of our ordinary shares may fluctuate substantially.

You should consider an investment in our ordinary shares to be risky, and you should invest in our ordinary shares only if you can withstand a significant loss and wide fluctuations in the market value of your investment. Some factors that may cause the market price of our ordinary shares to fluctuate, in addition to the other risks mentioned in this report, are:

- our announcements or our competitors' announcements regarding new products or services, enhancements, significant contracts, acquisitions or strategic investments;
- changes in earnings estimates or recommendations by securities analysts, if any, who cover our ordinary shares;
- speculation about our business in the press or investment community;
- failures to meet external expectations or management guidance;
- fluctuations in our quarterly financial results or the quarterly financial results of companies perceived to be similar to us;

- changes in our capital structure or dividend policy, future issuances of securiti es, sales of large blocks of ordinary shares by our shareholders, including Francisco Partners, our incurrence of additional debt or our failure to comply with the agreements governing our Credit Facilities;
- our decision to enter new markets;
- reputational issues;
- changes in general economic and market conditions in any of the regions in which we conduct our business;
- material litigation or government investigations;
- changes in industry conditions or perceptions; and
- changes in applicable laws, rules or regulations.

In addition, if the market for stocks in our industry or industries related to our industry, or the stock market in general, experiences a loss of investor confidence, the trading price of our ordinary shares could decline for reasons unrelated to our business, financial condition and results of operations. If any of the foregoing occurs, it could cause our share price to fall and may expose us to lawsuits that, even if unsuccessful, could be costly to defend and a distraction to management.

Francisco Partners owns a significant portion of our outstanding equity, and its interests may not always coincide with the interests of other holders.

As of December 29, 2017, Francisco Partners owned approximately 15.0% of our ordinary shares. As a result, Francisco Partners could have significant influence over all matters presented to our shareholders for approval, including election and removal of our directors, change in control transactions and the outcome of all actions requiring a majority shareholder approval.

In addition, persons associated with Francisco Partners currently serve on our Board. The interests of Francisco Partners may not always coincide with the interests of the other holders of our ordinary shares, and the concentration of control in Francisco Partners will limit other shareholders' ability to influence corporate matters. The concentration of ownership and voting power of Francisco Partners may also delay, defer or even prevent an acquisition by a third party or other change of control of our Company and may make some transactions more difficult or impossible without their support, even if such events are in the best interests of our other shareholders. Therefore, the concentration of voting power of Francisco Partners may have an adverse effect on the price of our ordinary shares. We may also take actions that our other shareholders do not view as beneficial, which may adversely affect our results of operations and financial condition and cause the value of your investment to decline.

Future sales of our ordinary shares, or the perception in the public markets that these sales may occur, may depress our share price.

Sales of substantial amounts of our ordinary shares in the public market, or the perception that these sales could occur, could adversely affect the price of our ordinary shares and could impair our ability to raise capital through the sale of additional shares. As of December 29, 2017, we had 25,892,162 shares outstanding, of which 3,880,513 were beneficially owned by Francisco Partners. Francisco Partners has the right to require us to register the sales of their shares under the Securities Act of 1933, as amended, or the Securities Act, under the terms of an agreement between us and Francisco Partners. Future sales by Francisco Partners, or a distribution of shares by Francisco Partners to its limited partners and subsequent sale of such shares in the public market, could cause the trading price of our ordinary shares to decline.

We are an "emerging growth company" and may e lect to comply with reduced public company reporting requirements, which could make our ordinary shares less attractive to investors.

We are an emerging growth company, as defined in the JOBS Act. For as long as we continue to be an emerging growth company, we may choose to take advantage of exemptions from various public company reporting requirements. These exemptions include, but are not limited to, (i) not being required to comply with the auditor attestation requirements of Section 404 of the Sarbanes-Oxley Act, (ii) reduced disclosure obligations regarding executive compensation in our periodic reports, proxy statements and registration statements, and (iii) exemptions from the requirements of holding a nonbinding advisory vote on executive compensation and shareholder approval of any golden parachute payments not previously approved. We could be an emerging growth company for up to five years after the first sale of our ordinary shares pursuant to an effective registration statement under the Securities Act, which fifth anniversary will occur in December 2021. However, if certain events occur prior to the end of such five-year period, including if we become a "large accelerated filer," our annual gross revenue exceeds $1.0 billion or we issue more than $1.0 billion of non-convertible debt in any three-year period, we would cease to be an emerging growth company prior to the end of such five-year period. We have taken advantage of certain of the reduced disclosure obligations regarding executive compensation and may elect to take advantage of other reduced disclosure obligations in our SEC filings. As a result, the information that we provide to holders of our ordinary shares may be different than you might receive from other public reporting companies in which you hold equity interests. We cannot predict if investors will find our ordinary shares less attractive as a result of our reliance on these exemptions. If some investors find our ordinary shares less attractive as a result of any choice we make to reduce disclosure, there may be a less active trading market for our ordinary shares and the price for our ordinary shares may be more volatile.

Under the JOBS Act, emerging growth companies may also elect to delay adoption of new or revised accounting standards until such time as those standards apply to private companies. We have elected not to avail ourselves of this extended transition period for complying with new or revised accounting standards and, therefore, we will be subject to the same new or revised accounting standards as other public companies.

We do not expect to pay any cash dividends for the foreseeable future.

On August 11, 2015, our board of directors approved and we declared a one-time approximately $22.1 million cash dividend on our outstanding preferred shares using proceeds from borrowings under our Credit Facilities and cash on hand. However, we do not anticipate that we will pay any cash dividends on our ordinary shares for the foreseeable future. Any determination to pay dividends in the future will be at the discretion of our board of directors and will depend upon our financial condition, results of operations, contractual restrictions (including those under our Credit Facilities and any potential indebtedness we may incur in the future), restrictions imposed by applicable law, tax considerations and other factors our board of directors deems relevant. There can be no assurance that we will pay a dividend in the future or continue to pay any dividend if we do commence paying dividends. Accordingly, realization of a gain on an investment in our ordinary shares will depend on the appreciation of the price of our ordinary shares, which may never occur. Investors seeking cash dividends in the foreseeable future should not purchase our ordinary shares.

Our articles of association contain anti-takeover provisions that could adversely affect the rights of our shareholders.

Our articles of association contain provisions to limit the ability of others to acquire control of our company or cause us to engage in change-of control transactions, including, among other things:

- provisions that authorize our board of directors, without action by our shareholders, to issue additional ordinary shares and preferred shares with preferential rights determined by our board of directors;
- provisions that permit only a majority of our board of directors or the chairman of our board of directors to call shareholder meetings and therefore do not permit shareholders to call shareholder meetings;
- provisions that impose advance notice requirements, minimum shareholding periods and ownership thresholds, and other requirements and limitations on the ability of shareholders to propose matters for consideration at shareholder meetings; provided, however, at any time when Francisco Partners beneficially owns, in the aggregate, at least 5% of our ordinary shares, such advance notice procedure will not apply to it; and
- a staggered board whereby our directors are divided into three classes, with each class subject to re-election once every three years on a rotating basis.

These provisions could have the effect of depriving our shareholders of an opportunity to sell their shares at a premium over prevailing market prices by discouraging third parties from seeking to obtain control of our company in a tender offer or similar transaction. With our staggered board of directors, at least two annual meetings of shareholders are generally required in order to effect a change in a majority of our directors. Our staggered board of director s can discourage proxy contests for the election of our directors and purchases of substantial blocks of our shares by making it more difficult for a potential acquirer to gain control of our board of directors in a relatively short period of time.

The issuance of preferred shares could adversely affect holders of ordinary shares.

Our board of directors is authorized to issue preferred shares without any action on the part of holders of our ordinary shares. Our board of directors also has the power, without shareholder approval, to set the terms of any such preferred shares that may be issued, including voting rights, dividend rights, and preferences over our ordinary shares with respect to dividends or if we liquidate, dissolve or wind up our business and other terms. If we issue preferred shares in the future that have preference over our ordinary shares with respect to the payment of dividends or upon our liquidation, dissolution or winding up, or if we issue preferred shares with voting rights that dilute the voting power of our ordinary shares, the rights of holders of our ordinary shares or the price of our ordinary shares could be adversely affected.

You may face difficulties in protecting your interests as a shareholder, as Cayman Islands law provides substantially less protection when compared to the laws of the United States.

Our corporate affairs are governed by our amended and restated memorandum and articles of association and by the Companies Law (2013 Revision) and common law of the Cayman Islands. The rights of shareholders to take legal action against our directors and us, actions by minority shareholders and the fiduciary responsibilities of our directors to us under Cayman Islands law are to a large extent governed by the common law of the Cayman Islands. The common law of the Cayman Islands is derived in part from comparatively limited judicial precedent in the Cayman Islands as well as from English common law, which has persuasive, but not binding, authority on a court in the Cayman Islands. The rights of our shareholders and the fiduciary responsibilities of our directors under Cayman Islands law are not as clearly established as they would be under statutes or judicial precedents in the United States. In particular, the Cayman Islands have a less exhaustive body of securities laws as compared to the United States. In addition, Cayman Islands companies may not have standing to initiate a shareholder derivative action before the United States federal courts.

As a result of all of the above, our shareholders may have more difficulty in protecting their interests through actions against us or our officers, directors or major shareholders than would shareholders of a corporation incorporated in a jurisdiction in the United States.

Certain judgments obtained against us by our shareholders may not be enforceable.

We are a Cayman Islands company and a portion our assets are located outside of the United States. As a result, it may be difficult or impossible for you to bring an action against us in the United States in the event that you believe that your rights have been infringed under U.S. federal securities laws or otherwise. Even if you are successful in bringing an action of this kind, the laws of the Cayman Islands may render you unable to enforce a judgment against our assets. There is no statutory recognition in the Cayman Islands of judgments obtained in the United States, although the courts of the Cayman Islands will generally recognize and enforce a non-penal judgment of a foreign court of competent jurisdiction without retrial on the merits.

There can be no assurance that we will not be a passive foreign investment company for any taxable year, which could result in adverse U.S. federal income tax consequences to U.S. Holders of our ordinary shares.

A non-U.S. corporation will be a passive foreign investment company, or PFIC, for any taxable year if either (i) at least 75% of its gross income for such year is passive income or (ii) at least 50% of the value of its assets (based on an average of the quarterly values of the assets) during such year is attributable to assets that produce or are held for the production of passive income. Our PFIC status for any taxable year can be determined only after the close of that year.

Based on the current and anticipated value of our assets and the composition of our income and assets, we do not believe we were treated as a PFIC for U.S. federal income purposes for our taxable year ending December 29, 2017. However, the determination of PFIC status is based on an annual determination that cannot be made until the close of a taxable year, involves extensive factual investigation, including ascertaining the fair market value of all of our assets on a quarterly basis and the character of each item of income that we earn, and is subject to uncertainty in several respects. Accordingly, we cannot assure you that we were not treated as a PFIC for our taxable year ending December 29, 2017, or will not be treated as a PFIC for any future taxable year or that the IRS will not take a contrary position.

If we are a PFIC for any taxable year during which a U.S. person holds ordinary shares, certain adverse U.S. federal income tax consequences could apply to such U.S. person. You are strongly urged to consult your tax adviso rs as to whether or not we will be a PFIC.

ITEM 1B. UNRESOLVED STAFF COMMENTS

None.

ITEM 2. PROPERTIES

Our principal executive office is located at 3185 Laurelview Ct., Fremont, California 94538. As of December 29, 2017, our principal manufacturing and administrative facilities, including our executive offices, comprises approximately 604,100 square feet. All of our facilities are leased, which allows for flexibility as business conditions and geographic demand change. The table below sets forth the approximate square footage of each of our facilities.

Location	Approximate Square Footage
Austin, Texas	25,700
East Blantyre, Scotland	37,700
Fremont, California	55,000
Kingston, New York (1)	71,800
Seoul, Korea	600
Osakis, Minnesota	22,300
Sauk Rapids, Minnesota	58,600
Selangor, Malaysia	31,900
Singapore	76,900
Tampa, Florida	32,600
Tualatin, Oregon	138,200
Union City, California	52,800

(1) Operations ceased as of May 27, 2016. The facility is leased through February 28, 2018.

We believe that our existing facilities and equipment are well maintained, in good operating condition and are adequate to meet our currently anticipated requirements.

ITEM 3. LEGAL PROCEEDINGS

We are currently not a party to any material legal proceedings. However, in the future we may be subject to various legal claims and proceedings which arise in the ordinary course of our business involving claims incidental to our business, including employment-related claims.

ITEM 4. MINE SAFETY DISCLOSURES

Not applicable.

PART II

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

Market Information for Ordinary Shares

On December 9, 2016, our ordinary shares began trading on NASDAQ under the symbol "ICHR". Prior to that time, there was no public market for our ordinary shares. Shares sold in our initial public offering were priced at $9.00 per share on December 8, 2016. The following table sets forth the high and low closing prices per share of our ordinary shares as reported by the NASDAQ for the period indicated.

	High	Low
2017		
Fourth Quarter	$ 34.28	$ 23.61
Third Quarter	$ 26.80	$ 18.03
Second Quarter	$ 27.88	$ 17.14
First Quarter	$ 19.83	$ 11.55
2016		
Fourth Quarter (from December 9, 2016)	$ 11.12	$ 9.77

Holders of Record

On March 6, 2018, there were 5 holders of record of our ordinary shares. This number does not include shareholders for whom shares are held in "nominee" or "street" name.

Dividends

We do not anticipate that we will pay any cash dividends on our ordinary shares for the foreseeable future. Any determination to pay dividends in the future will be at the discretion of our board of directors and will depend upon our financial condition, results of operations, contractual restrictions (including those under our Credit Facilities and any potential indebtedness we may incur in the future), restrictions imposed by applicable law, tax considerations and other factors our board of directors deems relevant.

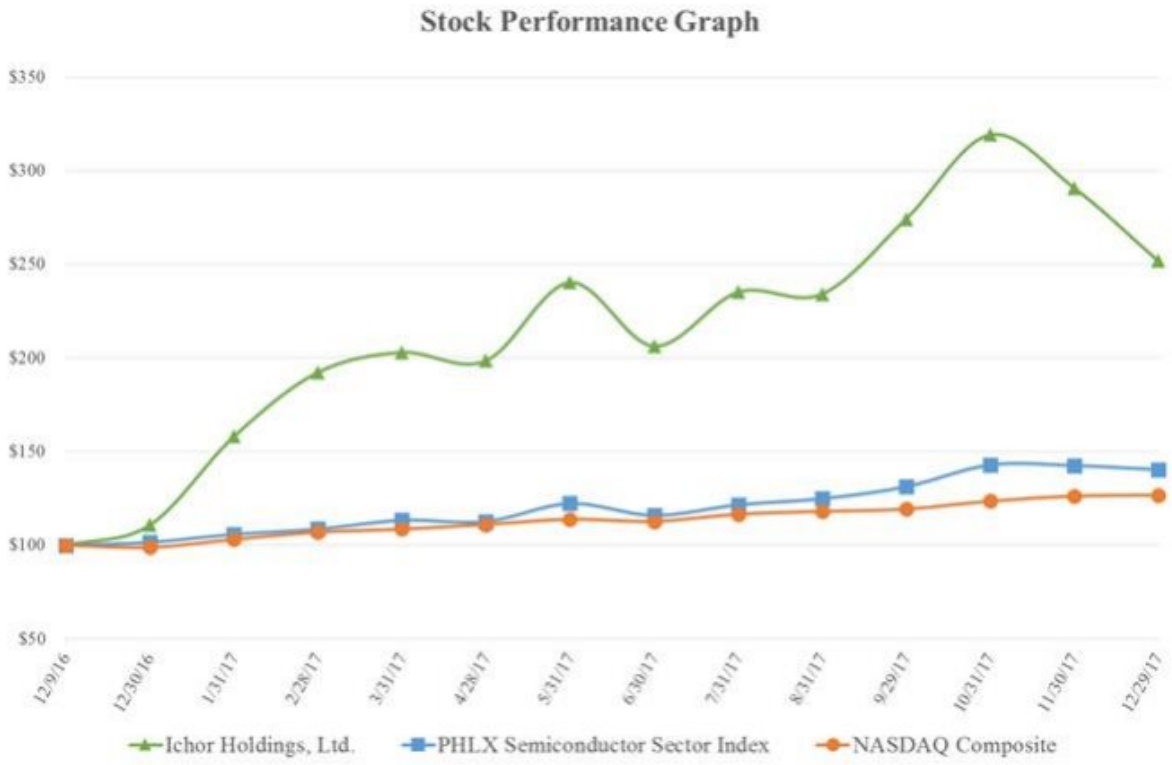
Recent Sales of Unregistered Securities

None.

Stock Performance Graph

The information included under the heading "Stock Performance Graph" is "furnished" and not "filed" for purposes of Section 18 of the Securities Exchange Act of 1934, as amended, or the Exchange Act, or otherwise subject to the liabilities of that section, nor shall it be deemed to be "soliciting material" subject to Regulation 14A or incorporated by reference in any filing under the Securities Act or the Exchange Act.

Our ordinary shares are listed for trading on the NASDAQ under the symbol “ICHR.” The Stock Price Performance Graph set forth below plot s the cumulative total shareholder return on a monthly basis of our ordinary shares from December 9, 2016, the date on which our shares began trading, through December 29, 2017, with the cumulative total return of the Nasdaq Composite Index and the PHLX Se miconductor Sector Index over the same period. The comparison assumes $100 was invested on December 9, 2016 in the ordinary shares of Ichor Holdings, Ltd., in the Nasdaq Composite Index, and in the PHLX Semiconductor Sector Index and assumes reinvestment o f dividends, if any.



The stock price performance shown on the graph above is not necessarily indicative of future price performance. Information used in the graph was obtained from the Nasdaq Stock Market, a source believed to be reliable, but we are not responsible for any errors or omissions in such information.

ITEM 6. SELECTED FINANCIAL DATA

The following tables present our historical selected consolidated financial data. The selected consolidated statement of operations data for fiscal years 2017, 2016, and 2015, and the selected balance sheet data as of December 29, 2017 and December 30, 2016, are derived from our audited consolidated financial statements that are included elsewhere in this report. The selected balance sheet data as of December 25, 2015 is derived from our audited consolidated balance sheet as of such date not included in this report.

Our historical results are not necessarily indicative of the results that may be expected in the future and interim results are not necessarily indicative of results to be expected for the full year. You should read the selected historical financial data below in conjunction with the section titled "Management's Discussion and Analysis of Financial Condition and Results of Operations" and the financial statements and related notes included elsewhere in this report.

	Year Ended		
	December 29, 2017	December 30, 2016	December 25, 2015
	(in thousands, except share and per share amounts)		
Consolidated Statement of Operations Data:			
Net sales	$ 655,892	$ 405,747	$ 290,641
Cost of sales (1)	555,131	340,352	242,087
Gross profit	100,761	65,395	48,554
Operating expenses:			
Research and development (1)	7,899	6,383	4,813
Selling, general and administrative (1)	37,802	28,126	24,729
Amortization of intangible assets	8,880	7,015	6,411
Total operating expenses	54,581	41,524	35,953
Operating income	46,180	23,871	12,601
Interest expense	3,277	4,370	3,831
Other income, net	(126)	(629)	(46)
Income from continuing operations before income taxes	43,029	20,130	8,816
Income tax benefit from continuing operations (2)	(13,886)	(649)	(3,991)
Net income from continuing operations	56,915	20,779	12,807
Discontinued operations:			
Loss from discontinued operations before taxes	(722)	(4,077)	(7,406)
Income tax expense (benefit) from discontinued operations	(261)	40	(225)
Net loss from discontinued operations	(461)	(4,117)	(7,181)
Net income	56,454	16,662	5,626
Less: Preferred share dividend	—	—	(22,127)
Less: Undistributed earnings attributable to preferred shareholders	—	(15,284)	—
Net income (loss) attributable to ordinary shareholders	$ 56,454	$ 1,378	$ (16,501)
Net income (loss) per share from continuing operations attributable to ordinary shareholders: (3)			
Basic	$ 2.27	$ 1.14	$ (292.39)
Diluted	$ 2.17	$ 0.87	$ (292.39)
Net income (loss) per share attributable to ordinary shareholders: (3)			
Basic	$ 2.25	$ 0.92	$ (517.68)
Diluted	$ 2.15	$ 0.70	$ (517.68)
Shares used to compute net income (loss) from continuing operations per share attributable to ordinary shareholders: (3)			
Basic	25,118,031	1,503,296	31,875
Diluted	26,218,424	1,967,926	31,875
Shares used to compute net income (loss) per share attributable to ordinary shareholders: (3)			
Basic	25,118,031	1,503,296	31,875
Diluted	26,218,424	1,967,926	31,875

	Year Ended		
	December 29, 2017	December 30, 2016	December 25, 2015
	(in thousands)		
Consolidated Balance Sheet Data:			
Cash and restricted cash	$ 69,304	$ 52,648	$ 24,188
Working capital	$ 131,233	$ 56,020	$ 24,860
Total assets	$ 557,684	$ 282,491	$ 198,023
Total long-term debt (4)	$ 189,535	$ 39,830	$ 65,000
Preferred shares	$ —	$ —	$ 142,728
Total shareholders' equity	$ 216,762	$ 141,659	$ 74,678

(1) Share-based compensation included in the consolidated statement of operations data above was as follows:

	Year Ended		
	December 29, 2017	December 30, 2016	December 25, 2015
	(in thousands)		
Share-Based Compensation Expense:			
Cost of sales	$ 118	$ 20	$ 105
Research and development	141	35	46
Selling general and administrative	1,971	3,161	967
Total share-based compensation expense	$ 2,230	$ 3,216	$ 1,118

(2) During 2017, income tax benefit from continuing operations consists primarily of the impact of foreign operations, including withholding taxes, offset by a $7.6 million tax benefit as a result of our acquisitions (see *Note 2 – Acquisitions* of our consolidated financial statements included elsewhere in this report), a $5.9 million tax benefit from revaluing our deferred taxes from 35% to 21% due to the Tax Cuts and Jobs Act, and a $1.6 million benefit from re-characterizing intercompany debt to equity between our U.S. and Singapore entities related to the reversal of previously accrued withholding taxes. During 2016 and 2015, income tax benefit from continuing operations consisted primarily of the impact of foreign operations, including withholding taxes, offset by a tax benefit in 2016 as a result of our acquisition (see *Note 2 – Acquisitions* of our consolidated financial statements included elsewhere in this report).

(3) Please see *Note 14 – Earnings per Share* of our consolidated financial statements included elsewhere in this report for an explanation of the calculations of our actual basic and diluted net income per share and our pro forma unaudited basic and diluted net income per share.

(4) Does not include debt issuance costs of $2.8 million, $1.9 million, and $2.4 million as of December 29, 2017, December 30, 2016, and December 25, 2015, respectively.

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

You should read the following discussion and analysis of our financial condition and results of operations in conjunction with our consolidated financial statements and related notes included elsewhere in this report. The following discussion contains forward-looking statements based upon our current plans, expectations and beliefs that involve risks and uncertainties. Our actual results may differ materially from those anticipated in these forward-looking statements. Factors that could cause or contribute to these differences include those discussed below and elsewhere in this report, particularly in "Risk Factors".

We use a 52 or 53 week fiscal year ending on the last Friday in December. The years ended December 29, 2017, December 30, 2016, and December 25, 2015 were 52 weeks, 53 weeks, and 52 weeks, respectively. All references to 2017, 2016, and 2015 are references to fiscal years unless explicitly stated otherwise.

Overview

We are a leader in the design, engineering and manufacturing of critical fluid delivery subsystems for semiconductor capital equipment. Our primary offerings include gas and chemical delivery subsystems, collectively known as fluid delivery subsystems, which are key elements of the process tools used in the manufacturing of semiconductor devices. Our gas delivery subsystems deliver, monitor and control precise quantities of the specialized gases used in semiconductor manufacturing processes such as etch and deposition. Our chemical delivery subsystems precisely blend and dispense the reactive liquid chemistries used in semiconductor manufacturing processes such as electroplating and cleaning. We also manufacture certain components such as weldments and precision machined components for use in fluid delivery systems for direct sales to our customers. This vertically integrated portion of our business is primarily focused on metal and plastic parts that are used in gas and chemical systems, respectively.

Fluid delivery subsystems ensure accurate measurement and uniform delivery of specialty gases and chemicals at critical steps in the semiconductor manufacturing process. Any malfunction or material degradation in fluid delivery reduces yields and increases the likelihood of manufacturing defects in these processes. Historically, semiconductor OEMs internally designed and manufactured the fluid delivery subsystems used in their process tools. Currently, most OEMs outsource the design, engineering and manufacturing of their gas delivery subsystems to a few specialized suppliers, including us. Additionally, many OEMs are also increasingly outsourcing the design, engineering and manufacturing of their chemical delivery subsystems due to the increased fluid expertise required to manufacture these subsystems. Outsourcing these subsystems has allowed OEMs to leverage the suppliers' highly specialized engineering, design and production skills while focusing their internal resources on their own value-added processes. We believe that this outsourcing trend has enabled OEMs to reduce their fixed costs and development time, as well as provided significant growth opportunities for specialized subsystems suppliers like us.

We have a global footprint with volume production facilities in Malaysia; Singapore; and Tualatin, Oregon; Austin, Texas; Union City, California; Fremont, California; and Sauk Rapids, Minnesota. In 2017, 2016, and 2015, our two largest customers by revenue were Lam Research and Applied Materials. During 2017, 2016, and 2015, respectively, we generated revenue of $655.9 million, $405.7 million, and $290.6 million, gross profit of $100.8 million, $65.4 million, and $48.6 million, net income from continuing operations of $56.9 million, $20.8 million, and $12.8 million, and adjusted net income from continuing operations of $65.1 million, $31.6 million, and $20.2 million. Adjusted net income from continuing operations is a financial measure that is not calculated in accordance with GAAP. See "Non-GAAP Results" for a discussion of adjusted net income from continuing operations, an accompanying presentation of the most directly comparable financial measure calculated in accordance with generally accepted accounting principles in the United States, net income from continuing operations, and a reconciliation of the differences between adjusted net income from continuing operations and net income from continuing operations.

Key Factors Affecting Our Business

Investment in Semiconductor Manufacturing Equipment

The design and manufacturing of semiconductor devices is constantly evolving and becoming more complex in order to achieve greater performance and efficiency. To keep pace with these changes, OEMs need to refine their existing products and invest in developing new products. In addition, semiconductor device manufacturers will continue to invest in new wafer fabrication equipment to expand their production capacity and to support new manufacturing processes.

Outsourcing of Subsystems by Semiconductor OEMs

Faced with increasing manufacturing complexities, more complex subsystems, shorter product lead times, shorter industry spend cycles, and significant capital requirements, outsourcing of subsystems and components by OEMs has continued to grow. In the past two decades, OEMs have outsourced most of their gas delivery systems to suppliers such as us. OEMs have also started to outsource their chemical delivery systems in recent years. Our results will be affected by the degree to which outsourcing of these fluid delivery systems by OEMs continues to grow.

Cyclicality of Semiconductor Device Industry

Our business is indirectly subject to the cyclicality of the semiconductor device industry. In 2017, we derived approximately 93% of our sales from the semiconductor device industry. Demand for semiconductor devices can fluctuate significantly based on changes in general economic conditions, including consumer spending, demand for the products that include these devices and other factors. These fluctuations have in the past resulted in significant variations in our results of operations. The cyclicality of the semiconductor device industries will continue to impact our results of operations in the future.

Customer Concentration

The number of capital equipment manufacturers for the semiconductor device industry has undergone significant consolidation in recent years, resulting in a small number of large manufacturers. Our customers have led much of this consolidation, resulting in our sales being concentrated in a few customers. In 2017, our two largest customers were Lam Research and Applied Materials, which accounted for approximately 53% and 40% of sales, respectively. The sales we generated from these customers in 2017 were spread across 35 different product lines utilized in 13 unique manufacturing process steps. We believe the diversity of products that we provide to these customers, combined with the fact that our customers use our products on numerous types of process equipment, lessens the impact of the inherent concentration in the industry. Our customers often require reduced prices or other pricing, quality or delivery commitments as a condition to their purchasing from us in any given period or increasing their purchase volume, which can, among other things, result in reduced gross margins in order to maintain or expand our market share. Although we do not have any long-term contracts that require customers to place orders with us, Lam Research and Applied Materials have been our customers for over 10 years.

Acquisitions

We acquired Cal-Weld, a California-based leader in the design and fabrication of precision, high purity industrial components, subsystems, and systems, in July 2017 for $56.9 million. We also acquired Talon, a Minnesota-based leader in the design and manufacturing of high precision machined parts used in leading edge semiconductor tools, in December 2017 for $137.0 million. On a combined basis, these acquisitions contributed approximately $57.5 million to sales in 2017. We intend to continue to evaluate opportunistic acquisitions to supplement our organic growth, and any such acquisitions could have a material impact on our business and results of operations.

Discontinued Operations

Discontinued operations consist of the results of operations for our systems integration business with the primary purpose of building modules and tools (metal organic chemical vapor deposition or ion implant) for Veeco Instruments, Inc. In January 2016, our management and the board of directors decided to discontinue this business because it consumed a significant amount of resources while generating low gross margins and contributing only a small amount to our net income. We completed our final builds of these products at the end of May 2016.

Components of Our Results of Operations

The following discussion sets forth certain components of our statements of operations as well as significant factors that impact those items.

Sales

We generate sales primarily from the design, manufacture and sale of subsystems and components for semiconductor capital equipment. Sales are recognized when persuasive evidence of an arrangement exists, transfer of title has occurred, the fee is fixed or determinable, and collectability is reasonably assured. Our shipping terms are FOB shipping point or FOB destination, or equivalent terms, and accordingly, sales are recognized when legal title has passed to the customer upon shipment or delivery.

Cost of Sales and Gross Profit

Cost of sales consists primarily of purchased materials, direct labor, indirect labor, factory overhead cost and depreciation expense for our manufacturing facilities and equipment, as well as certain engineering costs that are related to non-recurring engineering services that we provide to, and for which we invoice, our customers in connection with their product development activities. Our business has a highly variable cost structure with a low fixed overhead structure as a percentage of cost of sales. In addition, our existing global manufacturing plant capacity is scalable and we are able to adjust to increased customer demand for our products without significant additional capital investment. We operate our business in this manner in order to avoid having excessive fixed costs during a cyclical downturn while retaining flexibility to expand our production volumes during periods of growth. However, this approach results in a smaller increase in gross margin as a percentage of sales in times of increased demand.

Since the gross margin on each of our products differs, our overall gross margin as a percentage of our sales changes based on the mix of products we sell in any period.

Operating Expenses

Our operating expenses primarily include research and development and sales, general and administrative expenses. Personnel costs are the most significant component of operating expenses and consist of salaries, benefits, bonuses, share-based compensation and, with regard to sales and marketing expense, sales commissions. Operating expenses also include overhead costs for facilities, IT and depreciation. In addition, our operating expenses include costs related to the impairment of goodwill and intangible assets, amortization of intangible assets and restructuring costs.

Research and development – Research and development expense consists primarily of activities related to product design and other development activities, new component testing and evaluation, and test equipment and fixture development. Research and development expense does not include engineering costs that are related to non-recurring engineering services that we provide to and for which we invoice our customers as part of sales, which are reflected as cost of sales. We expect research and development expense will increase in absolute dollars as our customers continue to increase their demand for new product designs and as we invest in our research and product development efforts to enhance our product capabilities and access new customer markets.

Selling, general and administrative – Selling expense consists primarily of salaries and commissions paid to our sales and sales support employees and other costs related to the sales of our products. General and administrative expense consists primarily of salaries and overhead associated with our administrative staff, professional fees and depreciation and other allocated facility related costs. We expect selling expenses to increase in absolute dollars as we continue to invest in expanding our markets and as we expand our international operations. We expect general and administrative expenses to also increase in absolute dollars due to an increase in costs related to being a public company, including higher legal, corporate insurance and accounting expenses.

Amortization of intangibles – Amortization of intangible assets is related to our finite-lived intangible assets and is computed using the straight-line method over the estimated economic life of the asset.

Interest Expense, net

Interest expense, net consists of interest on our outstanding debt under our Credit Facilities and any other indebtedness we may incur in the future.

Other Expense (Income), Net

The functional currency of our international subsidiaries located in the United Kingdom, Singapore and Malaysia is the U.S. dollar. Transactions denominated in currencies other than the functional currency generate foreign exchange gains and losses that are included in other expense, net on the accompanying consolidated statements of operations. Substantially all of our sales and agreements with third party suppliers provide for pricing and payments in U.S. dollars and, therefore, are not subject to material exchange rate fluctuations.

Income Tax Benefit

During 2017, income tax benefit from continuing operations consists primarily of the impact of foreign operations, including withholding taxes, offset by a $7.6 million tax benefit as a result of our acquisitions (see *Note 2 – Acquisitions* of our consolidated financial statements included elsewhere in this report), a $5.9 million tax benefit from revaluing our deferred taxes from 35% to 21% due to the Tax Cuts and Jobs Act, and a $1.6 million benefit from re-characterizing intercompany debt to equity between our U.S. and Singapore entities related to the reversal of previously accrued withholding taxes. During 2016 and 2015, income tax benefit from continuing operations consisted primarily of the impact of foreign operations, including withholding taxes, offset by a tax benefit in 2016 as a result of our acquisition.

Results of Operations

The following table sets forth our results of operations for the periods presented. The period-to-period comparison of results is not necessarily indicative of results for future periods.

	Year Ended		
	December 29, 2017	December 30, 2016	December 25, 2015
	(in thousands)		
Consolidated Statements of Operations Data:			
Sales	$ 655,892	$ 405,747	$ 290,641
Cost of sales	555,131	340,352	242,087
Gross profit	100,761	65,395	48,554
Operating expenses:			
Research and development	7,899	6,383	4,813
Selling, general, and administrative	37,802	28,126	24,729
Amortization of intangible assets	8,880	7,015	6,411
Total operating expenses	54,581	41,524	35,953
Operating income	46,180	23,871	12,601
Interest expense	3,277	4,370	3,831
Other income, net	(126)	(629)	(46)
Income from continuing operations before income taxes	43,029	20,130	8,816
Income tax benefit from continuing operations	(13,886)	(649)	(3,991)
Net income from continuing operations	56,915	20,779	12,807
Discontinued operations:			
Loss from discontinued operations before taxes	(722)	(4,077)	(7,406)
Income tax expense (benefit) from discontinued operations	(261)	40	(225)
Net loss from discontinued operations	(461)	(4,117)	(7,181)
Net income	$ 56,454	$ 16,662	$ 5,626

The following table sets forth our results of operations as a percentage of our total sales for the periods presented.

	Year Ended		
	December 29, 2017	December 30, 2016	December 25, 2015
Consolidated Statements of Operations Data:			
Sales	100.0	100.0	100.0
Cost of sales	84.6	83.9	83.3
Gross profit	15.4	16.1	16.7
Operating expenses:			
Research and development	1.2	1.6	1.7
Selling, general, and administrative	5.8	6.9	8.5
Amortization of intangible assets	1.4	1.7	2.2
Total operating expenses	8.3	10.2	12.4
Operating income	7.0	5.9	4.3
Interest expense	0.5	1.1	1.3
Other income, net	0.0	(0.2)	0.0
Income from continuing operations before income taxes	6.6	5.0	3.0
Income tax benefit from continuing operations	(2.1)	(0.2)	(1.4)
Net income from continuing operations	8.7	5.1	4.4
Discontinued operations:			
Loss from discontinued operations before taxes	(0.1)	(1.0)	(2.5)
Income tax expense (benefit) from discontinued operations	0.0	0.0	(0.1)
Net loss from discontinued operations	(0.1)	(1.0)	(2.5)
Net income	8.6	4.1	1.9

Comparison of Fiscal Years 2017 and 2016

Sales

	Year Ended		Change	
	December 29, 2017	December 30, 2016	Amount	%
	(dollars in thousands)			
Sales	$ 655,892	$ 405,747	$ 250,145	61.7%

The increase in sales from 2016 to 2017 was primarily related to an increase in volume resulting from industry growth, our acquisitions of Cal-Weld and Talon, and market share gains. The volume increase was due to an approximate 6.1%, or approximately $77.8 million, increase in our market share at our two largest customers, which includes the acquisitions of Cal-Weld and Talon, and an approximately $172.3 million increase in the volume of purchases primarily by our two largest customers driven by overall industry growth. We refer to the volume of purchases from us by a customer of ours relative to its other suppliers as our market share of that customer. On a geographic basis, sales in the U.S. increased by $169.9 million in 2017 to $386.6 million. Foreign sales increased by $80.2 million in 2017 to $269.3 million.

Cost of Sales and Gross Margin

	Year Ended		Change	
	December 29, 2017	December 30, 2016	Amount	%
	(dollars in thousands)			
Cost of sales	$ 555,131	$ 340,352	$ 214,779	63.1%
Gross profit	$ 100,761	$ 65,395	$ 35,366	54.1%
Gross margin	15.4%	16.1%		- 70 bps

The increase in cost of sales from 2016 to 2017 was primarily due to the increase in sales volume. The increase in absolute dollars of gross profit was driven primarily by an increase in sales volume.

As part of our purchase of Talon and Cal-Weld, we recorded opening inventory at fair value which included a fair value adjustment to inventory of $6.2 million and $3.6 million, respectively. We released a combined $5.2 million of the fair value adjustment to cost of sales based on the sale of inventory during 2017. The impact of this charge accounts for a decrease to reported gross margin of 80 basis points for 2017.

As discussed in *Note 1 – Basis of Presentation* to the consolidated financial statements, we recorded a charge to cost of sales of $1.75 million in the second quarter of 2017 due to the correction of an error related to translating inventory balances at our Singapore and Malaysia subsidiaries. The impact of this charge accounts for a decrease to reported gross margin of 30 basis points in 2017.

Additionally, our gross margins for 2017 were favorably impacted by our acquisitions of Cal-Weld and Talon, with margins that were accretive to our historical business.

Research and Development

	Year Ended		Change	
	December 29, 2017	December 30, 2016	Amount	%
	(dollars in thousands)			
Research and development	$ 7,899	$ 6,383	$ 1,516	23.8%

The increase in research and development expenses from 2016 to 2017 was due to an increase in headcount and consulting expense to support additional projects and development programs.

Selling, General and Administrative

	Year Ended		Change	
	December 29, 2017	December 30, 2016	Amount	%
	(dollars in thousands)			
Selling, general, and administrative	$ 37,802	$ 28,126	$ 9,676	34.4%

The increase in selling, general, and administrative expense from 2016 to 2017 was primarily due to increased acquisition-related expenses from our acquisitions of Cal-Weld and Talon, incremental Cal-Weld and Talon operating expenses incurred subsequent to the acquisition, increased expenses resulting from the secondary offerings of our ordinary shares by Francisco Partners, increased public company costs, increased incentive compensation on improved performance to operating targets, and increased headcount expense to support increased sales volume.

Selling, general, and administrative expense also increased during 2017 due to a charge of approximately $1.0 million as a result of the final arbitration ruling on our working capital claim with the sellers of Ajax. The ruling was outside of the one year measurement period and not considered to be an adjustment to goodwill, resulting in a charge to selling, general, and administrative expense.

Amortization of Intangible Assets

	Year Ended		Change	
	December 29, 2017	December 30, 2016	Amount	%
	(dollars in thousands)			
Amortization of intangibles assets	$ 8,880	$ 7,015	$ 1,865	26.6%

The increase in amortization expense from 2016 to 2017 was due to incremental amortization expense from intangible assets acquired in connection with our acquisition of Ajax in the second quarter of 2016, and our acquisitions of Talon and Cal-Weld in the fourth and third quarters of 2017, respectively.

The fair value assigned to intangible assets acquired in connection with our acquisitions of Cal-Weld and Talon is still preliminary. Amortization of intangible assets may change in future periods depending on the final fair value assigned to the assets.

Interest Expense, Net

	Year Ended		Change	
	December 29, 2017	December 30, 2016	Amount	%
	(dollars in thousands)			
Interest expense, net	$ 3,277	$ 4,370	$ (1,093)	-25.0%

The decrease in interest expense, net from 2016 to 2017 was due to a decrease in the average amount borrowed during 2017 as a result of the pay down of debt in December 2016 using proceeds from our IPO and a 70 basis point decrease in our average interest rate during 2017 primarily from an amendment to our Credit Facilities in connection with our acquisition of Cal-Weld, partially offset by an additional $30.0 million in borrowings to fund our acquisition of Cal-Weld. The additional $120.0 million in borrowings to fund our acquisition of Talon and the related impact on our average interest rate was not significant to 2017 results due to the short period of time the additional borrowing were outstanding during 2017.

Total borrowings outstanding at December 29, 2017, net of debt issuance costs, was $186.7 million, compared to $37.9 million at December 30, 2016.

Other Expense (Income), Net

	Year Ended		Change	
	December 29, 2017	December 30, 2016	Amount	%
	(dollars in thousands)			
Other expense (income), net	$ (126)	$ (629)	$ 503	-80.0%

The decrease in other income, net from 2016 to 2017 was primarily due to exchange rate fluctuations on transactions denominated in the local currencies of our foreign operations, principally the Singapore Dollar, Malaysian Ringgit, and British Pound , partially offset by a gain on the sale of our cost method investment, CHawk Technology International, Inc. ("CHawk") of $0.2 million that occurred in the first quarter of 2017.

Income Tax Benefit from Continuing Operations

	Year Ended		Change	
	December 29, 2017	December 30, 2016	Amount	%
	(dollars in thousands)			
Income tax benefit from continuing operations	$ (13,886)	$ (649)	$ (13,237)	2039.6%

During 2017, income tax benefit from continuing operations consists primarily of the impact of foreign operations, including withholding taxes, offset by a $7.6 million tax benefit as a result of our acquisitions of Talon and Cal-Weld, a $5.9 million tax benefit from revaluing our deferred taxes from 35% to 21% due to the Tax Cuts and Jobs Act, and a $1.6 million benefit from re-characterizing intercompany debt to equity between our U.S. and Singapore entities related to the reversal of previously accrued withholding taxes. This compares to a discrete tax benefit of only $2.3 million in 2016 in connection with our acquisition of Ajax.

Comparison of Fiscal Years 2016 and 2015

Sales

	Year Ended		Change	
	December 30, 2016	December 25, 2015	Amount	%
	(dollars in thousands)			
Sales	$ 405,747	$ 290,641	$ 115,106	39.6%

The increase in sales from 2015 to 2016 was primarily related to an increase in sales volume. The sales volume increase was due to an approximate 7%, or approximately $48.1 million, increase in our market share at our two largest customers, and an approximately $47.0 million increase in the volume of purchases by our two largest customers driven by overall industry growth. We refer to the volume of purchases from us by a customer of ours relative to its other suppliers as our market share of that customer. Ajax contributed $20.0 million to our sales during 2016. On a geographic basis, sales in the United States increased by $58.9 million in 2016 to $216.6 million. Foreign sales increased by $56.2 million in 2016 to $189.1 million.

Cost of Sales and Gross Margin

	Year Ended		Change	
	December 30, 2016	December 25, 2015	Amount	%
	(dollars in thousands)			
Cost of sales	$ 340,352	$ 242,087	$ 98,265	40.6%
Gross profit	$ 65,395	$ 48,554	$ 16,841	34.7%
Gross margin	16.1%	16.7%		- 60 bps

The increase in cost of sales from 2015 to 2016 was primarily due to the increase in sales.

The increase in absolute dollars of gross profit from 2015 to 2016 was driven primarily by an increase in sales volume.

The decline in gros s margin percentage from 2015 to 2016 was primarily due to a decline in margin at individual customers and a shift in customer mix during 2016.

Research and Development

	Year Ended		Change	
	December 30, 2016	December 25, 2015	Amount	%
	(dollars in thousands)			
Research and development	$ 6,383	$ 4,813	$ 1,570	32.6%

The increase in research and development expenses from 2015 to 2016 was due to an increase in headcount and consulting expense to support additional projects.

Selling, General and Administrative

	Year Ended		Change	
	December 30, 2016	December 25, 2015	Amount	%
	(dollars in thousands)			
Selling, general and administrative	$ 28,126	$ 24,729	$ 3,397	13.7%

The increase in selling, general, and administrative expenses from 2015 to 2016 was due to a $2.1 million increase in share-based compensation expenses, $1.5 million in incremental operating expenses from Ajax, and $1.3 million in acquisition-related transaction costs, partially offset by a $1.4 million decrease in initial public offering expenses. Initial public offering expenses incurred in 2015 were expensed, while those costs incurred in 2016 in relation to our December IPO were offset against proceeds.

Interest Expense, Net

	Year Ended		Change	
	December 30, 2016	December 25, 2015	Amount	%
	(dollars in thousands)			
Interest expense, net	$ 4,370	$ 3,831	$ 539	14.1%

The increase in interest expense, net from 2015 to 2016 was due to a $12.9 million increase in the average amount borrowed in 2016 as a result of additional borrowings used to fund the Ajax acquisition. Prevailing interest rates were comparable during those periods.

We paid down $40.0 million of borrowings in December 2016 using proceeds from our IPO. Total borrowings outstanding at December 25, 2015, net of debt issuance costs, was $62.6 million, compared to $37.9 million at December 30, 2016.

Other Expense (Income), Net

	Year Ended		Change	
	December 30, 2016	December 25, 2015	Amount	%
	(dollars in thousands)			
Other expense (income), net	$ (629)	$ (46)	$ (583)	1267.4%

The change in other expense (income), net from 2015 to 2016 was due to exchange rate fluctuations on transactions denominated in the local currencies of our foreign operations, principally the Singapore Dollar, Malaysian Ringgit, and British Pound. Additionally, we recorded $0.2 million in investment income in 2016 related to our equity method investment.

Income Tax Benefit from Continuing Operations

	Year Ended		Change	
	December 30, 2016	December 25, 2015	Amount	%
	(dollars in thousands)			
Income tax benefit from continuing operations	$ (649)	$ (3,991)	$ 3,342	-83.7%

The decrease in the income tax benefit from continuing operations from 2015 to 2016 was primarily due to the valuation allowance against substantially all U.S. federal and state net deferred tax assets which was originally recorded during the fourth quarter of 2015. During the fourth quarter of 2015, we determined that it is more likely than not that our U.S. entities will not generate sufficient taxable income to offset reversing deductible temporary differences and to fully utilize tax attribute carryforwards. As a result, we recorded a valuation allowance to reduce our U.S. federal and state deferred tax assets to the amount that is more likely than not to be realized.

Non-GAAP Results

Management uses non-GAAP adjusted net income from continuing operations to evaluate Ichor's operating and financial results. Ichor believes the presentation of non-GAAP results is useful to investors for analyzing business trends and comparing performance to prior periods, along with enhancing investors' ability to view Ichor's results from management's perspective. Non-GAAP adjusted net income from continuing operations is defined as: (1) net income from continuing operations; (2) excluding amortization of intangible assets, share-based compensation expense, non-recurring expenses including adjustments to the cost of goods sold and a loss on the Ajax acquisition arbitration settlement, and the tax adjustments related to those non-GAAP adjustments; and (3) non-recurring discrete tax items including tax benefits from acquisitions, the tax benefit from re-characterizing intercompany debt to equity, and the tax impact from enactment of the Tax Act. Non-GAAP adjusted diluted EPS is defined as non-GAAP adjusted net income from continuing operations divided by adjusted diluted ordinary shares, which assumes the IPO shares sold, conversion of preferred shares into ordinary shares, and vesting of restricted shares and options that vested at the IPO occurred at the beginning of the measurement period. No adjustment to GAAP diluted ordinary shares was necessary for 2017.

The following table presents our non-GAAP adjusted net income from continuing operations and a reconciliation from net income from continuing operations, the most comparable GAAP measure, for the periods indicated:

	Year Ended		
	December 29, 2017	December 30, 2016	December 25, 2015
	(in thousands, except share and per share amounts)		
Non-GAAP Data:			
Net income from continuing operations	$ 56,915	$ 20,779	$ 12,807
Non-GAAP adjustments:			
Amortization of intangible assets	8,880	7,015	6,411
Share-based compensation	2,230	3,216	1,118
Other non-recurring expenses, net (1)	4,767	2,988	4,154
Tax adjustments related to non-GAAP adjustments	(626)	(131)	(4,241)
Tax benefit from acquisitions (2)	(7,582)	(2,271)	—
Tax benefit from re-characterizing intercompany debt to equity (3)	(1,627)	—	—
Tax impact from tax law change (4)	(5,911)	—	—
Adjustments to cost of goods sold (5)	1,752	—	—
Fair value adjustment to inventory from acquisitions (6)	5,230	—	—
Loss on Ajax acquisition arbitration settlement (7)	1,032	—	—
Non-GAAP adjusted net income from continuing operations	$ 65,060	$ 31,596	$ 20,249
Non-GAAP adjusted diluted EPS	$ 2.48	$ 1.31	$ 0.85
Shares used to compute diluted EPS (8)	26,218,424	24,188,881	23,779,908

(1) Included in this amount for 2017 are (i) acquisition-related expenses, (ii) expenses incurred in connection with sales or other dispositions of our ordinary shares by affiliates of Francisco Partners, (iii) executive search expenses incurred in connection with replacing the Company's Chief Financial Officer, (iv) a refund of previously paid consulting fees from Francisco Partners Consulting ("FPC"), and (v) a gain on sale of our investment in CHawk. Included in this amount for 2016 and 2015 are

(i) acquisit ion-related expenses, (ii) bonuses paid to members of our management in connection with the cash dividend paid by us in August 2015, (iii) consulting fees paid to FPC, and (iv) IPO preparation expenses.

(2) We recorded $7.6 million in tax benefits during 2017 in connection with our acquisitions of Talon and Cal-Weld. We recorded $2.3 million in tax benefits in 2016 in connection with its acquisition of Ajax.

(3) In the third quarter of 2017 we re-characterized intercompany debt to equity between our U.S. and Singapore entities resulting in a tax benefit of $1.6 million related to the reversal of previously accrued withholding taxes.

(4) This adjustment represents the impact of the Tax Cuts and Jobs Act, including revaluing our deferred tax assets from 35% to 21%.

(5) During the second quarter of 2017, we corrected an error related to translating the inventory balances at our Malaysia and Singapore subsidiaries at an incorrect foreign currency rate. The error arose in prior period financial statements beginning in periods prior to 2014 and through 2016. The correction resulted in a $1.75 million increase in cost of sales and a corresponding decrease in gross profit in our consolidated statement of operations and a decrease to inventories in our consolidated balance sheet during the second quarter of 2017.

(6) As part of our purchase price allocation for our acquisition of Talon and Cal-Weld, we recorded inventory at fair value, resulting in a fair value step-up to acquired inventory of $6.2 million and $3.6 million, respectively. As the related inventory was sold during 2017, we released $1.6 million and $3.6 million of Talon and Cal-Weld's step-up, respectively, to cost of sales.

(7) During the third quarter of 2017, we received a final arbitration ruling on our working capital claim with the sellers of Ajax. The ruling was outside the one year measurement period and therefore could not be considered an adjustment to goodwill, resulting in a charge to selling, general, and administrative expense.

(8) For 2016 and 2015, assumes the shares sold, the conversion of preferred shares into ordinary shares, and vesting of restricted shares and options in connection with our December 2016 IPO occurred at the beginning of each period, for comparability between periods. No adjustment to GAAP diluted ordinary shares was necessary for 2017.

Non-GAAP adjusted net income from continuing operations has limitations as an analytical tool, and you should not consider it in isolation or as a substitute for net income or any of our other operating results reported under GAAP. Other companies may calculate adjusted net income differently or may use other measures to evaluate their performance, both of which could reduce the usefulness of our adjusted net income as a tool for comparison.

Because of these limitations, you should consider non-GAAP adjusted net income from continuing operations alongside other financial performance measures, including net income from continuing operations and other financial results presented in accordance with GAAP. In addition, in evaluating non-GAAP adjusted net income, you should be aware that in the future we will incur expenses such as those that are the subject of adjustments in deriving adjusted net income and you should not infer from our presentation of adjusted net income that our future results will not be affected by these expenses or any unusual or non-recurring items.

Unaudited Quarterly Financial Results

The following table set forth statement of operations data for the periods indicated. The information for each of these periods is unaudited and has been prepared on the same basis as our audited consolidated financial statements included herein and includes all adjustments, consisting only of normal recurring adjustments that we consider necessary for a fair presentation of our unaudited operations data for the periods presented. Historical results are not necessarily indicative of the results to be expected in the future.

	Three Months Ended							
	December 29, 2017	September 29, 2017	June 30, 2017	March 31, 2017	December 30, 2016	September 23, 2016	June 24, 2016	March 25, 2016
	(in thousands, except share and per share amounts)							
Sales	$ 182,936	$ 164,519	$ 159,733	$ 148,704	$ 131,408	$ 105,687	$ 95,365	$ 73,287
Cost of sales	153,892	140,323	136,227	124,689	110,003	88,802	80,185	61,362
Gross profit	29,044	24,196	23,506	24,015	21,405	16,885	15,180	11,925
Operating expenses:								
Research and development	2,213	1,992	1,950	1,744	2,154	1,564	1,290	1,375
Selling, general and administrative	11,530	11,430	7,984	6,858	7,797	6,782	7,183	6,364
Amortization of intangible assets	3,062	2,220	1,803	1,795	1,805	1,804	1,803	1,603
Total operating expenses	16,805	15,642	11,737	10,397	11,756	10,150	10,276	9,342
Operating income	12,239	8,554	11,769	13,618	9,649	6,735	4,904	2,583
Interest expense	1,173	739	675	690	1,125	1,183	1,160	902
Other expense (income), net	199	73	151	(549)	(245)	(241)	244	(387)
Income (loss) from continuing operations before income taxes	10,867	7,742	10,943	13,477	8,769	5,793	3,500	2,068
Income tax expense (benefit) from continuing operations	(8,328)	(6,556)	473	525	778	(1,888)	225	236
Net income from continuing operations	19,195	14,298	10,470	12,952	7,991	7,681	3,275	1,832
Discontinued operations:								
Income (loss) from discontinued operations before taxes	(1)	—	(610)	(111)	(64)	16	(2,305)	(1,724)
Income tax expense (benefit) from discontinued operations	(270)	8	—	1	14	23	2	1
Net loss from discontinued operations	269	(8)	(610)	(112)	(78)	(7)	(2,307)	(1,725)
Net income	19,464	14,290	9,860	12,840	7,913	7,674	968	107
Less: Preferred share dividend	—	—	—	—	—	—	—	—
Less: Undistributed earnings attributable to preferred shareholders	—	—	—	—	(5,666)	(7,628)	(963)	(107)
Net income attributable to ordinary shareholders	$ 19,464	$ 14,290	$ 9,860	$ 12,840	$ 2,247	$ 46	$ 5	$ —
Diluted net income per share from continuing operations attributable to ordinary shareholders: (1)	$ 0.72	$ 0.54	$ 0.40	$ 0.51	$ 0.39	$ 0.08	$ 0.06	$ 0.03
Diluted net income per share attributable to ordinary shareholders: (1)	$ 0.73	$ 0.54	$ 0.38	$ 0.50	$ 0.38	$ 0.08	$ 0.02	$ —
Shares used to compute diluted net income (loss) per share from continuing operations attributable to ordinary shareholders:	26,656,065	26,278,147	26,063,527	25,640,089	5,870,331	542,949	277,554	249,889
Shares used to compute diluted net income (loss) per share attributable to ordinary shareholders:	26,656,065	26,278,147	26,063,527	25,640,089	5,870,331	542,949	277,554	65,673

(1) See *Note 14 – Earnings per Share* of our consolidated financial statements included elsewhere in this report for a description of net income per share attributable to ordinary shareholders presented in conformity with the two-class method, required for participating securities.

The following table sets forth our unaudited quarterly consolidated statement of operations data as a percentage of sales for each of the last eight quarters in the period ended December 29, 2017.

	Three Months Ended							
	December 29, 2017	September 29, 2017	June 30, 2017	March 31, 2017	December 30, 2016	September 23, 2016	June 24, 2016	March 25, 2016
Sales	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Cost of sales	84.1	85.3	85.3	83.9	83.7	84.0	84.1	83.7
Gross profit	15.9	14.7	14.7	16.1	16.3	16.0	15.9	16.3
Operating expenses:								
Research and development	1.2	1.2	1.2	1.2	1.6	1.5	1.4	1.9
Selling, general and administrative	6.3	6.9	5.0	4.6	5.9	6.4	7.5	8.7
Amortization of intangible assets	1.7	1.3	1.1	1.2	1.4	1.7	1.9	2.2
Total operating expenses	9.2	9.5	7.3	7.0	8.9	9.6	10.8	12.7
Operating income	6.7	5.2	7.4	9.2	7.3	6.4	5.1	3.5
Interest expense	0.6	0.4	0.4	0.5	0.9	1.1	1.2	1.2
Other expense (income), net	0.1	0.0	0.1	(0.4)	(0.2)	(0.2)	0.3	(0.5)
Income (loss) from continuing operations before income taxes	5.9	4.7	6.9	9.1	6.7	5.5	3.7	2.8
Income tax expense (benefit) from continuing operations	(4.6)	(4.0)	0.3	0.4	0.6	(1.8)	0.2	0.3
Net income from continuing operations	10.5	8.7	6.6	8.7	6.1	7.3	3.4	2.5
Discontinued operations:								
Income (loss) from discontinued operations before taxes	0.0	0.0	(0.4)	(0.1)	0.0	0.0	(2.4)	(2.4)
Income tax expense (benefit) from discontinued operations	(0.1)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Net loss from discontinued operations	0.1	0.0	(0.4)	(0.1)	(0.1)	0.0	(2.4)	(2.4)
Net income	10.6	8.7	6.2	8.6	6.0	7.3	1.0	0.1

Seasonality

We have not historically experienced meaningful seasonality with respect to our business or results of operations.

Liquidity and Capital Resources

We had cash and restricted cash of $69.3 million as of December 29, 2017, compared to $52.6 million as of December 30, 2016. Our principal uses of liquidity are to fund our working capital needs, satisfy our debt obligations, and purchase new capital equipment. The increase in cash is primarily due to proceeds from the issuance of $150.0 million in long-term debt and cash from operations of $38.8 million, partially offset by cash paid for our acquisitions of Cal-Weld and Talon of $181.0 million and capital expenditures of $8.2 million.

We believe that our cash, the amounts available under our Credit Facilities and our cash flows from operations, together with the net proceeds from our IPO, will be sufficient to meet our anticipated cash needs for working capital and capital expenditures for at least the next 12 months.

Cash Flow Analysis

The following table sets forth a summary of operating, investing, and financing activities for the periods presented:

	Year Ended		
	December 29, 2017	December 30, 2016	December 25, 2015
	(in thousands)		
Cash provided by operating activities	$ 38,803	$ 27,730	$ 26,690
Cash used in investing activities	(186,751)	(21,202)	(1,367)
Cash provided by (used in) financing activities	164,604	21,932	(15,508)
Net increase in cash and restricted cash	$ 16,656	$ 28,460	$ 9,815

Operating Activities

We generated $38.8 million of cash from operating activities during 2017 due to net income of $56.5 million, partially offset by net non-cash charges of $(0.2) million and an increase in our net operating assets and liabilities of $17.4 million. Non-cash charges primarily related to $12.5 million in depreciation and amortization, $2.2 million in share-based compensation, and $0.6 million in amortization of debt issuance cost, offset by $15.3 million in deferred tax benefit and a gain on the sale of our investment in CHawk of $0.2 million. The increase in net operating assets and liabilities was primarily due to an increase in inventories of $43.4 million in order to meet sales demand in the first quarter of 2018, partially offset by an increase in accounts payable of $22.6 million and prepaid expenses and other assets of $3.4 million.

We generated $27.7 million of cash from operating activities during 2016 due to net income of $16.7 million, non-cash charges of $10.8 million, and a net decrease of $0.2 million in our net operating assets and liabilities. Non-cash charges primarily related to $9.5 million in depreciation and amortization, $3.2 million in share-based compensation, and $0.5 million in amortization of debt issuance cost, offset in part by $2.4 million in deferred tax benefit. The decrease in net operating assets and liabilities was primarily due to an increase in accounts payable of $36.8 million resulting from increased materials purchased to support higher sales volumes. The decrease in our net operating assets and liabilities was partially offset by an increase of $9.0 million in accounts receivable due to increased sales and timing of customer payments, an increase in inventory of $23.7 million due to anticipated sales in the first quarter of 2017, and a decrease in customer deposits of $4.2 million arising from a reduction in customer orders associated with discontinued operations.

We generated $26.7 million of cash from operating activities during 2015 due to net income of $5.6 million and non-cash charges of $10.1 million, and a net increase of $10.9 million in our net operating assets and liabilities. Non-cash charges primarily related to $9.9 million in depreciation and amortization, $1.1 million in share-based compensation, $3.2 million related to the impairment of intangible and fixed assets and $0.5 million write-off of debt issuance costs, partially offset by $4.9 million in deferred tax benefit. The net change in our operating assets and liabilities was primarily the result of a $9.1 million decrease in inventory due to our initiative to reduce our inventory in the fourth quarter of 2015, a decrease in accounts receivable of $6.3 million due to the timing of customer payments, partially offset by the decrease, in customer deposit of $3.5 million and accounts payable of $1.7 million.

Investing Activities

Cash used in investing activities during 2017 was $186.8 million. We used approximately $137.0 million and $56.9 million to acquire Talon and Cal-Weld, respectively, and $8.2 million to fund capital expenditures to purchase test fixtures and leasehold improvements primarily related to our plant expansions in the United States and Malaysia. These outflows were partially offset by proceeds from the sale of our investments in Ajax Foresight Global Manufacturing Sdn. Bhd. (“AFGM”) and CHawk and the settlement of a note receivable from AFGM of $2.4 million.

Cash used in investing activities during 2016 was $21.2 million. We used $17.4 million, net of cash acquired, to acquire Ajax and $4.3 million from capital expenditures to purchase test fixtures and leasehold improvements primarily related to our plant expansions in the United States and Malaysia, partially offset by proceeds from sales of certain intangible and fixed assets totaling $0.5 million.

Cash used in investing activities during 2015 was $1.4 million from capital expenditures for the purchase of property and equipment relating to our manufacturing footprint in our Oregon, Texas, and corporate facilities.

Financing Activities

We generated $164.6 million of cash from financing activities during 2017, which primarily consisted of $150.0 million in proceeds from the issuance of long-term debt to fund our acquisitions of Talon and Cal-Weld, $9.1 million in proceeds from employees' and directors' exercise of stock options, and $7.3 million of proceeds from the exercise of the underwriters' over-allotment option in January 2017 in connection with our December 2016 IPO, partially offset by $1.5 million in financing costs associated with the issuance of long-term debt.

We generated $21.9 million of cash from financing during 2016, which consisted of net proceeds from our IPO of $47.1 million and $27.0 million of proceeds from borrowings under our Credit Facilities, partially offset by $52.2 million used to partially repay amounts owed under our Credit Facilities.

We used $15.5 million of cash in financing activities during 2015, which consisted of $69.8 million for the repayment of bank borrowings offset in part by $79.0 million in proceeds from new bank borrowings. We also paid cash dividends to our shareholders of $22.1 million and $2.6 million in fees related to the refinancing of our indebtedness, including the entry into our Credit Facilities.

Subsequent Events

Subsequent events are events or transactions that occur after the balance sheet date but before financial statements are issued. For a description of subsequent events, please review the information provided in *Note 16 – Subsequent Events* of our consolidated financial statements in Part IV, Item 15 of this report on Form 10-K.

Credit Facilities

For a description of our Credit Facilities, please review the information provided in *Note 9 – Credit Facilities* of our consolidated financial statements included in Part IV, Item 15 of this report on Form 10-K.

Share Repurchase Program

In February 2018, our board of directors authorized a share repurchase program up to $50.0 million under which we may repurchase our ordinary shares in the open market or through privately negotiated transactions, depending on market conditions and other factors. We expect to fund share repurchases with cash on hand or borrowings under our Revolving Credit Facility. As of the date of this report, the Company has repurchased approximately $5.0 million of its ordinary shares.

Contractual Obligations and Commitments

The following summarizes our contractual obligations and commitments as of December 29, 2017:

	Payments Due by Period				
	Total	Less Than 1 Year	1-3 Years	3-5 Years	More Than 5 Years
			(in thousands)		
Operating leases	$ 11,668	$ 3,516	$ 4,775	$ 3,003	$ 374
Long-term debt obligations, principal (1)	189,535	6,490	183,045	—	—
Long-term debt obligations, interest (2)	21,943	7,842	14,101	—	—
Total	$ 223,146	$ 17,848	$ 201,921	$ 3,003	$ 374

(1) Represents the contractually required principal payments under our Credit Facilities in accordance with the required principal payment schedule.

(2) Represents the contractually required interest payments under our Credit Facilities in accordance with the required interest payment schedule. Interest costs have been estimated based on interest rates in effect for such indebtedness as of December 29, 2017.

Critical Accounting Policies and Estimates

Our consolidated financial statements have been prepared in accordance with U.S. generally accepted accounting principles. The preparation of these consolidated financial statements requires us to make estimates and assumptions that affect the reported amounts of assets, liabilities, sales, expenses, and related disclosures. We base our estimates on historical experience and on various other assumptions that we believe are reasonable under the circumstances. We evaluate our estimates and assumptions on an ongoing basis. Actual results may differ from these estimates. To the extent that there are material differences between these estimates and our actual results, our future financial statements will be affected.

The critical accounting policies requiring estimates, assumptions, and judgments that we believe have the most significant impact on our consolidated financial statements are described below.

Revenue Recognition

Product sales are recognized when there is persuasive evidence of an arrangement, product delivery has occurred, the sales price is fixed or determinable, and collectability is reasonably assured. Our shipping terms are FOB shipping point or FOB destination, or equivalent terms, and accordingly, sales are recognized when legal title has passed to the customer upon shipment or delivery. Title and risk of loss generally pass to the customer at the time of delivery of the product to a common carrier. All amounts billed to a customer related to shipping and handling are classified as sales, while all costs incurred by us for shipping and handling are classified as cost of sales.

Sales are recognized when all of the following criteria are met:

- we enter into a legally binding arrangement with a customer;
- we ship the product;
- we determine the fee is fixed or determinable based on the payment terms associated with the transaction and free of contingencies or significant uncertainties; and
- collectability is reasonably assured. We assess collectability based on credit analysis and payment history. We require collateral, typically cash, in the normal course of business if customers do not meet its criteria established for offering credit.

Inventory Valuation

We write down the carrying value of our inventory to net realizable value for estimated obsolescence or unmarketable inventory in an amount equal to the difference between the cost of inventory and its estimated realizable value based upon assumptions about future demand and market conditions. We assess the valuation of all inventories, including raw materials, work-in-process, finished goods and spare parts on a periodic basis. Obsolete inventory or inventory in excess of our estimated usage is written down to its estimated market value less costs to sell, if less than its cost. Inherent in our estimates of demand and market value in determining inventory valuation are estimates related to economic trends, future demand for our products and technological obsolescence of our products. If actual demand and market conditions are less favorable than our projections, additional inventory write-downs may be required. If the inventory value is written down to its net realizable value, and subsequently there is an increased demand for the inventory at a higher value, the increased value of the inventory is not realized until the inventory is sold either as a component of a subsystem or as separate inventory. During 2017, 2016, and 2015, we wrote down $0.9 million, $3.9 million, and $3.0 million, respectively, in inventory determined to be obsolete.

Goodwill, Intangibles Assets, and Long-lived Assets

Goodwill is measured as the excess of the cost of an acquisition over the sum of the amounts assigned to identifiable assets acquired less liabilities assumed. We evaluate our goodwill and indefinite life trade name for impairment on an annual basis, and whenever events or changes in circumstances indicate that the carrying value may not be fully recoverable. We operate as a single segment and reporting unit. In addition, we evaluate our identifiable intangible assets and other long-lived assets for impairment whenever events or changes in circumstances indicate that the carrying amount of an asset may not be recoverable. Factors we consider important which could trigger an impairment review include significant changes in the manner of our use of the acquired assets or the strategy of our overall business; significant decreases in the market price of the asset; significant negative changes in sales of specific products or services; and significant negative industry or economic trends.

We continually apply judgment when performing these evaluations and continuously monitor for events and circumstances that could negatively im pact the key assumptions in determining fair value, including long-term sales growth projections, undiscounted net cash flows, discount rates, recent market valuations from transactions by comparable companies, volatility in our market capitalization and g eneral industry, market and macroeconomic conditions. It is possible that changes in such circumstances, or in the variables associated with the judgments, assumptions and estimates used in assessing fair value, would require us to record a non-cash impair ment charge.

At December 29, 2017, the date of our last impairment analysis, the fair value of the reporting unit was substantially in excess of its carrying value.

Share-Based Compensation

Our share-based compensation was $2.2 million, $3.2 million, and $1.1 million during 2017, 2016, and 2015, respectively. Compensation expense related to share-based transactions, including employee and non-employee stock options, is measured and recognized in the financial statements based on the fair value of the awards granted. The fair value of each option award is estimated on the grant date using the Black-Scholes option-pricing model and a single option award approach. Share-based compensation expense is recognized, net of forfeitures, over the requisite service periods of the awards, which is generally four years.

Our use of the Black-Scholes option-pricing model requires the input of subjective assumptions, including the fair value of the underlying ordinary shares, the expected term of the option, and the expected volatility of the price of our ordinary shares, risk-free interest rates, and the expected dividend yield of our ordinary shares. The assumptions used in our option-pricing model represent management's best estimates. These estimates involve inherent uncertainties and the application of management's judgment. If factors change and different assumptions are used, our share-based compensation expense could be materially different in the future.

These assumptions and estimates are as follows:

- *Fair Value of Ordinary Shares* . Because there was no public market for our ordinary shares prior to our initial public offering, our board of directors determined the fair value of our ordinary shares by considering a number of objective and subjective factors, including valuations of comparable companies, operating and financial performance, lack of liquidity of our ordinary shares and general and industry-specific economic outlook, among other factors. In addition, we periodically obtained third party valuations to support the determination by our board of directors of the fair value of our ordinary shares.
- *Risk-Free Interest Rate* . We base the risk-free interest rate used in the Black-Scholes option-pricing model based on the U.S. Treasury rates in effect during the corresponding period of grant.
- *Expected Term* . We use the simplified method to estimate the expected term of option awards, as the Company does not have sufficient history to estimate the weighted average expected term.
- *Volatility* . We determine the price volatility factor based on the historical volatilities of our publicly traded peer group as we did not have a trading history for our ordinary shares prior to our initial public offering. Industry peers consist of several public companies in the industries that are similar to us in size, stage of life cycle, and financial leverage. We intend to continue to consistently apply this process using the same or similar public companies until a sufficient amount of historical information regarding the volatility of the price of our own ordinary shares share price becomes available, or unless circumstances change such that the identified companies are no longer similar to us, in which case, more suitable companies whose share prices are publicly available would be utilized in the calculation.
- *Dividend Yield* . The expected dividend assumption is based on our current expectations about our anticipated dividend policy. Consequently, we used an expected dividend yield of zero.

Since our initial public offering, our board of directors determines the fair value of each underlying ordinary share based on the closing price of our ordinary shares as reported on the date of grant.

Income Taxes

The determination of our tax provision is highly dependent upon the geographic composition of worldwide earnings and tax regulations governing each region and is subject to judgments and estimates. Management carefully monitors the changes in many factors and adjusts the effective tax rate as required.

The calculation of tax liabilit ies involves significant judgment in estimating the impact of uncertainties in the application of complex tax laws. Resolution of these uncertainties in a manner inconsistent with our expectations could have a material impact on our business, results of op erations and financial position. We believe we have adequately reserved for our uncertain tax positions, however, no assurance can be given that the final tax outcome of these matters will not be different than what we expect. We adjust these reserves in l ight of changing facts and circumstances, such as the closing of a tax audit or the refinement of an estimate. To the extent that the final tax outcome for these matters is different than the amounts recorded, such differences will impact the provision for income taxes in the period in which such determination is made. The provision for income taxes includes the impact of reserve positions and changes to reserves that are considered appropriate, as well as the related net interest and penalties.

We file income tax returns in the U.S. federal jurisdiction, various states and various foreign jurisdictions. We are no longer subject to U.S. federal examination for tax years ending before 2014, to state examinations before 2013 or to foreign examinations before 2012. However, to the extent allowed by law, the tax authorities may have the right to examine prior periods where net operating losses or tax credits were generated and carried forward, and make adjustments up to the amount of the net operating losses or credit carryforward. We are currently enjoying a zero rate tax holiday in Singapore that is scheduled to expire at the end of 2021. This tax rate is subject to maintaining certain commitments agreed to with the Economic Development Board of Singapore including investment and employment thresholds. Our tax rate could be significantly affected if we do not maintain these commitments or if we are unable to favorably renegotiate the commitment requirements.

Recent Accounting Pronouncements

From time to time, the Financial Accounting Standards Board ("FASB") or other standards setting bodies issue new accounting pronouncements. Updates to the FASB Accounting Standards Codification are communicated through issuance of an Accounting Standards Update ("ASU"). Unless otherwise discussed, we believe that the impact of recently issued guidance, whether adopted or to be adopted in the future, is not expected to have a material impact on our Consolidated Financial Statements upon adoption.

To understand the impact of recently issued guidance, whether adopted or to be adopted, please review the information provided in *Note 1 – Organization and Summary of Significant Accounting Policies* of our consolidated financial statements in Part IV, Item 15 of this report on Form 10-K.

Off-Balance Sheet Arrangements

As of December 29, 2017, we did not have any relationships with unconsolidated entities or financial partnerships, such as structured finance or special purpose entities, which were established for the purpose of facilitating off-balance sheet arrangements or other purposes.

ITEM 7A. QUANTITATIVE AND QUALITATIVE DISCLOSURES ABOUT MARKET RISK

We are exposed to financial market risks, including changes in currency exchange rates and interest rates.

Foreign Currency Exchange Risk

Currently, substantially all of our sales and arrangements with third-party suppliers provide for pricing and payment in U.S. dollars and, therefore, are not subject to material exchange rate fluctuations. As a result, we do not expect foreign currency exchange rate fluctuations to have a material effect on our results of operations. However, increases in the value of the U.S. dollar relative to other currencies would make our products more expensive relative to competing products priced in such other currencies, which could negatively impact our ability to compete. Conversely, decreases in the value of the U.S. dollar relative to other currencies could result in our foreign suppliers raising their prices in order to continue doing business with us.

While not currently significant, we do have certain operating expenses that are denominated in currencies of the countries in which our operations are located, and may be subject to fluctuations due to foreign currency exchange rates, particularly the Singapore dollar, Malaysian Ringgit, British Pound and Euro. Fluctuations in foreign currency exchange rates may cause us to recognize transaction gains and losses in our statement of operations. To date, foreign currency transaction gains and losses have not been material to our financial statements, and we have not engaged in any foreign currency hedging transactions.

Interest Rate Risk

We had total indebtedness of $189.5 million as of December 29, 2017, exclusive of unamortized debt issuance costs.

We do not enter into investments for trading or speculative purposes and have not used any derivative financial instruments to manage our interest rate risk exposure. We have not been exposed to, nor do we anticipate being exposed to, material risks due to changes in inte rest rates. The interest rate on a significant majority of our outstanding debt is variable, which also reduces our exposure to these interest rate risks. A hypothetical 10% change in interest rates during any of the periods presented would not have had a material impact on our financial statements.

ITEM 8. FINANCIAL STATEMENTS AND SUPPLEMENTARY DATA

The financial statements and supplementary financial information required to be filed under this Item 8 are presented beginning on page F-1 in Part IV, Item 15 of this annual report on Form 10-K and are incorporated herein by reference.

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

None.

ITEM 9A. CONTROLS AND PROCEDURES

Evaluation of Disclosure Controls and Procedures

As required by Rule 13a‑15(b) under the Exchange Act, we carried out an evaluation under the supervision and with the participation of our management, including our Chief Executive Officer and Chief Financial Officer, of the effectiveness of the design and operation of our disclosure controls and procedures (as defined in Rules 13a‑15(e) and 15d‑15(e) under the Exchange Act) as of the end of the period covered by this report. There are inherent limitations to the effectiveness of any system of disclosure controls and procedures, including the possibility of human error and the circumvention or overriding of the controls and procedures. Accordingly, even effective disclosure controls and procedures can only provide reasonable assurance of achieving their control objectives. We evaluated the effectiveness of our disclosure controls and procedures as of December 29, 2017, with the participation of our CEO and CFO. Based on this evaluation, our CEO and CFO concluded that our disclosure controls and procedures were effective as of December 29, 2017.

Management's Report on Internal Control Over Financial Reporting

Our management is responsible for establishing and maintaining adequate internal control over financial reporting (as defined in Rules 13a-15(f) and 15d-15(f) under the Exchange Act). With the participation of our Chief Executive Officer and Chief Financial Officer, our management evaluated the effectiveness of our internal control over financial reporting based on the framework issued by the Committee of Sponsoring Organizations of the Treadway Commission ("COSO") in Internal Control—Integrated Framework (2013). Because of its inherent limitations, internal control over financial reporting is not intended to provide absolute assurance that a misstatement of our financial statements would be prevented or detected. Based on that assessment, management has concluded that its internal control over financial reporting was effective as of December 29, 2017 to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements in accordance with GAAP.

We have not engaged an independent registered accounting firm to perform an audit of our internal control over financial reporting as of any balance sheet date or for any period reported in our financial statements. Our independent public registered accounting firm will first be required to attest to the effectiveness of our internal control over financial reporting for our Annual Report on Form 10-K for the first year we are no longer an "emerging growth company" as defined by the JOBS Act.

Remediation of Previously Identified Material Weakness

A company's internal control over financial reporting is a process designed by, or under the supervision of, a company's principal executive and principal financial officers, or persons performing similar functions, to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements in accordance with GAAP. Because of its inherent limitations, internal control over financial reporting may not prevent or detect misstatements. In addition, 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 policies or procedures may deteriorate. If we cannot provide reliable financial information, our business, operating results and share price could be negatively impacted.

During the second qu arter of 2017, we identified a material weakness in our internal control over financial reporting related to ineffective periodic risk assessment over control activities that ensure the ending inventory balances of our Malaysia and Singapore subsidiaries w ere recorded at the appropriate U.S. Dollar functional currency rate. During our previous consolidation process, we had a manual process that translated these inventory balances into the U.S. Dollar functional currency at incorrect rates for these subsidia ries due to system limitations, and we did not implement a control to reconcile the ending inventory balance at our Malaysia and Singapore subsidiaries to the final inventory balance reported in our consolidated financial statements. This material weakness resulted in an accumulated overstatement of inventory as of March 31, 2017 of approximately $1.75 million. We corrected this overstatement in the second quarter of 2017 with a charge to cost of sales of $1.75 million. Additionally, we re -implemented our o ur Oracle system, which allows for a systems - based calculation of inventory purchases and ending inventory at the proper U.S. Dollar functional currency rates, and implemented a control to reconcile the final Malaysia and Singapore inventory sub - ledger bal ances to the final balances recorded in consolidation. These improvements to our internal controls, implemented during 2017, were in place and demonstrated a sustained period of effective operation during 2017 to enable management of the Company to conclud e the material weakness has been remediated as of December 29, 2017.

Changes in Internal Control Over Financial Reporting

Except as set forth above, there have been no changes in our internal control over financial reporting during the quarter ended December 29, 2017 that have materially affected or are reasonably likely to materially affect, our internal control over financial reporting.

ITEM 9B. OTHER INFORMATION

None.

PART III

ITEM 10. DIRECTORS, EXECUTIVE OFFICERS AND CORPORATE GOVERNANCE

The information required by this item is incorporated by reference to our Proxy Statement for our 2018 General Meeting to be filed with the SEC within 120 days after the close of the year ended December 29, 2017.

Code of Conduct

The Company has adopted a code of business ethics and conduct (the "Code of Conduct") that applies to all employees, officers and directors, including the principal executive officer, principal financial officer and principal accounting officer. The Code of Conduct is available on the Company's website at www.ichorsystems.com under the Investor Relations tab. The Company intends to post on its website all disclosures that are required by law or NASDAQ listing rules regarding any amendment to, or a waiver of, any provision of the Code of Conduct for the principal executive officer, principal financial officer, principal accounting officer or controller, or persons performing similar functions.

ITEM 11. EXECUTIVE COMPENSATION

The information required by this item is incorporated by reference to our Proxy Statement for our 2018 General Meeting to be filed with the SEC within 120 days after the close of the year ended December 29, 2017.

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

The information required by this item is incorporated by reference to our Proxy Statement for our 2018 General Meeting to be filed with the SEC within 120 days after the close of the year ended December 29, 2017.

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

The information required by this item is incorporated by reference to our Proxy Statement for our 2018 General Meeting to be filed with the SEC within 120 days after the close of the year ended December 29, 2017.

ITEM 14. PRINCIP AL ACCOUNTING FEES AND SERVICES

The information required by this item is incorporated by reference to our Proxy Statement for our 2018 General Meeting to be filed with the SEC within 120 days after the close of the year ended December 29, 2017.

PART IV

ITE M 15. EXHIBITS AND FINANCIAL STATEMENT SCHEDULES

(a) The following documents are filed as a part of this report:

(1) Financial Statements.

The following Consolidated Financial Statements are filed as part of this report under Item 8 “Financial Statements and Supplementary Data.”

(2) Exhibits. Exhibits are listed on the Exhibit Index at the end of this report.

ITEM 16. FORM 10-K SUMMARY

Not applicable.

Report of Independent Regis tered Public Accounting Firm

To the Shareholders and Board of Directors
Ichor Holdings, Ltd.:

Opinion on the Consolidated Financial Statements

We have audited the accompanying consolidated balance sheets of Ichor Holdings, Ltd. and subsidiaries (the Company) as of December 29, 2017 and December 30, 2016, and the related consolidated statements of operations, shareholders' equity, and cash flows for each of the years in the three year period ended December 29, 2017, and the related notes (collectively, the consolidated financial statements). In our opinion, the consolidated financial statements present fairly, in all material respects, the financial position of the Company as of December 29, 2017 and December 30, 2016, and the results of its operations and its cash flows for each of the years in the three year period ended December 29, 2017, in conformity with U.S. generally accepted accounting principles.

Basis for Opinion

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

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

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

/s/ KPMG LLP

We have served as the Company's auditor since 2011.

Portland, Oregon
March 13, 2018

ICHOR HOLDINGS, LTD.
Consolidated Balance Sheets
(in thousands, except share and per share data)

	December 29, 2017	December 30, 2016
Assets		
Current assets:		
Cash	$ 68,794	$ 50,854
Restricted cash	510	1,794
Accounts receivable, net	49,249	26,401
Inventories, net	154,541	70,881
Prepaid expenses and other current assets	5,357	7,061
Current assets from discontinued operations	3	99
Total current assets	278,454	157,090
Property and equipment, net	34,380	12,018
Other noncurrent assets	1,052	3,574
Deferred tax assets	994	570
Intangible assets, net	73,405	32,146
Goodwill	169,399	77,093
Total assets	$ 557,684	$ 282,491
Liabilities and Shareholders' Equity		
Current liabilities:		
Accounts payable	$ 121,405	$ 88,531
Accrued liabilities	12,211	6,554
Other current liabilities	6,715	5,421
Current portion of long-term debt	6,490	—
Current liabilities from discontinued operations	400	564
Total current liabilities	147,221	101,070
Long-term debt, less current portion, net	180,247	37,944
Deferred tax liabilities	10,558	606
Other non-current liabilities	2,896	1,173
Non-current liabilities from discontinued operations	—	39
Total liabilities	340,922	140,832
Shareholders' equity		
Preferred shares ($0.0001 par value; 20,000,000 shares authorized; no shares issued and outstanding)	—	—
Ordinary shares ($0.0001 par value; 200,000,000 shares authorized; 25,892,162 and 23,857,381 shares issued and outstanding, respectively)	3	2
Additional paid in capital	214,697	196,049
Retained earnings (accumulated deficit)	2,062	(54,392)
Total shareholders' equity	216,762	141,659
Total liabilities and shareholders' equity	$ 557,684	$ 282,491

ICHOR HOLDINGS, LTD.
Consolidated Statements of Operations
(in thousands, except share and per share data)

	Year Ended		
	December 29, 2017	December 30, 2016	December 25, 2015
Net sales	$ 655,892	$ 405,747	$ 290,641
Cost of sales	555,131	340,352	242,087
Gross profit	100,761	65,395	48,554
Operating expenses:			
Research and development	7,899	6,383	4,813
Selling, general, and administrative	37,802	28,126	24,729
Amortization of intangible assets	8,880	7,015	6,411
Total operating expenses	54,581	41,524	35,953
Operating income	46,180	23,871	12,601
Interest expense, net	3,277	4,370	3,831
Other income, net	(126)	(629)	(46)
Income from continuing operations before income taxes	43,029	20,130	8,816
Income tax benefit from continuing operations	(13,886)	(649)	(3,991)
Net income from continuing operations	56,915	20,779	12,807
Discontinued operations:			
Loss from discontinued operations before taxes	(722)	(4,077)	(7,406)
Income tax expense (benefit) from discontinued operations	(261)	40	(225)
Net loss from discontinued operations	(461)	(4,117)	(7,181)
Net income	56,454	16,662	5,626
Less: Preferred share dividend	—	—	(22,127)
Less: Undistributed earnings attributable to preferred shareholders	—	(15,284)	—
Net income (loss) attributable to ordinary shareholders	$ 56,454	$ 1,378	$ (16,501)
Net income (loss) per share from continuing operations attributable to ordinary shareholders:			
Basic	$ 2.27	$ 1.14	$ (292.39)
Diluted	$ 2.17	$ 0.87	$ (292.39)
Net income (loss) per share attributable to ordinary shareholders:			
Basic	$ 2.25	$ 0.92	$ (517.68)
Diluted	$ 2.15	$ 0.70	$ (517.68)
Shares used to compute net income (loss) from continuing operations per share attributable to ordinary shareholders:			
Basic	25,118,031	1,503,296	31,875
Diluted	26,218,424	1,967,926	31,875
Shares used to compute net income (loss) per share attributable to ordinary shareholders:			
Basic	25,118,031	1,503,296	31,875
Diluted	26,218,424	1,967,926	31,875

ICHOR HOLDINGS, LTD.
Consolidated Statements of Shareholders' Equity
(in thousands, except share data)

	Preferred Shares		Ordinary Shares		Additional Paid-In Capital	Retained Earnings (Accumulated Deficit)	Total Shareholders' Equity
	Shares	Amount	Shares	Amount			
Balance at December 26, 2014	17,722,808	$ 142,728	22,377	$ —	$ 1,886	$ (54,553)	$ 90,061
Share-based compensation expense	—	—	—	—	1,118	—	1,118
Vesting of restricted shares	—	—	43,032	—	—	—	—
Dividend to shareholders	—	—	—	—	—	(22,127)	(22,127)
Net income	—	—	—	—	—	5,626	5,626
Balance at December 25, 2015	17,722,808	142,728	65,409	—	3,004	(71,054)	74,678
Ordinary shares issued, net of transaction costs	—	—	5,877,778	—	47,103	—	47,103
Conversion of preferred shares to ordinary shares	(17,722,808)	(142,728)	17,722,808	2	142,726	—	—
Share-based compensation expense	—	—	—	—	3,216	—	3,216
Vesting of restricted shares	—	—	191,386	—	—	—	—
Net income	—	—	—	—	—	16,662	16,662
Balance at December 30, 2016	—	—	23,857,381	2	196,049	(54,392)	141,659
Ordinary shares issued from initial public offering, net of transaction costs	—	—	881,667	1	7,277	—	7,278
Ordinary shares issued from exercise of stock options			1,078,182	—	9,141	—	9,141
Ordinary shares issued from vesting of restricted share units	—	—	74,932	—	—	—	—
Share-based compensation expense	—	—	—	—	2,230	—	2,230
Net income	—	—	—	—	—	56,454	56,454
Balance at December 29, 2017	—	$ —	25,892,162	$ 3	$ 214,697	$ 2,062	$ 216,762

ICHO R HOLDINGS, LTD.
Consolidated Statements of Cash Flows
(in thousands)

	Year Ended		
	December 29, 2017	December 30, 2016	December 25, 2015
Cash flows from operating activities:			
Net income	$ 56,454	$ 16,662	$ 5,626
Adjustments to reconcile net income to net cash provided by operating activities:			
Depreciation and amortization	12,509	9,497	9,936
Gain on sale of investments and settlement of note receivable	(241)	—	—
Share-based compensation	2,230	3,216	1,118
Deferred income taxes	(15,347)	(2,429)	(4,927)
Amortization of debt issuance costs	608	527	834
Changes in operating assets and liabilities, net of assets acquired:			
Accounts receivable, net	(1,059)	(9,007)	6,333
Inventories	(43,425)	(23,719)	9,110
Prepaid expenses and other assets	3,386	(3,381)	403
Accounts payable	22,612	36,761	(1,676)
Accrued liabilities	848	1,612	169
Other liabilities	228	(2,009)	(3,396)
Net cash provided by operating activities	38,803	27,730	26,690
Cash flows from investing activities:			
Capital expenditures	(8,226)	(4,268)	(1,367)
Cash paid for acquisitions, net of cash acquired	(180,955)	(17,407)	—
Proceeds from sale of intangible assets	—	230	—
Proceeds from sale of property, plant, and equipment	—	243	—
Proceeds from sale of investments and settlement note receivable	2,430	—	—
Net cash used in investing activities	(186,751)	(21,202)	(1,367)
Cash flows from financing activities:			
Issuance of ordinary shares, net of fees	7,278	47,103	—
Proceeds from exercise of stock options	9,141	—	—
Dividends to shareholders	—	—	(22,127)
Debt issuance and modification costs	(1,520)	—	(2,631)
Borrowings under revolving commitment	10,000	12,000	24,000
Repayments on revolving commitment	—	(22,000)	(26,000)
Borrowing on long-term debt	140,000	15,000	55,000
Repayments on long-term debt	(295)	(30,171)	(43,750)
Net cash provided by (used in) financing activities	164,604	21,932	(15,508)
Net increase in cash	16,656	28,460	9,815
Cash and restricted cash at beginning of year	52,648	24,188	14,373
Cash and restricted cash at end of quarter	$ 69,304	$ 52,648	$ 24,188
Supplemental disclosures of cash flow information:			
Cash paid during the period for interest	$ 3,436	$ 3,686	$ 2,632
Cash paid during the period for taxes	$ 1,068	$ 103	$ 496
Supplemental disclosures of non-cash activities:			
Capital expenditures included in accounts payable	$ 723	$ 1,174	$ 10

Note 1 – Organization and Summary of Significant Accounting Policies

Organization and Operations of the Company

Ichor Holdings, Ltd. and Subsidiaries (the "Company") designs, develops, manufactures and distributes gas and liquid delivery subsystems and components purchased by capital equipment manufacturers for use in the semiconductor markets. The Company is headquartered in Fremont, California and has operations in the United States, United Kingdom, Singapore, Malaysia, and South Korea.

On December 30, 2011, Ichor Systems Holdings, LLC consummated a sales transaction with Icicle Acquisition Holdings, LLC, a Delaware limited liability company. Shortly after consummation of the sale transaction, Icicle Acquisition Holdings, LLC changed its name to Ichor Holdings, LLC.

In March 2012, Ichor Holdings, LLC completed a reorganization of its legal structure, forming Ichor Holdings, Ltd., a Cayman Islands entity. Ichor Holdings, Ltd. is now the reporting entity and the ultimate parent company of the operating entities.

In January 2016, the Company decided to shut its Kingston, New York facility which was the primary facility for the Precision Flow Technologies, Inc. subsidiary. In May 2016, the Company ceased operations in this facility and ended the relationship with the customer it served in this location. The Company's consolidated financial statements and accompanying notes for current and prior periods have been retroactively adjusted to present the results of operations of the Precision Flow Technologies, Inc. subsidiary as discontinued operations. In addition, the assets and liabilities to be disposed of have been treated and classified as discontinued operations. For more information on discontinued operations see *Note 15 – Discontinued Operations* .

Basis of Presentation

These consolidated financial statements have been prepared in accordance with generally accepted accounting principles in the United States ("GAAP"). All intercompany balances and transactions have been eliminated upon consolidation. All financial figures presented in the notes to consolidated financial statements are in thousands, except share, per share, and percentage figures.

These consolidated financial statements include the following wholly owned subsidiaries of Ichor Holdings, Ltd.:

- FP-Ichor Ltd. (Cayman)
- Icicle Acquisition Holding Coöperatief U.A.
- Icicle Acquisition Holding B.V.
- Ichor Holdings Ltd (Scotland).
- Ichor Systems Ltd. (Scotland)
- Ichor Holdings, LLC
- Ichor Systems, Inc.
- Ichor Systems Malaysia Sdn Bhd
- Ichor Systems Singapore Pte. Ltd.
- Precision Flow Technologies, Inc.
- Ajax-United Patterns & Molds, Inc.
- Cal-Weld, Inc.
- Talon Innovations Corporation
- Talon Innovations (FL) Corporation

Public Offering and Reverse Stock Split

On December 14, 2016, the Company completed an initial public offering ("IPO") of 5,877,778 ordinary shares at a price to the public of $9.00 per share. The Company received net proceeds from the offering of $47.1 million after offering fees and expenses. The net proceeds were used to repay $40.0 million of the Company's loans outstanding under the Company's Credit Facilities. In January 2017, the Company received $7.3 million, net of fees and expenses, from the exercise of the underwriters' over-allotment option to sell an additional 881,667 ordinary shares.

Immediately prior to the IPO, the Company amended and restated its memorandum of association to reflect the conversion of all outstanding preferred shares to 17,722,808 ordinary shares. As part of the IPO, the Company authorized 200,000,000 ordinary shares at $0.0001 par value per share. The Company also authorized the issuance of 20,000,000 preferred shares at $0.0001 par value per share, with no shares outstanding.

In connection with the IPO, the Company amended its memorandum of association to effect an 8.053363 for 1 reverse stock split of its common stock. Concurrent with the reverse stock split, the Company adjusted the number of shares subject to, and the exercise price of, its outstanding stock options and restricted shares under the Company's 2012 Amended Management Incentive Plan (the "2012 Plan") so that the holders of the options were in the same economic position both before and after the stock split. As a result of the reverse stock split, all previously reported share and per share amounts, including options in these consolidated financial statements and accompanying notes, have been retrospectively restated to reflect the reverse stock split.

Year End

We use a 52 or 53 week fiscal year ending on the last Friday in December. The years ended December 29, 2017, December 30, 2016, and December 25, 2015 were 52 weeks, 53 weeks, and 52 weeks, respectively. All references to 2017, 2016, and 2015 are references to fiscal years unless explicitly stated otherwise.

Use of Estimates

The preparation of consolidated financial statements in conformity with accounting principles generally accepted in the U.S. requires management to make estimates and assumptions that affect the reported amounts of assets and liabilities and disclosure of contingent assets and liabilities at the date of the financial statements and the reported amounts of revenue and expenses during the reporting periods presented. The Company bases its estimates and judgments on historical experience and on various other assumptions that it believes are reasonable under the circumstances. Actual results could differ from the estimates made by management. Significant estimates include the fair value of assets and liabilities acquired in acquisitions, estimated useful lives for long-lived assets, allowance for doubtful accounts, inventory valuation, uncertain tax positions, fair value assigned to stock options granted, and impairment analysis for both definite-lived intangible assets and goodwill.

Correction of Immaterial Error

During the second quarter of 2017, we corrected an error related to translating the inventory balances at our Malaysia and Singapore subsidiaries at an incorrect foreign currency rate. The error arose in prior period financial statements beginning in periods prior to 2014 and through 2016. The correction resulted in a $1.8 million increase in cost of sales and a corresponding decrease in gross profit in our consolidated statements of operations and a decrease to inventories in our consolidated balances sheet during the second quarter of 2017. We evaluated the error on both a quantitative and qualitative basis and determined that the error was not material and did not affect the trend of net income or cash flows in previously issued financial statements. Additionally, we determined that correcting the error in the second quarter of 2017 did not have a material impact to our consolidated financial statements for 2017.

Revenue Recognition

The Company recognizes revenue in accordance with Accounting Standards Codification (ASC) Topic 605, *Revenue Recognition* . Product sales are recognized when there is persuasive evidence of an arrangement, product delivery has occurred, the sales price is fixed or determinable, and collectability is reasonably assured. Product sales typically are recognized at the time of shipment or when the customer takes title of the goods. All amounts billed to a customer related to shipping and handling are classified as net sales, while all costs incurred by the Company for shipping and handling are classified as cost of goods sold.

Concentration of Credit Risk

Financial instruments that subject the Company to credit risk consist of accounts receivable, accounts payable and long-term debt.

The Company derived approximately 93%, 97%, and 95% of its revenue from continuing operations from two customers during 2017, 2016, and 2015, respectively. At December 29, 2017 and December 30, 2016, those customers represented, in the aggregate, approximately 61% and 83%, respectively, of the accounts receivable balance.

Accounts receivable are carried at invoice price less an estimate for doubtful accounts and estimated payment discounts. Payment terms vary by customer, but generally are due within 15-60 days. The Company reviews a customer's credit history before extending credit. The Company establishes an allowance for doubtful accounts based upon the credit risk of specific customers, historical trends, and other information. Activity and balances related to the Company's allowance for doubtful accounts is as follows:

	Allowance for doubtful accounts
Balance at December 26, 2014	$ 385
Charges to costs and expenses	(6)
Write-offs	(256)
Balance at December 25, 2015	123
Charges to costs and expenses	71
Write-offs	—
Balance at December 30, 2016	194
Charges to costs and expenses	62
Write-offs	—
Balance at December 29, 2017	$ 256

The Company requires collateral, typically cash, in the normal course of business if customers do not meet its criteria established for offering credit. If the financial condition of the Company's customers were to deteriorate and result in an impaired ability to make payments, additions to the allowance may be required. Accounts receivable are written off when deemed uncollectible. Recoveries of accounts receivable previously written off are recorded to income when received.

The Company uses qualified manufacturers to supply many components and subassemblies of its products. The Company obtains the majority of its components from a limited group of suppliers. A majority of the purchased components used in the Company's products are customer specified. An interruption in the supply of a particular component would have a temporary adverse impact on the Company's operating results.

The Company maintains cash balances at both United States-based and foreign-based commercial banks. At various times during the year, cash balances in the United States will exceed amounts that are insured by the Federal Deposit Insurance Corporation (FDIC). The majority of the cash maintained in foreign-based commercial banks is insured by the government where the foreign banking institutions are based. Cash held in foreign-based commercial banks totaled $36.4 million and $14.7 million at December 29, 2017 and December 30, 2016, respectively. No losses have been incurred at December 29, 2017 and December 30, 2016 for the amounts exceeding the insured limits.

Fair Value Measurements

The Company estimates the fair value of its financial assets and liabilities based upon comparison of such assets and liabilities to the current market values for instruments of a similar nature and degree of risk. The Company utilizes valuation techniques that maximize the use of observable inputs and minimize the use of unobservable inputs to the extent possible. The Company determines fair value based on assumptions that market participants would use in pricing an asset or liability in the principal or most advantageous market. When considering market participant assumptions in fair value measurements, the following fair value hierarchy distinguishes between observable and unobservable inputs, which are categorized in one of the following levels:

- Level 1 Inputs: Unadjusted quoted prices in active markets for identical assets or liabilities accessible to the reporting entity at the measurement date
- Level 2 Inputs: Other than quoted prices included in Level 1 inputs that are observable for the asset or liability, either directly or indirectly, for substantially the full term of the asset or liability
- Level 3 Inputs: Unobservable inputs for the asset or liability used to measure fair value to the extent that observable inputs are not available, thereby allowing for situations in which there is little, if any, market activity for the asset or liability at the measurement date

There were no changes to the Company's valuation techniques during 2017. The Company estimates that the recorded value of its financial assets and liabilities approximates fair value at December 29, 2017 and December 30, 2016.

The Company esti mates the value of intangible assets on a nonrecurring basis based on an income approach utilizing discounted cash flows. Under this approach, the Company estimates the future cash flows from its asset groups and discounts the income stream to its present value to arrive at fair value. Future cash flows are based on recently prepared operating forecasts. Operating forecasts and cash flows include, among other things, revenue growth rates that are calculated based on management's forecasted sales projections . A discount rate is utilized to convert the forecasted cash flows to their present value equivalent. The discount rate applied to the future cash flows includes a subject-company risk premium, an equity market risk premium, a beta, and a risk-free rate. A s this approach contains unobservable inputs, the measurement of fair value for intangible assets is classified as Level 3.

At December 29, 2017 and December 30, 2016, intangible assets passed the recoverability test resulting in no impairment. At December 25, 2015, certain intangibles assets associated with our Kingston facility did not pass the recoverability test, and the Company recorded an impairment charge of $1.8 million. See Note 15 – *Discontinued Operations* for additional details on the closure of the Kingston, New York location.

Inventories

Inventories are stated at the lower of cost or market. The majority of inventory values are based upon standard costs that approximate average costs. The Company analyzes its inventory levels and records a write-down for inventory that has become obsolete, inventory that has a cost basis in excess of its expected net realizable value, and inventory in excess of expected customer demand. Various factors are considered in making this determination, including recent sales history and predicted trends, industry market conditions, and general economic conditions.

Property and Equipment

Property, plant and equipment are stated at cost, less accumulated depreciation. Depreciation is computed using the straight-line method over the following estimated useful lives:

	Estimated useful lives of PP&E
Machinery	5-10 years
Leasehold improvements	Lesser of 10 years or lease term
Computer software, hardware, and equipment	3-5 years
Office furniture, fixtures, and equipment	5-7 years
Vehicles	5 years

Maintenance and repairs that neither add materially to the value of the asset nor appreciably prolong its useful life are charged to expense as incurred. Gains or losses on the disposal of property and equipment are included in selling, general and administrative expenses on the consolidated statements of operations.

Long-Lived Assets

Long-lived assets are reviewed for impairment whenever events or changes in circumstances indicate, in management's judgment, that the carrying amount of an asset (or asset group) may not be recoverable. In analyzing potential impairments, projections of future cash flows from the asset group are used to estimate fair value. If the sum of the expected future undiscounted cash flows is less than the carrying amount of the asset group, a loss is recognized for the difference between the estimated fair value and the carrying value of the asset group. The projections are based on assumptions, judgments and estimates of revenue growth rates for the related business, anticipated future economic, regulatory and political conditions, the assignment of discount rates relative to risk, and estimates of terminal values.

Other Non-Current Assets

In connection with the acquisition of Ajax in 2016, the Company acquired two investments and a note receivable that were recorded at fair value on the date of acquisition: (i) a cost method investment in CHawk Technology International, Inc. ("CHawk"), (ii) an equity method investment in Ajax Foresight Global Manufacturing Sdn. Bhd. ("AFGM"), and (iii) a note receivable from AFGM. The Company accounted for the investments on the cost and equity method, respectively, as the Company did not control either entity. During 2016, the Company recorded equity in earnings of AFGM of $0.2 million, which is included in other expense (income), net. At December 30, 2016, the investment in CHawk and AFGM and the note receivable from AFGM had carrying balances of $1.5 million, $0.7 million, and $0.9 million, respectively. The Company sold its investments in CHawk and AFGM and settled its note from AFGM in January 2017, resulting in a net gain of $0.2 million.

Intangible Assets

The Company accounts for its intangible assets that have a definite life and are amortized on a basis consistent with their expected cash flows over the following estimated useful lives:

	Estimated useful lives of intangibles
Trademarks	10 years
Customer relationships	6-10 years
Developed technology	7-10 years

Goodwill

Goodwill represents the future economic benefits arising from other assets acquired in a business combination that are not individually identified and separately recognized. The Company reviews goodwill for impairment annually and whenever events or changes in circumstances indicate the carrying value of goodwill may not be recoverable. We first make a qualitative assessment of whether it is more likely than not that a reporting unit's fair value is less than its carrying amount before applying a quantitative goodwill impairment test. Under the quantitative test, the fair value of the reporting unit is compared to its carrying value and an impairment loss is recognized for any excess of carrying amount over the reporting unit's fair value. Fair value of the reporting unit is determined using a discounted cash flow analysis. For purposes of testing goodwill for impairment, the Company has concluded it operates in one reporting unit.

The Company performed a qualitative goodwill assessment in the fourth quarter of 2017 and 2016. Our goodwill assessment performed in 2017 and 2016 indicated that it was more likely than not the reporting unit's fair value exceeded its carrying value.

Research and Development Costs

Research and development costs are expensed as incurred.

Warranty Costs

The Company's product warranties vary by customer, but generally extend for a period of one to two years from the date of sale. Provisions for warranties are determined primarily based on historical warranty cost as a percentage of sales, adjusted for specific problems that may arise. Historical product warranty expense has not been significant.

Advertising Costs

The Company charges advertising costs to operations as incurred. Advertising costs were not significant and are included in selling, general and administrative expenses in the accompanying consolidated statements of operations.

Self-Insurance

The Company sponsors a self-insured medical plan for employees and their dependents. A third party is engaged to assist in estimating the loss exposure related to the self-retained portion of the risk associated with this insurance.

Special Bonus

On August 11, 2015, the Board of Directors instituted a special bonus to certain members of management totaling $3.1 million, of which $1.8 million, $0.2 million, and $0.1 million was earned and recorded as a component of selling, general, and administrative, research and development, and cost of sales, respectively, in 2015. The remaining $1.0 million could be earned by certain members of management through the fourth quarter of 2018 based on their continued employment. In December 2016 the Board of Directors approved that all remaining special bonus was earned and to be paid in December 2016. During 2016, the Company expensed $0.6 million related to the special bonus, including the amount earned in the fourth quarter of 2016. The remaining amount of the bonus was forfeited due to employee terminations. Management does not expect to pay bonuses of this nature in future periods.

Share-Based Payments

The Company uses the Black-Scholes option-pricing model to value the awards on the date of grant. The Company uses the simplified method to estimate the expected term of its share-based awards for all periods, as the Company did not have sufficient history to estimate the weighted average expected term. The risk-free interest rate is based on the U.S. Treasury rates in effect during the corresponding period of grant. Estimated volatility is based on historical volatility of the Company and similar entities whose share prices are publicly traded.

Income Taxes

The Company recognizes deferred income taxes using the asset and liability method of accounting for income taxes. Under the asset and liability method, deferred income taxes are recognized for differences between the financial reporting and tax bases of assets and liabilities at enacted statutory tax rates in effect for the years in which the differences are expected to reverse. The effect on deferred taxes of a change in tax rates is recognized in income in the period that includes the enactment date. Valuation allowances are established when necessary to reduce deferred tax assets to the amount expected to be realized. Income tax benefit for the current year differs from the statutory rate primarily as a result of revaluing our deferred taxes from 35% to 21% due to the Tax Cuts and Jobs Act, the impact of foreign operations, discrete tax benefits recorded in connection with the Company's acquisitions of Talon and Cal-Weld in 2017 and Ajax in 2016 (see *Note 2 – Acquisitions*), and the impact of re-characterizing intercompany debt to equity between our U.S. and Singapore entities related to the reversal of previously accrued withholding taxes (see *Note 7 – Income Taxes*).

The Company files federal income tax returns, foreign income tax returns, as well as multiple state and local tax returns. The Company is no longer subject to US Federal examination for tax years ending before 2014, to state examinations before 2013, or to foreign examinations before 2012. However, to the extent allowed by law, the tax authorities may have the right to examine prior periods where net operating losses or tax credits were generated and carried forward, and make adjustments up to the amount of the net operating losses or credit carryforward.

When tax returns are filed, it is highly certain that some positions taken would be sustained upon examination by the taxing authorities, while others may be subject to uncertainty about the merits of the position taken or the amount of the position that would be ultimately sustained. The benefit of a tax position is recognized in the consolidated financial statements in the period during which, based on all available evidence, management believes it is more likely than not that the position will be sustained upon examination, including the resolution of appeals or litigation processes, if any. Tax positions taken are not offset or aggregated with other positions. Tax positions that meet the more-likely than-not recognition threshold are measured as the largest amount of tax benefit that is more than 50% likely of being realized upon settlement with the applicable taxing authority. The portion of the benefits associated with tax positions taken that exceeds the amount measured as described above is reflected as a liability for unrecognized tax benefits in the Company's consolidated balance sheets along with any associated interest and penalties that would be payable to the taxing authorities upon examination. The Company recognizes interest and penalties as a component of income tax benefit.

Foreign Operations

The functional currency of the Company's international subsidiaries located in the United Kingdom, Singapore, and Malaysia, is the U.S. dollar. Transactions denominated in currencies other than the functional currency generate foreign exchange gains and losses that are included in other expense (income), net on the accompanying consolidated statements of operations. Substantially, all of the Company's sales and agreements with third-party suppliers provide for pricing and payments in U.S. dollars and, therefore, are not subject to material exchange rate fluctuations. Foreign operations consist of revenue of $346.0 million, $241.7 million, and $173.7 million during 2017, 2016, and 2015, respectively. Assets of foreign operations totaled $127.2 million and $90.4 million at December 29, 2017 and December 30, 2016, respectively.

Accounting Pronouncements Recently Adopted

In January 2017, the FASB issued Accounting Standards Update ("ASU") 2017-04, *Intangibles–Goodwill and Other (Topic 350): Simplifying the Test for Goodwill Impairment* ("ASU 2017-04"), which eliminates Step 2 from the goodwill impairment test. Under Step 2, an entity had to perform procedures to determine the fair value at the impairment testing date of its assets and liabilities (including unrecognized assets and liabilities) following the procedure that would be required in determining the fair value of assets acquired and liabilities assumed in a business combination. Instead, under the amendments in ASU 2017 04, an entity should perform its annual, or interim, goodwill impairment test by comparing the fair value of a reporting unit with its carrying amount. An entity should recognize an impairment charge for the amount by which the carrying amount exceeds the reporting unit's fair value; however, the loss recognized should not exceed the total amount of goodwill allocated to that reporting unit. An entity still has the option to perform the qualitative assessment for a reporting unit to determine if the quantitative impairment test is necessary. ASU 2017-04 is effective for goodwill impairment tests in fiscal years beginning after December 15, 2020, with early adoption permitted for goodwill impairment tests performed after January 1, 2017. The Company tests goodwill for impairment in the fourth quarter of its fiscal year. The Company adopted ASU 2017-04 in the fourth quarter of 2017. The adoption did not have an impact on the Company's financial position or results of operations.

Accounting Pronouncements Recently Issued

In May 2014, the FASB issued ASU No. 2014-09, *Revenue from Contracts with Customers (Topic 606)* ("ASU 2014-09") and, in August 2015, the FASB issued ASU No. 2015-14, *Revenue from Contracts with Customers (Topic 606): Deferral of the Effective Date* , which defers the effective date of ASU 2014-09 by one year. ASU 2014-09 requires an entity to recognize revenue to depict the transfer of goods or services to customers in an amount that reflects the consideration to which an entity expects to be entitled in exchange for those goods or services. The guidance also requires expanded disclosures relating to the nature, amount, timing, and uncertainty of revenue and cash flows arising from contracts with customers. Additionally, qualitative and quantitative disclosures are required about customer contracts, significant judgments and changes in judgments, and assets recognized from the costs to obtain or fulfill a contract. The standard permits the use of either the retrospective or modified retrospective transition methods. This guidance replaces most of the existing revenue recognition guidance in U.S. GAAP when it becomes effective, which for us will be at the beginning of the first quarter of fiscal year 2018. In April 2016, the FASB issued ASU No. 2016-10, *Revenue from Contracts with Customers (Topic 606): Identifying Performance Obligations and Licensing* ("ASU 2016-10"), which was issued to clarify ASC Topic 606, *Revenue from Contracts with Customers* , related to (i) identifying performance obligations; and (ii) the licensing implementation guidance. The effective date and transition of ASU 2016-10 is the same as the effective date and transition of ASU 2014-09, *Revenue from Contracts with Customers (Topic 606)* , which for us will be the beginning of the first quarter of fiscal year 2018.

We plan to adopt Topic 606 using the modified retrospective method through a cumulative effect adjustment being recognized in retained earnings at December 30, 2017, the date of adoption. Under this approach, we will not restate the prior period financial statements.

We are currently completing the assessment phase of the implementation project and are finalizing our review of the impact of adoption. We are currently in the process of developing, implementing and testing our internal systems, processes and controls necessary to adopt Topic 606, and are in process of making the necessary changes to our accounting policies and disclosures.

Based on our current assessment, we do not anticipate that the adoption of Topic 606 will result in a material cumulative effect adjustment to accumulated deficit nor have a material impact on our financial position, results of operations, or cash flows, as it is not expected to materially change the manner or timing of recognizing revenue. We are currently evaluating the impact of the expanded disclosures to our consolidated financial statements.

In February 2016, the FASB issued ASU No. 2016-02, *Leases (Topic 842)* ("ASU 2016-02"). This update establishes a comprehensive lease standard for all industries. The new standard requires lessees to recognize a right of use asset and a lease liability for virtually all leases, other than leases that meet the definition of short term leases. The standard is effective for interim and annual reporting periods beginning after December 15, 2018. The Company is currently evaluating the impact of this accounting standard.

In November 2016, the FASB issued ASU No. 2016-18, *Statement of Cash Flows (Topic 230): Restricted Cash* ("ASU 2016-18"). This update clarifies guidance on the classification and presentation of restricted cash in the statement of cash flows. The amendment requires restricted cash be included in an entity's cash and cash-equivalent balances in the statement of cash flows and also requires an entity to disclose information about the nature of the restrictions. Further, a reconciliation between the statement of financial position and the statement of cash flows must be disclosed when the statement of financial position includes more than one line item for cash, cash equivalents, restricted cash, and restricted cash equivalents. ASU 2016-18 should be applied on a retrospective basis and is effective for interim and annual reporting periods beginning after December 15, 2017. The Company intends to adopt ASU 2016-18 at the beginning of 2018, and does not expect the adoption to have a material impact on its consolidated financial statements.

In January 2017, the FASB issued ASU No. 2017 -01, *Business Combinations (Topic 805): Clarifying the Definition of a Business* ("ASU 2017 -01"). The amendments in this update clarify the definition of a business with the objective of adding guidance to assist entities with evaluating whether transactions should be accounted for as acquisitions (or disposals) of asset s or businesses. ASU 2017 -01 is effective for interim and annual reporting periods beginning after December 15, 2017. The Company intends to adopt ASU 2017 -01 at the beginning of 2018, and does not expect the adoption to have a material impact on its conso lidated financial statements.

Note 2 – Acquisitions

Talon Innovations Corporation

On December 11, 2017, the Company completed the acquisition of Talon Innovations Corporation ("Talon"), a Minnesota-based leader in the design and manufacturing of high precision machined parts used in leading edge semiconductor tools, for $137.0 million. Talon expands the Company's capacity and capabilities in the area of component manufacturing for gas and chemical delivery tools used in semiconductor manufacturing and other industrial applications.

The following table presents the preliminary purchase price allocation as of December 11, 2017:

	Preliminary Allocation December 11, 2017
Cash acquired	$ 5,586
Accounts receivable, net	11,471
Inventories	19,399
Prepaid expenses and other current assets	182
Property and equipment, net	16,655
Other noncurrent assets	76
Intangible assets, net	38,000
Goodwill	74,594
Accounts payable	(4,706)
Accrued liabilities	(2,767)
Other current liabilities	(1,838)
Deferred tax liabilities	(19,652)
Total acquisition consideration	$ 137,000

The Company preliminarily allocated $32.4 million to customer relationships and $5.6 million to intellectual property with weighted average amortization periods of 6 years and 10 years, respectively. Goodwill recognized from the acquisition was primarily attributed to an assembled workforce and expected synergies and is not tax deductible. The allocation of acquisition consideration for Talon is preliminary as we have not obtained all of the information to finalize our procedures on the opening balance sheet or the allocation between goodwill and intangible assets. Management has recorded allocations based on information currently available. The Company incurred transaction costs of $1.5 million in connection with the acquisition during 2017. The preliminary inventory fair value adjustment resulted in a $1.6 million charge to cost of sales during 2017.

The Company's consolidated statement of operations for 2017 includes approximately 3 weeks of Talon operating activity, which is not material to the Company's 2017 results of operations.

The following unaudited pro forma consolidated results of operations assume the acquisition was completed on December 26, 2015, the beginning of the earliest period presented. Pro forma adjustments are mainly comprised of preliminary estimates of amortization expense related to acquired intangible assets, acquis ition-related costs, incremental interest expense from increased borrowings to fund the acquisition, acquired inventory fair value charges, and the related income tax effects. The pro forma results of operations are presented for informational purposes onl y and are not indicative of the results of operations that would have been achieved or of results that may occur in the future:

	Year Ended	
	December 29, 2017	December 30, 2016
Net sales	$ 719,264	$ 452,195
Net income from continuing operations	$ 58,436	$ 25,498
Net income per share from continuing operations attributable to ordinary shareholders:		
Basic	$ 2.33	$ 1.40
Diluted	$ 2.23	$ 1.07

Cal-Weld, Inc.

On July 27, 2017, the Company completed the acquisition of Cal-Weld, Inc. ("Cal-Weld"), a California-based leader in the design and fabrication of precision, high purity industrial components, subsystems, and systems, for $56.9 million. Cal-Weld expands the Company's capacity and capabilities in the area of component manufacturing for gas delivery tools used in semiconductor manufacturing.

The following table presents the preliminary purchase price allocation as of July 27, 2017 and December 29, 2017 and measurement period adjustments. Measurement period adjustments are due to finalizing our procedures on the opening balance sheet and preliminary estimates of fair value of Cal-Weld:

	Preliminary Allocation July 27, 2017	Measurement Period Adjustment	Preliminary Allocation December 29, 2017
Cash acquired	$ 7,337	$ —	$ 7,337
Accounts receivable, net	10,318	—	10,318
Inventories	20,836	—	20,836
Prepaid expenses and other current assets	287	113	400
Property and equipment, net	1,639	—	1,639
Other noncurrent assets	587	—	587
Intangible assets, net	12,140	—	12,140
Goodwill	17,957	(223)	17,734
Accounts payable	(5,991)		(5,991)
Accrued liabilities	(2,016)	79	(1,937)
Other non-current liabilities	(908)	—	(908)
Deferred tax liabilities	(5,307)	31	(5,276)
Total acquisition consideration	$ 56,879	$ —	$ 56,879

The Company preliminarily allocated $11.5 million to customer relationships and $0.7 million to order backlog with weighted average amortization periods of 6 years and 6 months, respectively. Goodwill recognized from the acquisition was primarily attributed to an assembled workforce and expected synergies and is not tax deductible. The allocation of acquisition consideration for Cal-Weld is preliminary as we have not obtained all of the information to finalize our procedures on the opening balance sheet or the allocation between goodwill and intangible assets. Management has recorded allocations based on information currently available. The Company incurred transaction costs of $1.9 million in connection with the acquisition during 2017. The inventory fair value adjustment resulted in a $3.6 million charge to cost of sales during 2017.

The Company's consolidated statement of operations for 2017 includes approximately 5 months of Cal-Weld operating activity, including revenue of $53.0 million and net income from continuing operations of $6.7 million.

The following unaudited pro forma consolidated results of operations assume the acquisition was completed on December 26, 2015, the beginning of the earliest period presented. Pro forma adjustments are mainly comprised of amortization expense related to acquired intangible assets, compensation-related costs attributed to non-retained previous ownership, acquisition-related costs, incremental interest expense from increased borrowings to fund the acquisition, acquired inventory fair value charges, and the related income tax effects. The pro forma results of operations are presented for informational purposes only and are not indicative of the results of operations that would have been achi eved or of results that may occur in the future:

	Year Ended	
	December 29, 2017	December 30, 2016
Net sales	$ 725,081	$ 486,918
Net income from continuing operations	$ 62,540	$ 29,462
Net income per share from continuing operations attributable to ordinary shareholders:		
Basic	$ 2.49	$ 1.62
Diluted	$ 2.39	$ 1.24

Ajax-United Patterns & Molds, Inc.

On April 12, 2016, the Company completed a stock purchase agreement of Ajax-United Patterns & Molds, Inc. ("Ajax"), a California-based manufacturer of complex plastic and metal products used in the medical, biomedical, semiconductor, data communication and food processing equipment industries, for $17.6 million. The acquisition allows us to manufacture and assemble the complex plastic and metal products required by the medical, biomedical, semiconductor and data communication equipment industries.

The following table presents the preliminary purchase price allocation as of April 12, 2016 and December 30, 2016, measurement period adjustments, and the final purchase price allocation on April 12, 2017, the end of the measurement period. Measurement period adjustments are primarily related to finalization of the valuation of deferred tax liabilities and net identifiable assets and liabilities:

	Preliminary Allocation April 12, 2016	Measurement Period Adjustment	Preliminary Allocation December 30, 2016	Measurement Period Adjustment	Final Allocation April 12, 2017
Cash acquired	$ 187	$ —	$ 187	$ —	$ 187
Accounts receivable, net	1,245	5	1,250	—	1,250
Inventories	3,236	—	3,236	—	3,236
Prepaid expenses and other current assets	77	—	77	8	85
Property and equipment, net	1,545	—	1,545	(78)	1,467
Other noncurrent assets	2,948	—	2,948	—	2,948
Intangible assets, net	8,130	(100)	8,030	—	8,030
Goodwill	4,629	2,449	7,078	(22)	7,056
Accounts payable and accrued liabilities	(4,403)	(83)	(4,486)	9	(4,477)
Deferred tax liabilities	—	(2,271)	(2,271)	83	(2,188)
Total acquisition consideration	$ 17,594	$ —	$ 17,594	$ —	$ 17,594

The Company allocated $8.0 million to customer relationships with a weighted average amortization periods of 10 years. Goodwill recognized from the acquisition was primarily attributed to an assembled workforce and expected synergies and is not tax deductible. The Company incurred transaction costs of $1.5 million in 2016 in connection with the acquisition.

The Company's consolidated statement of operations for 2016 includes approximately 8 months of Ajax operating activity, including revenue of $20.0 million and operating income of $0.6 million.

Pro forma financial information has not been provided for the acquisition of Ajax as it was not material to the Company's current year operations and overall financial position.

Note 3 – Inventories

Inventory consists of the following:

	December 29, 2017	December 30, 2016
Raw materials	$ 91,109	$ 46,889
Work in process	42,186	22,649
Finished goods	27,268	9,423
Excess and obsolete adjustment	(6,022)	(8,080)
Total inventories, net	$ 154,541	$ 70,881

The following table presents changes to the Company's excess and obsolete adjustment:

	Excess and obsolete adjustment
Balance at December 26, 2014	$ (4,067)
Charge to cost of sales	(3,000)
Disposition of inventory	935
Balance at December 25, 2015	(6,132)
Charge to cost of sales	(3,921)
Disposition of inventory	1,973
Balance at December 30, 2016	(8,080)
Charge to cost of sales	(909)
Disposition of inventory	2,967
Balance at December 29, 2017	$ (6,022)

Note 4 – Property and Equipment

Property and equipment consist of the following:

	December 29, 2017	December 30, 2016
Machinery	$ 23,464	$ 5,243
Leasehold improvements	15,329	11,276
Computer software, hardware and equipment	4,551	2,848
Office furniture, fixtures and equipment	868	220
Vehicles	51	10
Construction-in-process	2,771	2,069
	47,034	21,666
Less accumulated depreciation	(12,654)	(9,648)
Total property and equipment, net	$ 34,380	$ 12,018

Depreciation expense for 2017, 2016, and 2015 was $3.6 million, $2.5 million, and $3.1 million, respectively.

Note 5 – Intangible Assets and Goodwill

Definite-lived intangible assets consist of the following:

	December 29, 2017				
	Gross value	Accumulated amortization	Accumulated impairment charges	Carrying amount	Weighted average useful life
Trademarks	$ 9,690	$ (5,814)	$ —	$ 3,876	10.0 years
Customer relationships	81,427	(20,060)	—	61,367	7.8 years
Developed technology	22,990	(14,938)	—	8,052	7.7 years
Backlog	660	(550)	—	110	0.5 years
Total intangible assets	$ 114,767	$ (41,362)	$ —	$ 73,405	

	December 30, 2016				
	Gross value	Accumulated amortization	Accumulated impairment charges	Carrying amount	Weighted average useful life
Trademarks	$ 9,690	$ (4,845)	$ —	$ 4,845	10.0 years
Customer relationships	50,557	(17,150)	(11,076)	22,331	10.0 years
Developed technology	28,100	(14,975)	(8,155)	4,970	6.9 years
Backlog	30	(30)	—	—	0.5 years
Total intangible assets	$ 88,377	$ (37,000)	$ (19,231)	$ 32,146	

Amortization expense totaled $8.9 million, $7.0 million, and $6.9 million during 2017, 2016, and 2015, respectively.

Future projected annual amortization expense consists of the following:

	Future amortization expense
2018	$ 15,198
2019	12,604
2020	12,604
2021	12,570
2022	8,792
Thereafter	11,637
	$ 73,405

The following tables present the changes to goodwill:

	Goodwill
Balance at December 26, 2014	$ 70,015
Acquisitions	—
Impairment	—
Balance at December 25, 2015	70,015
Acquisitions	7,078
Impairment	—
Balance at December 30, 2016	77,093
Acquisitions	92,306
Impairment	—
Balance at December 29, 2017	$ 169,399

Note 6 – Commitments and Contingencies

Operating Leases

The Company leases offices under various operating leases expiring through 2024. The Company is responsible for utilities and its proportionate share of operating expenses under the facilities' leases. The Company recognizes escalating lease payments on a straight-line basis over the lease term. Rent expense for 2017, 2016, and 2015 was $3.6 million, $2.9 million, and $3.0 million, respectively. Future minimum lease payments for non-cancelable operating leases as of December 29, 2017 are as follows:

	Future minimum lease payments
2018	$ 3,516
2019	2,467
2020	2,308
2021	1,788
2022	1,215
Thereafter	374
	$ 11,668

Litigation

The Company is periodically involved in legal actions and claims that arise as a result of events that occur in the normal course of operations. The ultimate resolution of these actions is not expected to have a material adverse effect on the Company's financial position or results of operations.

Note 7 – Income Taxes

In December 2017, the Tax Cuts and Jobs Act (the "2017 Tax Act") was enacted. The 2017 Tax Act includes a number of changes to existing U.S. tax laws that impact the company, most notably a reduction of the U.S. corporate income tax rate from 35% to 21% for tax years beginning after December 31, 2017. The 2017 Tax Act also provides for a one-time transition tax on certain foreign earnings and the acceleration of depreciation for certain assets placed into service after September 27, 2017, as well as prospective changes beginning in 2018, including repeal of the domestic manufacturing deduction, acceleration of tax revenue recognition, capitalization of research and development expenditures, additional limitations on executive compensation, and limitations on the deductibility of interest.

The Company recognized the income tax effects of the 2017 Tax Act in its 2017 financial statements in accordance with Staff Accounting Bulletin ("SAB") No. 118, which provides SEC staff guidance for the application of ASC Topic 740, *Income Taxes* , in the reporting period in which the 2017 Tax Act was signed into law. SAB No. 118 allows registrants to record provisional amounts during a one year "measurement period" similar to that used when accounting for business combinations. However, the measurement period is deemed to have ended earlier when the registrant has obtained, prepared and analyzed the information necessary to finalize its accounting. During the measurement period, impacts of the law are expected to be recorded at the time a reasonable estimate for all or a portion of the effects can be made, and provisional amounts can be recognized and adjusted as information becomes available, prepared or analyzed. The Company's financial results reflect the income tax effects of the 2017 Tax Act for which provisional amounts have been made based on a reasonable estimate.

The changes to existing U.S. tax laws as a result of the 2017 Tax Act, which we believe have the most significant impact on the Company's federal income taxes are as follows:

Reduction of the U.S. Corporate Income Tax Rate

The Company measures deferred tax assets and liabilities using enacted tax rates that will apply in the years in which the temporary differences are expected to be recovered or paid. Accordingly, the Company's deferred tax assets and liabilities were re-measured to reflect the reduction in the U.S. corporate income tax rate from 35% to 21%, resulting in a $5.9 million increase in income tax benefit for 2017 and a corresponding $5.9 million decrease in net deferred tax liabilities at December 29, 2017.

Transition Tax on Foreign Earnings

The Company recognized a provisional income tax expense of $0.7 million for 2017 related to the one-time transition tax on certain foreign earnings. This resulted in a corresponding decrease in deferred tax assets due to the utilization of net operating loss carryforwards. The determination of the transition tax requires further analysis regarding the amount and composition of the Company's historical foreign earnings, which is expected to be completed in 2018.

Income from continuing operations before tax was as follows:

	Year Ended		
	December 29, 2017	December 30, 2016	December 25, 2015
United States	$ 370	$ (12,553)	$ (15,319)
Foreign	42,659	32,683	24,135
Income from continuing operations before tax	$ 43,029	$ 20,130	$ 8,816

Significant components of income tax benefit from continuing operations consist of the following:

	Year Ended		
	December 29, 2017	December 30, 2016	December 25, 2015
Current:			
Federal	$ 809	$ —	$ (1,001)
State	249	(73)	65
Foreign	397	1,858	1,816
Total current tax expense	1,455	1,785	880
Deferred:			
Federal	(13,251)	(2,213)	(4,296)
State	(1,553)	—	(203)
Foreign	(537)	(221)	(372)
Total deferred tax benefit	(15,341)	(2,434)	(4,871)
Income tax benefit from continuing operations	$ (13,886)	$ (649)	$ (3,991)

The reconciliation of income tax computed at the U.S. federal statutory tax rates to income tax benefit from continuing operations consist of the following:

	Year Ended		
	December 29, 2017	December 30, 2016	December 25, 2015
Effective rate reconciliation:			
U.S. federal tax expense	$ 15,060	$ 7,046	$ 3,084
State income taxes, net	(373)	(324)	(383)
Permanent items	2,141	303	92
Foreign rate differential	(7,498)	(5,907)	(4,259)
Tax holiday	(7,437)	(5,714)	(3,872)
Credits	(1,818)	(794)	(691)
Tax contingencies	335	86	(835)
Share-based compensation	(5,438)	185	22
Withholding tax	840	1,435	925
Impact of re-characterizing intercompany debt to equity	1,409	—	—
Impact of Tax Cuts and Jobs Act	(6,188)	—	—
Other, net	(248)	168	(71)
Valuation allowance	(4,671)	2,867	1,997
Income tax benefit from continuing operations	$ (13,886)	$ (649)	$ (3,991)

Deferred income tax assets and liabilities from continuing operations consist of the following as of:

	December 29, 2017	December 30, 2016
Deferred tax assets:		
Inventory	$ 2,825	$ 2,159
Share-based compensation	866	1,521
Accrued payroll	1,202	903
Net operating loss carryforwards	4,020	5,274
Transaction costs	63	191
Tax credits	5,851	3,600
Other assets	1,956	2,337
Deferred tax assets	16,783	15,985
Valuation allowance	(4,252)	(4,888)
Total deferred tax assets	12,531	11,097
Deferred tax liabilities:		
Intangible assets	(18,283)	(10,830)
Property, plant and equipment	(3,069)	—
Other liabilities	(743)	(303)
Total deferred tax liabilities	(22,095)	(11,133)
Net deferred tax liability	$ (9,564)	$ (36)

At December 29, 2017, the Company had federal and state net operating loss carryforwards of $16.4 million and $13.6 million, respectively. The federal and state net operating loss carryforwards, if not utilized, will begin to expire in 2031 and 2026, respectively. At December 29, 2017, the Company had federal and state research and development credits of $1.3 million and $0.5 million, respectively. The federal and state research and development credits, if not utilized, will begin to expire in 2032 and 2018, respectively. Additionally, the Company had foreign tax credits of $1.3 million, which if not utilized, will begin to expire in 2022.

We have determined the amount of our valuation allowance based on our estimates of taxable income by jurisdiction in which we operate over the periods in which the related deferred tax assets will be recoverable. During 2017, the Company completed the acquisitions of Cal-Weld and Talon, resulting in a release of valuation allowance against the Company’s net deferred tax assets. During the third quarter of 2017, the Company re-characterized intercompany debt to equity between its U.S. and Singapore entities resulting in a discrete tax benefit of $1.6 million related to the reversal of previously accrued withholding taxes. As of December 29, 2017, the Company had determined it was more-likely-than-not to realize its U.S. deferred tax assets and had released all of its valuation allowance against its net deferred tax assets, with the exception of foreign tax credits and certain state and foreign net operating loss carryforwards the Company believes are not likely to be realized within the carryforward period.

The Company was granted a tax holiday for its Singapore operations effective 2011 through 2021. The net impact of the tax holiday in Singapore as compared to the Singapore statutory rate was a benefit of $7.4 million, $5.7 million, and $3.9 million during 2017, 2016, and 2015, respectively.

As of December 29, 2017, the Company has recognized $1.6 million of unrecognized tax benefits in long-term liabilities and $0.3 million of unrecognized tax benefits in noncurrent deferred tax liabilities on the accompanying consolidated balance sheet. If recognized, $1.8 million of this amount would impact the Company’s effective tax rate. The Company does not expect a significant decrease to the total amount of unrecognized tax benefits within the next twelve months.

The Company's ongoing practice is to recognize potential accrued interest and penalties related to unrecognized tax benefits within its global operations in income tax expense (benefit). During 2017, the Company recognized a net increase of approximately $0.1 million in potential interest and penalties associated with uncertain tax positions in the consolidated statements of operations. At December 29, 2017, the Company had approximately $0.1 million and $0.4 million of interest and penalties, respectively, associated with uncertain tax positions, which are excluded from the unrecognized tax benefits table below.

The following table summarizes the activity related to the Company's unrecog nized tax benefits:

	Unrecognized tax benefits
Balance at December 26, 2014	$ 1,385
Increase in tax positions for current year	85
Decrease in tax positions for prior period	(912)
Balance at December 25, 2015	558
Increase in tax positions for current year	118
Decrease in tax positions for prior period	(100)
Balance at December 30, 2016	576
Increase in tax positions for current year	458
Increase in tax positions for prior period	214
Increase in tax positions due to acquisitions	710
Decrease in tax positions for prior period	—
Impact of Tax Cuts and Jobs Act	(48)
Balance at December 29, 2017	$ 1,910

The Company's three major filing jurisdictions are the United States, Singapore and Malaysia. The Company is no longer subject to US Federal examination for tax years ending before 2014, to state examinations before 2013, or to foreign examinations before 2012. However, to the extent allowed by law, the tax authorities may have the right to examine prior periods where net operating losses or tax credits were generated and carried forward, and make adjustments up to the amount of the net operating losses or credit carryforward.

Note 8 – Employee Benefit Programs

401(k) Plan

The Company sponsors a 401(k) plan available to employees of its United States-based subsidiaries. Participants may make salary deferral contributions not to exceed 50% of a participant's compensation in a plan year or the maximum amount otherwise allowed by law. Eligible employees receive a discretionary matching contribution equal to 50% of each participant's deferral, up to an annual maximum of two thousand five hundred dollars. For 2017, 2016, and 2015, matching contributions were $0.7 million, $0.3 million, and $0.4 million, respectively.

Medical Insurance

The Company sponsors a self-insured group medical insurance plan for its U.S. employees and their dependents. The self-insured plan is designed to provide a specified level of coverage, with stop-loss coverage provided by a commercial insurer, in order to limit the Company's exposure. For 2017, 2016, and 2015, expense incurred related to this plan was $4.1 million, $2.2 million, and $2.8 million, respectively.

Note 9 – Credit Facilities

Long-term debt consists of the following:

	December 29, 2017	December 30, 2016
Term loan facility	$ 179,535	$ 39,830
Revolving credit facility	10,000	—
Total principal amount of long-term debt	189,535	39,830
Less unamortized debt issuance costs	(2,798)	(1,886)
Total long-term debt, net	186,737	37,944
Less current portion	(6,490)	—
Total long-term debt, less current portion, net	$ 180,247	$ 37,944

Maturities of long-term debt consist of the following:

	Future maturities of long-term debt
2018	$ 6,490
2019	8,260
2020	174,785
	$ 189,535

The weighted average interest rate across all credit facilities was 4.30%, 5.04%, and 4.86% during 2017, 2016, and 2015, respectively.

2015 Credit Facility

On August 11, 2015, the Company and its subsidiaries entered into a $55.0 million term loan facility and $20.0 million revolving credit facility (collectively, the "2015 Credit Facility") with a syndicate of lenders and repaid all outstanding indebtedness under the 2011 Credit Facility discussed below. The 2015 Credit Facility also includes a letter of credit subfacility under the revolving credit facility. The Company recorded $2.6 million in debt issuance costs associated with the 2015 Credit Facility and is amortizing this balance over the term of the facility to interest expense. The Company wrote off previously existing debt issuance costs related to the 2011 Credit Facility resulting in an extinguishment loss of $0.5 million, which is included within interest expense in the accompanying financial statements for 2015.

In December 2017, the Company acquired Talon. To fund the acquisition, the Company amended the 2015 Credit Facility to increase the term loan facility by $120.0 million. The amendment did not meet the definition of an extinguishment and was accounted for as a modification.

In July 2017, the Company acquired Cal-Weld. To fund the acquisition, the Company amended the 2015 Credit Facility to increase the term loan facility by $20.0 million, add an additional $20.0 million of borrowing capacity under its revolving credit facility, and reduce its interest rate. The amendment did not meet the definition of an extinguishment and was accounted for as a modification.

In April 2016, the Company acquired Ajax. To fund the acquisition, the Company amended the 2015 Credit Facility and increased the term loan facility by $15.0 million and drew an additional $4.0 million on the revolving credit facility. The amendment did not meet the definition of an extinguishment and was accounted for as a modification.

The 2015 Credit Facility is secured by all tangible and intangible assets of the Company and includes customary representations, warranties, and covenants. Additionally, the Company is required to maintain a minimum fixed charge coverage ratio of 1.25 : 1 measured quarterly, and a maximum consolidated leverage ratio 2.25 : 1.

Interest is charged at either the Base Rate or the Eurodollar rate (as such terms are defined in the agreement governing the 2015 Credit Facility) at the option of the Company, plus an applicable margin. The Base Rate is equal to the higher of i) the Prime Rate, ii) the Federal Funds Effective rate plus 0.5%, or iii) the Eurodollar Rate plus 1.00%. The Eurodollar rate is equal to LIBOR. The applicable margin on Base Rate and Eurodollar Rate loans is 1.00-1.50% and 2.00-2.50% per annum, respectively, depending on the Company's leverage ratio. Interest payments are due quarterly if loans are made under the Base Rate. Interest payments are due on the last day of the applicable interest period under Eurodollar Rate loans. As of December 29, 2017, $59.5 million of the term loan facility and the revolving credit facility bore interest at the Eurodollar rate option of 4.15%, and the remaining $120.0 million of the term loan facility bore interest at the Base Rate option of 6.00%.

Principal payments are due on a quarterly basis, however, the $25.0 million payment made using proceeds from our IPO in December 2016 was treated as a pre-payment, and therefore the Company is only required to make quarterly principal payments of $2.1 million on the additional $140.0 million borrowed in connection with the July and December 2017 amendments. The 2015 Credit Facility matures in August 2020.

Under the revolving credit facility, the Company is able to borrow an amount equal to the lesser of i) $5.0 million and ii) the revolving credit facility under a swingline loan. The borrowing availability under the swingline loan is a sublimit to the revolving commitment.

Note 10 – Shareholders' Equity

Preferred Shares

Prior to the December 2016 IPO, the Company's preferred shares had the following characteristics:

Conversion —The holders of preferred shares may convert to common stock at any time at the option of the holder, and the preferred shares will automatically convert to common stock upon a majority vote of the holders of preferred stock. The conversion price is equal to the ratio of the original issuance price divided by the conversion price.

Liquidation preference —In the event of any voluntary or involuntary liquidation, dissolution, or winding up of the Company, the preferred shareholders are entitled to receive an amount per share equal to the greater of (i) The original issuance price plus any dividends declared but unpaid or (ii) an amount per share that would have been payable assuming conversion to common stock immediately prior to a liquidation event. Any remaining assets of the Company after the initial liquidation preference will be made to the common stock holders on a pro rata basis. If the assets of the Company are not sufficient for the full liquidation preference, the holders will share in any distribution on a pro rata basis.

Voting —Preferred shareholders have voting rights based on the number of shares of common stock into which the preferred shares can convert.

Dividends —Preferred shareholders are entitled to receive dividends when and if declared by the Board of Directors. In August 2015, the Board of Directors approved and paid a cash dividend totaling $22.1 million to the preferred shareholders.

At the IPO, all outstanding preferred shares were converted into 17,722,808 ordinary shares.

Note 11 – Related Party Transactions

The Company purchased certain parts from Ajax Foresight Global Manufacturing Sdn. Bhd. ("AFGM"), an investment acquired in conjunction with the acquisition of Ajax . Total purchases from AFGM were $0.2 million and $0.7 million in 2017 and 2016, respectively. Outstanding accounts payable to AFGM totaled $0.3 million December 30, 2016. During February 2017, the Company sold its investment in AFGM, and therefore no related party relationship exists on a go-forward basis.

The Company received advisory services from Francisco Partners Management, L.P. ("FPM"), an entity affiliated with certain of the Company's principal shareholders through our December 2016 IPO, at which time the Company's advisory agreement with FPM was terminated. Under the advisory agreement, the Company was obligated to pay FPM an annual advisory fee equal to $1.5 million per year. Such advisory fee was waived for all periods presented in which the advisory agreement was effective.

The Company also received consulting services from Francisco Partners Consulting, LLC ("FPC"), an entity that provides consulting services to the private equity funds managed by FPM and their portfolio companies on a dedicated basis, through our December 2016 IPO, at which time the Company's agreement with FPC was terminated and such services ceased. FPC is not an affiliate of the Company, FPM, or any of the Company's principal shareholders, and none of the Company's principal shareholders hold an in interest in FPC. During 2017, the Company received from FPC a refund of previously paid consulting fees of $0.3 million. During 2016 and 2015, the Company paid $0.5 million and $0.3 million, respectively, to FPC for consulting services.

On January 10, 2011, PFT entered into a sublease agreement with Precision Flow Inc., which was majority owned by a member of the board of directors of the Company. During 2016 and 2015, PFT paid $1.0 million and $1.2 million, respectively, in sublease rent to Precision Flow Inc. The sublease agreement between PFT and Precision Flow Inc. expires February 28, 2018. The Company has ceased operations in this facility as of May 2016 but has not completed a lease termination agreement with Precision Flow Inc. This board member resigned in 2016, and therefore no related party relationship exists going forward.

The Company had purchases totaling $0.1 million and $0.8 million from Ceres, an entity owned by a member of the board of directors of the Company, during 2016 and 2015, respectively. The Company had sales totaling $0.2 million and $0 during 2016 and 2015. This board member resigned in 2016, and therefore no related party relationship exists going forward.

Note 12 – Share-Based Compensation

2016 Plan

In December 2016, the Company adopted the 2016 Omnibus Incentive Plan ("the 2016 Plan"). Under the 2016 Plan, 1,888,000 ordinary shares are reserved for issuance. The number of shares reserved for issuance under the 2016 Plan increases annually beginning in fiscal year 2018 by the lesser of (i) 2% of the ordinary shares outstanding on the last day of the immediately preceding fiscal year or (ii) such amount determined by the Board. Awards may be in the form of options, tandem and non-tandem stock appreciation rights, restricted shares, performance awards, and other share based awards and can be issued to employees, directors, and consultants. Canceled or expired awards under the 2016 Plan are returned to the incentive plan pool for future grants.

Awards granted under the 2016 Plan generally have a term of 7 years. Vesting generally occurs 25% on the first anniversary of the date of grant, and quarterly thereafter over the remaining 3 years.

2012 Plan

In March 2012, the Company adopted the Ichor Holdings Ltd. 2012 Equity Incentive Plan (the "2012 Plan"). Under the 2012 Plan, the Company can grant either restricted shares or stock options to employees, directors and consultants. The Board of Directors initially authorized the issuance of 21,000,000 stock options or restricted shares under the 2012 Plan. On October 25, 2013, the Board of Directors authorized the issuance of an additional 4,000,000 stock options or restricted shares under the 2012 Plan. Canceled or expired stock options or restricted shares are returned to the incentive plan pool for future grants.

Stock options granted under the 2012 Plan generally have a term of 7 years. Vesting generally occurs 25% on the first anniversary of the date of grant, and quarterly thereafter over the remaining 3 years.

There have been no issuances of equity-based awards under the 2012 Plan since the adoption of the 2016 Plan.

Stock Options

The table below sets forth the weighted average assumptions used to measure the fair value of options granted:

	Year Ended		
	December 29, 2017	December 30, 2016	December 25, 2015
Weighted average expected term	5 years	5 years	5 years
Risk-free interest rate	1.9%	1.3%	1.4%
Dividend yield	0.0%	0.0%	0.0%
Volatility	47.7%	50.0%	50.0%

The following table summarizes the Company's stock option activity during 2017:

	Number of Stock Options				
	Time vesting	Performance vesting	Weighted average exercise price per share	Weighted average remaining contractual term	Aggregate intrinsic value (in thousands)
Outstanding, December 30, 2016	1,948,307	215,908	$ 8.87		
Granted	604,700	—	$ 19.57		
Exercised	(1,078,182)	—	$ 8.48		
Forfeited	(22,000)	—	$ 18.69		
Expired	—	—	$ —		
Outstanding, December 29, 2017	1,452,825	215,908	$ 12.87	4.2 years	$ 19,662
Exercisable, December 29, 2017	682,560	215,908	$ 9.29	2.7 years	$ 13,754

Fair value information for options granted and the intrinsic value of options exercised are as follows:

	Year Ended		
	December 29, 2017	December 30, 2016	December 25, 2015
Weighted average grant-date fair value of options granted	$ 8.52	$ 4.18	$ 4.18
Total intrinsic value of options exercised	$ 16,423	N/A	N/A

At December 29, 2017, total unrecognized share-based compensation expense relating to stock options was $5.0 million, with a weighted average remaining service period of 3.3 years.

Restricted Shares

The following table summarizes the Company's restricted share activity during 2017:

	Number of Restricted Ordinary Shares	
	Time vesting	Weighted average grant date fair value
Unvested, December 30, 2016	103,055	$ 8.39
Granted	125,158	$ 19.63
Vested	(74,932)	$ 8.46
Forfeited	—	$ —
Unvested, December 29, 2017	153,281	$ 17.53

Fair value information for restricted shares granted and vested during is as follows:

	Year Ended		
	December 29, 2017	December 30, 2016	December 25, 2015
Weighted average grant-date fair value of shares granted	$ 19.63	$ 9.42	N/A
Total fair value of shares vested	$ 634	$ 1,484	$ 296

At December 29, 2017, total unrecognized share-based compensation expense relating to restricted shares was $2.3 million, with a weighted average remaining service period of 3.4 years.

During 2017, 2016, and 2015, share-based compensation expense for stock options and restricted shares across all plans totaled $2.2 million, $3.2 million, and $1.1 million, respectively.

2017 ESPP

In May 2017, the Company adopted the 2017 Employee Stock Purchase Plan (the "2017 ESPP"), which provides employees the ability to designate a portion of their base-pay to purchase ordinary shares at a price equal to 85% of the fair market value of ordinary shares on the first or last day of each 6 month purchase period. Purchase periods begin on January 1 or July 1 and end on June 30 or December 31, or next business day if such date is not a business day. Shares are purchased on the last day of the purchase period. 2,500,000 ordinary shares are reserved for issuance under the 2017 ESPP. The current purchase period began on August 7, 2017 and ends on January 2, 2018. No shares were issued under the 2017 ESPP during 2017.

The table below sets forth the weighted average assumptions used to measure the fair value of 2017 ESPP rights:

	Year Ended		
	December 29, 2017	December 30, 2016	December 25, 2015
Weighted average expected term	0.4 years	N/A	N/A
Risk-free interest rate	1.1%	N/A	N/A
Dividend yield	0.0%	N/A	N/A
Volatility	47.8%	N/A	N/A

The Company recognizes share-based compensation expense associated with the 2017 ESPP over the duration of the purchase period. The Company recognized an insignificant amount of share-based compensation expense associated with the 2017 ESPP during 2017. At December 29, 2017, there was no unrecognized share-based compensation expense.

Note 13 – Segment Information

The Company's Chief Operating Decision Maker (CODM), the Chief Executive Officer, reviews the Company's results of operations on a consolidated level and executive staff is structured by function rather than by product category. Therefore, the Company operates in one operating segment. Key resources, decisions, and assessment of performance are also analyzed on a company-wide level.

The Company's foreign operations are conducted primarily through its wholly owned subsidiaries in Singapore and Malaysia. The Company's principal markets include North America, Asia and, to a lesser degree, Europe. Sales by geographic area represent sales to unaffiliated customers.

All information on sales by geographic area is based upon the location to which the products were shipped. The following table sets forth sales by geographic area (including sales from discontinued operations):

	Year Ended		
	December 29, 2017	December 30, 2016	December 25, 2015
United States of America	$ 386,645	$ 243,237	$ 238,470
Singapore	223,277	163,515	96,141
Europe	27,555	16,353	22,938
Other	18,415	9,218	13,840
Total net sales	$ 655,892	$ 432,323	$ 371,389

The following table sets forth the Company's two major customers, which comprised 93%, 97%, and 95% of sales from continuing operations in 2017, 2016, and 2015, respectively:

	Year Ended		
	December 29, 2017	December 30, 2016	December 25, 2015
Lam Research	$ 350,372	$ 207,230	$ 165,133
Applied Materials	$ 259,234	$ 185,465	$ 111,661

Note 14 – Earnings per Share

Basic and diluted net income per share attributable to ordinary shareholders was presented in conformity with the two-class method during 2016 and 2015, required for participating securities, as the Company had two classes of stock until its December 2016 IPO. The Company considered its convertible preferred shares to be a participating security as the convertible preferred shares participated in dividends with ordinary shareholders, when and if declared by the board of directors. In the event a dividend was paid on ordinary shares, the holders of preferred shares were entitled to a proportionate share of any such dividend as if they were holders of ordinary shares (on an as-if converted basis). The convertible preferred shares did not participate in losses incurred by the Company. In accordance with the two-class method, earnings allocated to these participating securities and the related number of outstanding shares of the participating securities, which include contractual participation rights in undistributed earnings, have been excluded from the computation of basic and diluted net income per share attributable to ordinary shareholders.

Under the two-class method, net income attributable to ordinary shareholders after deduction of preferred share dividends, if any, is determined by allocating undistributed earnings between the ordinary shares and the participating securities based on their respective rights to receive dividends. Basic net income (loss) per share attributable to ordinary shareholders is computed by dividing net income (loss) attributable to ordinary shareholders by the weighted-average number of ordinary shares outstanding during the period. All participating securities are excluded from basic weighted-average ordinary shares outstanding. Diluted net income (loss) per share attributable to ordinary shareholders is computed by dividing net income (loss) attributable to ordinary shareholders by the weighted average number of ordinary shares outstanding, including all potentially dilutive ordinary shares, if the effect of each class of potential shares of ordinary shares is dilutive.

For purposes of calculating EPS under the two-class method, an accounting policy election has been made to treat each income statement line item (net income from continuing operations, net income (loss) from discontinued operations, and net income) as an independent calculation and only allocate earnings to participa ting securities for those line items for which income is reported, as the participating securities do not have a contractual obligation to participate in losses. There is therefore no allocation of losses to participating securities for those line items fo r which a loss is reported. Under this method, the sum of the individual EPS income statement line items will not reconcile to the total net income (loss) per share.

Net income per share was not presented in conformity with the two - class method during 2017, as the Company had only one class of stock outstanding.

The following table sets forth the computation of the Company's basic and diluted net income (loss) per share attributable to ordinary shareholders and a reconciliation of the numerator and denomina tor used in the calculation:

	Year Ended		
	December 29, 2017	December 30, 2016	December 25, 2015
Numerator:			
Net income from continuing operations	$ 56,915	$ 20,779	$ 12,807
Preferred share dividend	—	—	(22,127)
Undistributed earnings attributed to preferred shareholders	—	(19,060)	—
Net income (loss) from continuing operations, attributable to ordinary shareholders	$ 56,915	$ 1,719	$ (9,320)
Net loss from discontinued operations	$ (461)	$ (4,117)	$ (7,181)
Undistributed earnings attributed to preferred shareholders	—	—	—
Preferred share dividend	—	—	—
Net loss from discontinued operations, attributable to ordinary shareholders	$ (461)	$ (4,117)	$ (7,181)
Net income	$ 56,454	$ 16,662	$ 5,626
Preferred share dividend	—	—	(22,127)
Undistributed earnings attributed to preferred shareholders	—	(15,284)	—
Net income (loss), attributable to ordinary shareholders	$ 56,454	$ 1,378	$ (16,501)
Denominator:			
Weighted average ordinary shares outstanding	25,118,031	1,503,296	31,875
Dilutive effect of stock options	1,030,793	306,871	—
Dilutive effect of restricted shares	68,184	157,759	—
Dilutive effect of employee share purchase plan	1,416	—	—
Weighted average number of shares used in diluted per share calculation for net income (loss) from continuing operations	26,218,424	1,967,926	31,875
Weighted average ordinary shares outstanding	25,118,031	1,503,296	31,875
Dilutive effect of stock options	—	—	—
Dilutive effect of restricted shares	—	—	—
Dilutive effect of employee share purchase plan	—	—	—
Weighted average number of shares used in diluted per share calculation for net loss from discontinued operations	25,118,031	1,503,296	31,875
Weighted average ordinary shares outstanding	25,118,031	1,503,296	31,875
Dilutive effect of stock options	1,030,793	306,871	—
Dilutive effect of restricted shares	68,184	157,759	—
Dilutive effect of employee share purchase plan	1,416	—	—
Weighted average number of shares used in diluted per share calculation for net income (loss)	26,218,424	1,967,926	31,875
Net income (loss) per share attributable to ordinary shareholders:			
Continuing operations:			
Basic	$ 2.27	$ 1.14	$ (292.39)
Diluted	$ 2.17	$ 0.87	$ (292.39)
Discontinued operations:			
Basic	$ (0.02)	$ (2.74)	$ (225.29)
Diluted	$ (0.02)	$ (2.74)	$ (225.29)
Total:			
Basic	$ 2.25	$ 0.92	$ (517.68)
Diluted	$ 2.15	$ 0.70	$ (517.68)

An aggregated total of 72,321, 165,275, and 519,576 potential ordinary shares have been excluded from the computation of diluted net income (loss) per share attributable to ordinary shareholders for 2017, 2016, and 2015, respectively, because including them would have been antidilutive.

Note 15 – Discontinued Operations

In January 2016, we made the decision to shut down our Kingston, New York facility as this location consumed a significant amount of resources while contributing very little income. We completed the shutdown of the operations of the New York facility in May 2016 through abandonment as a buyer for the facility and operation was not found. We recognized additional expense consisting of fixed asset and long-lived asset impairments totaling $3.2 million in the fourth quarter of 2015 related to this decision. The impairments related to fixed assets and long lived assets were based on the estimated fair value of such assets over their remaining expected lives through May 2016. No further sales are being generated from the customer that this location serviced after May 2016.

The Company ceased operations at this facility in May 2016. As this was our cease use date, the Company recorded lease abandonment and inventory charges of approximately $0.6 million and $2.0 million, respectively, in the second quarter of 2016. At December 29, 2017, future minimum lease payments of $0.3 million are reflected in accrued liabilities of discontinued operations.

The carrying amounts of the major classes of assets and liabilities of the Kingston, New York facility are reflected in the following table:

	December 29, 2017	December 30, 2016
Assets		
Current assets:		
Prepaid expenses and other current assets	$ 3	$ 99
Total current assets	3	99
Total assets	$ 3	$ 99
Liabilities		
Current liabilities:		
Accounts payable	$ 136	$ 152
Accrued liabilities	255	360
Other current liabilities	9	52
Total current liabilities	400	564
Deferred tax liabilities	—	30
Other long-term liabilities	—	9
Total liabilities	$ 400	$ 603

The results of the discontinued operation were as follows:

	Year Ended		
	December 29, 2017	December 30, 2016	December 25, 2015
Net sales	$ —	$ 26,576	$ 80,748
Cost of sales	—	28,077	80,840
Operating expenses:			
Research and development	—	262	954
Selling, general, and administrative	722	2,315	2,765
Amortization of intangible assets	—	—	475
Total operating expenses	722	2,577	4,194
Operating income (loss)	(722)	(4,078)	(4,286)
Interest income, net	—	—	(16)
Other expense, net	—	(1)	3,136
Income (loss) from discontinued operations before income taxes	(722)	(4,077)	(7,406)
Income tax expense	(261)	40	(225)
Loss from discontinued operations	$ (461)	$ (4,117)	$ (7,181)

Supplemental information related to the discontinued operation is as follows for the periods presented:

	Year Ended		
	December 29, 2017	December 30, 2016	December 25, 2015
Depreciation and amortization	$ —	$ —	$ 1,143
Capital expenditures	$ —	$ —	$ 427
Impairment of property and equipment	$ —	$ —	$ 1,335
Impairment of intangible assets	$ —	$ —	$ 1,825
Write-down of inventory	$ —	$ 1,999	$ 1,506

Note 16 – Subsequent Events (unaudited)

Subsequent events are events or transactions that occur after the balance sheet date but before financial statements are issued. The Company recognizes in the consolidated financial statements the effects of all subsequent events that provide additional evidence about conditions that existed at the date of the balance sheet, including the estimates inherent in the process of preparing the financial statements. The Company's consolidated financial statements do not recognize subsequent events that provide evidence about conditions that did not exist at the date of the balance sheet but arose after the balance sheet date and before financial statements are issued. In preparing these consolidated financial statements, the Company has evaluated events and transactions for potential recognition or disclosure through March 13, 2018, the date the consolidated financial statements were issued.

Modification of Equity Awards

On January 18, 2018, in connection with the separation of our previous Chief Financial Officer (“previous CFO”) from the Company, the General Release of All Claims (the “General Release”) became effective. Pursuant to our previous CFO’s Transition Agreement, separation benefits begin on the date the General Release becomes effective. Included in the separation benefits is a vesting acceleration of all outstanding and unvested stock options and restricted shares. Consequently, 88,445 stock options and 39,175 restricted shares vested on January 18, 2018. This was accounted for as a modification under ASC Topic 718 and resulted in approximately $2.9 million in share-based compensation expense. All 88,445 modified stock options were exercised on February 12, 2018.

Refinance of Long-Term Debt

On February 15, 2018, the Company entered into an Amended and Restated Credit Agreement (the “Credit Agreement”) to refinance all outstanding indebtedness under the 2015 Credit Facility. The agreement features a $175.0 million term loan facility and a revolving facility allowing for borrowings up to $125.0 million. The Credit Agreement decreases the applicable interest rate for borrowings under the term loan facility and revolving facility by 25 basis points and extends the maturity from August 2020 to February 2023. Additionally, the Credit Agreement (i) increases the maximum leverage ratio to 3.0x and (ii) changes the leverage ratios such that the Company is not required to use excess cash flow to prepay amounts owed under the credit facility when its leverage ratio is less than 2.0x. The effect of this debt refinance has not been recognized in these consolidated financial statements.

Share Repurchase Program

In February 2018, our board of directors authorized a share repurchase program up to $50.0 million under which we may repurchase our ordinary shares in the open market or through privately negotiated transactions, depending on market conditions and other factors. We expect to fund share repurchases, if any, with cash on hand or borrowings under our Revolving Credit Facility. As of the date of this report, the Company has repurchased approximately $5.0 million in ordinary shares.

EXHIBIT INDEX

The following exhibits are filed with this Form 10-K or are incorporated herein by reference:

Exhibit Number	Description of Exhibit
2.1	Stock Purchase Agreement, dated as of July 27, 2017, by and among Ichor Holdings, LLC, Cal-Weld, Inc., Richard A. Olazaba Revocable Trust u/d/t dated March 9, 2011, and, with respect to Section 9.14 therein only, Richard A. Olazaba (Incorporated by reference to Exhibit 2.1 to the current report on Form 8-K filed with the Securities and Exchange Commission on July 31, 2017).
2.2*	Stock Purchase Agreement, dated as of December 11, 2017, by and among Ichor Holdings, Ltd., Talon Innovations Corporation, Talon Innovations Holdings LLC and the guarantors party thereto.
3.1	Amended and Restated Memorandum and Articles of Association of Ichor Holdings, Ltd., effective as of December 9, 2016 (Incorporated by reference to Exhibit 3.1 to the current report on Form 8-K filed with the Securities and Exchange Commission on December 14, 2016).
10.1	Credit Agreement, dated as of August 11, 2015, by and among Ichor Holdings, LLC, Precision Flow Technologies, Inc. and Ichor Systems, Inc., as borrowers, Icicle Acquisition Holding B.V. and certain of its other subsidiaries as guarantors, Bank of America, N.A. as administrative agent, L/C issuer, and swingline lender, and the lenders from time to time party thereto, or the Credit Agreement (Incorporated by reference to Exhibit 10.1 to Ichor Holdings, Ltd's Registration Statement on Form S-1, filed with the Securities and Exchange Commission on November 14, 2016).
10.2	First Amendment to Credit Agreement, dated as of April 12, 2016, by and among Ichor Holdings, LLC, Ichor Systems, Inc. and Precision Flow Technologies, Inc., as borrowers, Bank of America, N.A., as administrative agent, and the financial institutions party thereto, as lenders (Incorporated by reference to Exhibit 10.2 to Ichor Holdings, Ltd's Registration Statement on Form S-1, filed with the Securities and Exchange Commission on November 14, 2016).
10.3	Investor Rights Agreement, dated as of March 16, 2012, by and among Ichor Holdings, Ltd. and certain of its shareholders (Incorporated by reference to Exhibit 10.3 to Ichor Holdings, Ltd's Registration Statement on Form S-1, filed with the Securities and Exchange Commission on November 14, 2016).
10.4 +	Employment Agreement, dated as of September 19, 2014, by and among Ichor Systems, Inc., Thomas Rohrs and, with respect to Sections 1.2 and 3.4 therein only, Ichor Holdings, Ltd (Incorporated by reference to Exhibit 10.7 to Ichor Holdings, Ltd's Registration Statement on Form S-1, filed with the Securities and Exchange Commission on November 14, 2016).
10.5 +	Employment Agreement, dated as of September 19, 2014, by and among Ichor Systems, Inc., Maurice Carson and, with respect to Sections 1.2 and 3.3 therein only, Ichor Systems, Ltd (Incorporated by reference to Exhibit 10.8 to Ichor Holdings, Ltd's Registration Statement on Form S-1, filed with the Securities and Exchange Commission on November 14, 2016).
10.6 +	Ichor Holdings, Ltd. 2016 Omnibus Incentive Plan (Incorporated by reference to Exhibit 10.11 to Ichor Holdings, Ltd's Amendment No. 2 to Registration Statement on Form S-1, filed with the Securities and Exchange Commission on November 29, 2016).
10.7 +	Form of Incentive Stock Option Agreement (Incorporated by reference to Exhibit 10.12 to Ichor Holdings, Ltd's Amendment No. 2 to Registration Statement on Form S-1, filed with the Securities and Exchange Commission on November 29, 2016).
10.8 +	Form of Restricted Stock Agreement (Incorporated by reference to Exhibit 10.13 to Ichor Holdings, Ltd's Amendment No. 2 to Registration Statement on Form S-1, filed with the Securities and Exchange Commission on November 29, 2016).
10.9 +	Form of Nonqualifed Stock Option Agreement (Incorporated by reference to Exhibit 10.14 to Ichor Holdings, Ltd's Amendment No. 2 Registration Statement on Form S-1, filed with the Securities and Exchange Commission on November 29, 2016).

10.10 +	Offer Letter, dated as of January 8, 2013, by and between Ichor Systems, Inc. and Philip Barros (Incorporated by reference to Exhibit 10.16 to Ichor Holdings, Ltd's Registration Statement on Form S-1, filed with the Securities and Exchange Commission on November 14, 2016).
10.11 +	Offer Letter, dated as of September 30, 2015, by and between Ichor Systems, Inc. and Philip Barros (Incorporated by reference to Exhibit 10.17 to Ichor Holdings, Ltd's Registration Statement on Form S-1, filed with the Securities and Exchange Commission on November 14, 2016).
10.12	Transition Agreement, dated June 29, 2017, between Ichor Systems, Inc. and Maurice Carson (Incorporated by reference to Exhibit 10.1 to the current report on Form 8-K filed with the Securities and Exchange Commission on June 29, 2017).
10.13	Second Amendment to the Credit Agreement, dated as of July 27, 2017, by and among Ichor Holdings, LLC, Ichor Systems, Inc., Precision Flow Technologies, Inc., Ajax-United Patterns & Molds, Inc. and Cal-Weld, Inc., as borrowers, Bank of America, N.A., as administrative agent, and the financial institutions party thereto, as lenders (Incorporated by reference to Exhibit 10.1 to the current report on Form 8-K filed with the Securities and Exchange Commission on July 31, 2017)
10.14* +	Offer Letter, dated as of July 20, 2017, between Ichor Systems, Inc. and Kevin Canty
10.15* +	Offer Letter, dated as of November 9, 2017, between Ichor Systems, Inc. and Jeffrey Andreson
10.16*	Third Amendment to the Credit Agreement, dated December 11, 2017, by and among Ichor Holdings, LLC, Ichor Systems, Inc., Precision Flow Technologies, Inc., Ajax United Patterns & Molds, Inc., Cal-Weld, Inc., Talon Innovations Corporation, as borrowers, the guarantors named therein, Bank of America, N.A., as administrative agent, and the financial institutions party thereto, as lenders.
21.1*	List of subsidiaries
23.1*	Consent of KPMG LLP
31.1*	Certifications of Chief Executive Officer of the Company under Rule 13a-14(a) of the Securities Exchange Act of 1934, as amended, as adopted pursuant to Section 302 of the Sarbanes-Oxley Act of 2002.
31.2*	Certifications of Chief Financial Officer of the Company under Rule 13a-14(a) of the Securities Exchange Act of 1934, as amended, as adopted pursuant to Section 302 of the Sarbanes-Oxley Act of 2002.
32.1*	Certifications of Chief Executive Officer pursuant to 18 U.S.C. Section 1350, as adopted pursuant to Section 906 of the Sarbanes-Oxley Act of 2002. This certification accompanies this report and shall not, except to the extent required by the Sarbanes-Oxley Act of 2002, be deemed filed for purposes of §18 of the Securities Exchange Act of 1934, as amended.
32.2*	Certifications of Chief Financial Officer pursuant to 18 U.S.C. Section 1350, as adopted pursuant to Section 906 of the Sarbanes-Oxley Act of 2002. This certification accompanies this report and shall not, except to the extent required by the Sarbanes-Oxley Act of 2002, be deemed filed for purposes of §18 of the Securities Exchange Act of 1934, as amended.

* Filed herewith

\+ A management contract or compensatory arrangement required to be filed as an exhibit pursuant to Item 601 of Regulation S-K

SIGNAT URES

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.

Dated: March 13, 2018

ICHOR HOLDINGS, LTD.

By: /s/ Thomas M. Rohrs
Thomas M. Rohrs
Executive Chairman and Chief Executive Officer

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

Signature	Name and Title	Date
/s/ Thomas M. Rohrs Thomas M. Rohrs	Executive Chairman, Director and Chief Executive Officer (Principal Executive Officer)	March 13, 2018
/s/ Jeffrey Andreson Jeffrey Andreson	Chief Financial Officer (Principal Accounting and Financial Officer)	March 13, 2018
/s/ John Chenault John Chenault	Director	March 13, 2018
/s/ Dipanjan Deb Dipanjan Deb	Director	March 13, 2018
/s/ Andrew Kowal Andrew Kowal	Director	March 13, 2018
/s/ Iain MacKenzie Iain MacKenzie	Director	March 13, 2018
/s/ Marc Haugen Marc Haugen	Director	March 13, 2018

Exhibit 2.2

STOCK PURCHASE AGREEMENT

BY AND AMONG

TALON INNOVATIONS CORPORATION,

TALON INNOVATIONS HOLDINGS LLC,

ICHOR HOLDINGS, LLC,

AND

THE BUYER GUARANTORS

DATED AS OF NOVEMBER 3, 2017

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STOCK PURCHASE AGREEMENT

THIS STOCK PURCHASE AGREEMENT (this " Agreement ") is made as of November 3, 2017, by and among Talon Innovations Corporation, a Minnesota corporation (the " Company "), Talon Innovations Holdings LLC, a Delaware limited liability company (the " Seller "), Ichor Holdings, LLC, a Delaware limited liability company (" Buyer "), and the Affiliates of Buyer listed on Schedule A and which are signatories hereto (each a " Buyer Guarantor " and, all such Buyer Guarantors together with the Buyer, the " Buyer Parties "). The Company, the Seller and Buyer are collectively referred to herein as the " Parties " and individually as a " Party ."

WHEREAS, the Company engages in custom machining services, primarily in support of the semiconductor industry (the " Business ");

WHEREAS, the Seller owns one hundred percent (100%) of the issued and outstanding share capital of the Company; and

WHEREAS, Buyer desires to acquire from the Seller, and the Seller desires to sell to Buyer all of the issued and outstanding share capital (collectively, the " Shares ") of the Company upon the terms and conditions set forth below.

NOW, THEREFORE, in consideration of the mutual covenants contained herein and intending to be legally bound and for other good and valuable consideration, the receipt and sufficiency of which are hereby acknowledged, the Parties agree as follows:

ARTICLE I
DEFINITIONS

1.1 Definitions

For purposes of this Agreement, the following terms shall have the meanings set forth below:

" Accounting Arbitrator " shall have the meaning set forth in Section 2.3(c)(ii) .

" Accounting Policies and Principles " means GAAP using and applying the same accounting principles, practices, procedures, policies and methods (with consistent classifications, judgments, elections, inclusions, exclusions and valuation and estimation methodologies) used and applied by the Company and its Subsidiaries in the preparation of the Latest Financial Statements.

" Acquisition Proposal " means any offer or proposal for, or indication of interest in, a merger, consolidation, stock exchange, business combination, reorganization, recapitalization, liquidation, dissolution or other similar transaction involving the Company, any direct or indirect acquisition or purchase of all or a substantial portion of the assets of the Company Group, taken as a whole, or all or substantial part of the Company's equity, other than the transactions contemplated by this Agreement.

" Actions " means any suits, claims, litigations, arbitration proceedings, orders, charges, mediations, complaints, grievances or any investigations, audits by or before any Governmental Authority.

" Actual Fraud " of a Party means the knowing and intentional common law fraud by a Person with respect to contracts as defined under Delaware law.

" Actual Indebtedness " shall have the meaning set forth in Section 2.3(b) .

" Actual Transaction Expenses " shall have the meaning set forth in Section 2.3(b) .

" Actual Working Capital " shall have the meaning set forth in Section 2.3(b) .

" Adjusted Purchase Amount " shall have the meaning set forth in Section 2.3(d)(i) .

" Adjustment Escrow Amount " means an amount equal to Two Million Dollars ($2,000,000).

" Affiliate " of any particular Person means any other Person controlling, controlled by or under common control with such particular Person, where "control" means the possession, directly or indirectly, of the power to direct the management and policies of a Person whether through the ownership of voting securities, by contract or otherwise, and the terms "controlling" and "controlled" have correlative meanings.

" Affiliated Group " means an affiliated group as defined in Section 1504 of the Code (or any similar combined, consolidated or unitary group defined under state, local or foreign income Tax law).

" Affordable Care Act " means the Patient Protection and Affordable Care Act, the Health Care and Education Reconciliation Act of 2010, as amended, and, in each case, all regulations and guidance issued thereunder and relating thereto.

" Agreement " shall have the meaning set forth in the Preamble .

" Anti-Corruption Laws " means all U.S. and non-U.S. Laws relating to the prevention of corruption and bribery, including, without limitation, the U.S. Foreign Corrupt Practices Act of 1977, as amended.

" Business " shall have the meaning set forth in the Recitals .

" Business Day " means a day other than a Saturday, Sunday or other day on which commercial banks in San Francisco, California are authorized or required by Law to close.

" Buyer " shall have the meaning set forth in the Preamble .

" Buyer Parties " shall have the meaning set forth in Section 9.2(a) .

" Cap " shall have the meaning set forth in Section 9.2(a) .

" Cash " means the aggregate amount of all unrestricted cash and cash equivalents (including marketable securities, short term investments, liquid instruments, the amount of any received and uncleared checks, wires or drafts, but not including the amount of any issued but uncleared checks, wires or drafts).

" Claims " shall have the meaning set forth in Section 11.12 .

" Closing " shall have the meaning set forth in Section 2.4(a) .

" Closing Purchase Amount " means an amount in cash equal to (i) the Purchase Price, plus (ii) the Estimated Working Capital Excess, if any, minus (iii) the Estimated Working Capital Deficit, if any, minus (iv) the Estimated Indebtedness, if any, minus (v) the Estimated Transaction Expenses, plus (vi) the Estimated Cash, if any, minus (vii) the Escrow Amount.

" Closing Statement " shall have the meaning set forth in Section 2.3(b) .

" Closing Transactions " shall have the meaning set forth in Section 2.4(b) .

" COBRA " means Sections 601 et. seq. of ERISA and Section 4980B of the Code.

" Code " means the Internal Revenue Code of 1986, as amended from time to time.

" Company " shall have the meaning set forth in the Preamble .

" Company Group " shall mean the Company and its Subsidiaries.

" Company Products " means all product and service offerings of the Company that have since September 4, 2012, been offered for sale, sold, licensed, distributed, or otherwise made available by the Company to third parties in return for consideration.

" Company Proprietary Rights " shall have the meaning set forth in Section 4.13(b) .

" Contract " means any contract, license, sublicense, mortgage, purchase order, indenture, loan agreement, lease, sublease, agreement or instrument or any binding commitment to enter into any of the foregoing (in each case, whether written or oral) to which the Company is a party or by which any of its assets are bound.

" Debt Financing " shall have the meaning set forth in Section 8.9(c) .

" Debt Financing Source " means the Persons that have committed to provide or have otherwise entered into agreements in connection with the Debt Financing in connection with the transactions contemplated hereby, and any joinder agreements, indentures or credit agreements entered into pursuant thereto or relating thereto, together with their respective Affiliates, and the respective officers, directors, employees, partners, trustees, shareholders, controlling persons, agents and representatives of the foregoing, and their respective successors and assigns.

" Deductible " shall have the meaning set forth in Section 9.2(a) .

" Disclosure Schedules " means the disclosure schedules delivered by the Seller to Buyer pursuant to this Agreement.

" Dispute Notice " shall have the meaning set forth in Section 2.3(c)(ii) .

" Dollar " or " $ " means U.S. Dollars.

" Employee Benefit Plans " shall have the meaning set forth in Section 4.18(a) .

" Environmental Law " means any Law or contractual obligation with a Governmental Authority with respect to pollution, the protection of the environment or human or worker health and safety, including any Law relating to Hazardous Materials.

" ERISA " means the Employee Retirement Income Security Act of 1974, as amended from time to time.

" ERISA Affiliate " means any corporation or trade or business, whether or not incorporated, that, together with the Company, is or was, at a relevant time with respect to which an Acquired Company continues to have Liability, treated as a "single employer" within the meaning of Section 414 of the Code.

" Escrow Account " means the escrow account established by the Escrow Agent to hold the Escrow Amount.

" Estimated Accrued Income Taxes " means the estimated accrued and unpaid Income Taxes of, after taking into account any estimated Tax payments made by, the Company Group as of the Closing Date.

" Escrow Agent " means SunTrust Bank, a Georgia banking corporation.

" Escrow Agreement " means that certain Escrow Agreement in the form attached hereto as Exhibit B .

" Escrow Amount " means, collectively, the Indemnification Escrow Amount and the Adjustment Escrow Amount.

" Escrow Release Date " shall have the meaning set forth in Section 9.4 .

" Estimated Cash " shall have the meaning set forth in Section 2.3(a) .

" Estimated Closing Statement " shall have the meaning set forth in Section 2.3(a) .

" Estimated Indebtedness " shall have the meaning set forth in Section 2.3(a) .

"Estimated Transaction Expenses" shall have the meaning set forth in Section 2.3(a) .

" Estimated Working Capital " shall have the meaning set forth in Section 2.3(a) .

" Estimated Working Capital Deficit " means the excess, if any, of (i) Target Working Capital, over (ii) the Estimated Working Capital.

" Estimated Working Capital Excess " means the excess, if any, of (i) the Estimated Working Capital, over (ii) Target Working Capital.

" Excess Amount " shall have the meaning set forth in Section 2.3(d)(i) .

" Ex-Im Laws " means all U.S. and non-U.S. Laws relating to export, reexport, transfer, and import controls, including, without limitation, the Export Administration Regulations, the International Traffic in Arms Regulations, and the customs and import Laws administered by U.S. Customs and Border Protection.

" Final Cash " shall have the meaning set forth in Section 2.3(c)(i) .

" Final Indebtedness " shall have the meaning set forth in Section 2.3(c)(i) .

"Final Transaction Expenses" shall have the meaning set forth in Section 2.3(c)(i) .

" Final Working Capital " shall have the meaning set forth in Section 2.3(c)(i) .

" Financial Statements " shall have the meaning set forth in Section 4.6 .

" Fundamental Representations " shall have the meaning set forth in Section 9.1 .

" GAAP " means generally accepted accounting principles, consistently applied, in the United States as promulgated by all relevant accounting authorities.

" Government Contract " means any Contract for the sale of supplies or services currently in performance or that has not been closed that is between the Company and a Governmental Authority or entered into by the Company as a subcontractor at any tier in connection with a Contract between another Person and a Governmental Authority.

" Government Official " shall mean any officer or employee of a Governmental Authority or any department, agency or instrumentality thereof, including state-owned entities, or of a public organization or any person acting in an official capacity for or on behalf of any such government, department, agency, or instrumentality or on behalf of any such public organization.

" Governmental Authority " means any nation or government, any state or other political subdivision thereof, any entity exercising executive, legislative, judicial, regulatory or administration functions of or pertaining to government, including any government authority, agency, department, board, commission or instrumentality of the United States, any foreign government, any State of the United States or any political subdivision thereof, and any court, tribunal or arbitrator(s) (public or private) of competent jurisdiction.

" Hazardous Materials " means any material, waste or substance (i) for which Liability or standards of conduct may be imposed under any Environmental Law, (ii) that is defined, determined, or identified as hazardous or toxic under, or regulated by, any Environmental

Law, or (iii) the release of which is prohibited or restricted under any Environmental Law, including petroleum and petroleum products and byproducts, polychlorinated biphenyls, asbestos, lead, radiation and toxic mold.

" HSR Act " shall have the meaning set forth in Section 6.4 .

" Income Tax " " Income Tax " means any Tax (i) based upon, measured by, or calculated with respect to, net income or net receipts, proceeds or profits, or (ii) based upon, measured by, or calculated with respect to multiple bases (including any corporate, franchise and occupation Tax) if such Tax is primarily based upon, measured by, or calculated with respect to, one or more bases described in clause (i) of this definition.

" Indebtedness " means, without duplication, (i) any obligation for borrowed money, in respect of loans or advances, or issued in substitution for or exchange of indebtedness for borrowed money, (ii) any indebtedness evidenced by any note, bond, debenture or other similar instrument (including any seller notes, deferred purchase price obligations, contingent payment obligations, conditional sale obligations, earnout obligations or similar obligations issued or entered into in connection with an acquisition, but excluding customary consulting, deferred compensation, and indemnification obligations or similar arrangements that are not incurred in connection with indebtedness for borrowed money), (iii) any indebtedness for the deferred purchase price of property or services and conditional sale obligations (other than trade accounts payable) with respect to which a Person is liable, contingently or otherwise, as obligor or otherwise, (iv) all obligations in respect of letters of credit, to the extent drawn, and bankers' acceptances issued for the account of a Person, (v) any Liabilities under leases required under GAAP to be capitalized for which a Person is liable, contingently or otherwise, as obligor, guarantor or otherwise, (vi) all interest rate protection agreements (valued on a market quotation basis), (vii) all outstanding checks that will ultimately be funded through a Person's line of credit or other borrowed money, and (viii) any Estimated Accrued Income Taxes payable by the Company as of the Closing, calculated in accordance with the Accounting Policies and Principles, (ix) any accrued and unpaid interest on, and any prepayment premiums, penalties or similar contractual charges in respect of, any of the foregoing obligations computed as though payment is being made in respect thereof on the Closing Date, and (x) all guarantees of such Person in connection with any of the foregoing. Notwithstanding anything to the contrary contained herein, " Indebtedness " shall not include (x) any amounts included in Transaction Expenses (i.e., there shall be no duplication of any amounts as Indebtedness and Transaction Expenses) or (y) any amounts that are reflected in the Working Capital as a current liability.

" Indemnification Escrow Amount " means an amount equal to Nine Hundred Seventy Five Thousand Dollars ($975,000).

" Indemnified Party " shall have the meaning set forth in Section 9.2(c)(i) .

" Indemnifying Party " shall have the meaning set forth in Section 9.2(c)(i) .

" Insiders " shall have the meaning set forth in Section 4.20 .

" IT Systems " shall have the meaning set forth in Section 4.13(e) .

" Item of Dispute " shall have the meaning set forth in Section 2.3(c)(ii) .

" Knowledge " as used in the phrases "to the Knowledge of the Seller," "to the Seller's Knowledge," "to the Knowledge of the Company," "to the Company's Knowledge" or phrases of similar import means the actual knowledge of Greg Olson, Jason Prescott, Marty Dertinger and Michelle Squire.

" Latest Balance Sheet " shall have the meaning set forth in Section 4.6 .

" Latest Financial Statements " shall have the meaning set forth in Section 4.6 .

" Law " means any applicable federal, state, local or foreign law (including common law), constitution, statute, rule, regulation, ordinance, Permit, order, writ, award (including the award of any arbitrator to the extent enforceable by any Governmental Authority), injunction, judgment, determination or decree of any Governmental Authority.

" Leased Real Property " means all leasehold or subleasehold estates and other rights to use or occupy any land, buildings, structures, improvements, fixtures or other interest in real property held by the Company.

" Leases " means all leases, subleases, licenses, concessions and other agreements (written or oral) pursuant to which the Company holds any Leased Real Property, including the right to all security deposits and other amounts and instruments deposited by or on behalf of the Company thereunder.

" Liability " means any liability, debt, obligation, deficiency, Tax, penalty, assessment, fine, claim, cause of action or other liability of any kind or nature whatsoever, whether asserted or unasserted, absolute or contingent, known or unknown, accrued or unaccrued, liquidated or unliquidated, and whether due or to become due and regardless of when asserted.

" Licenses " shall have the meaning set forth in Section 4.16 .

" Lien " means any mortgage, pledge, security interest, encumbrance, lien or charge of any kind (including, without limitation, any conditional sale or other title retention agreement or lease in the nature thereof) or any agreement to file any of the foregoing, and any filing or agreement to file a financing statement as debtor under the Uniform Commercial Code or any similar statute.

" Loss " shall have the meaning set forth in Section 9.2(a) .

" Losses " shall have the meaning set forth in Section 9.2(a) .

" Management Agreements " shall have the meaning set forth in Section 8.10 .

" Material Adverse Effect " means any event, circumstance, state of facts, change or development that has had, or would reasonably be expected to have, a material and adverse effect, change or development upon the business, results of operations, or financial condition of the Company Group taken as a whole; provided , however , that any adverse effect arising from or

related to: (a) conditions generally affecting the United States economy or generally affecting one or more industries in which the Company or any of its Subsidiaries operate; (b) national or international political or social conditions, including terrorism or the engagement by the United States in hostilities or acts of war; (c) financial, banking, or securities markets (including any disruption thereof) and any decline in the price of any security or any market index); (d) changes in GAAP or other accounting standards, in each case, after the date hereof; (e) changes in any Laws after the date hereof; (f) any action taken by a party hereto expressly required by this Agreement or any other Transaction Document; (g) the public announcement, pendency or completion of the transactions contemplated by this Agreement; or (h) any failure, in and of itself, by the Company or any of its Subsidiaries to meet any internal or disseminated projections, forecasts or revenue or earnings predictions for any period (it being understood that the facts and circumstances giving rise or contributing to such failure may be taken into account in determining whether there has been a Material Adverse Effect), shall not be taken into account in determining whether a "Material Adverse Effect" has occurred, except, in respect of clauses (a) thorough (e) above, to the extent that such event, occurrence, fact, condition or change has or had a disproportionate effect on the Company Group compared to other participants in the industry in which the Company Group conducts the Business.

" Material Customer " shall have the meaning set forth in Section 4.24 .

" Material Supplier " shall have the meaning set forth in Section 4.24 .

" Mini-Basket " shall have the meaning set forth in Section 9.2(a) .

" Minnesota Investment Fund Payment " means the amount payable to the Company pursuant to Loan Agreement, dated as of July 15, 2016, by and between the Sauk Rapids Housing and Redevelopment Authority, as lender, and Talon Innovations Corporation, as borrower.

" Objection Notice " shall have the meaning set forth in Section 9.2(c)(i) .

" Ordinary Course of Business " means ordinary course of business consistent with past custom and practice (including with respect to quantity and frequency).

" Owned Proprietary Rights " means all Proprietary Rights owned or purported to be owned by the Company.

" Parties " shall have the meaning set forth in the Preamble .

" Party " shall have the meaning set forth in the Preamble .

" Permit " means any permit, license, certificate, franchise, permission, variance, clearance, registration, qualification or authorization or approval issued, granted, given or otherwise made available by or under the authority of any Governmental Authority or pursuant to any Law.

" Person " means an individual, a partnership, a limited liability company, a corporation, a cooperative, an association, a joint stock company, a trust, a joint venture, an

unincorporated organization and a governmental authority, body or entity or any department, agency or political subdivision thereof.

"Pre-Closing Tax Contest" has the meaning set forth in Section 10.1(e) .

" Pre-Closing Tax Period " shall have the meaning set forth in Section 10.1(a) .

" Proprietary Rights " means all registered and unregistered intellectual property rights throughout the world, including all of the following items along with all income, royalties, damages, equitable relief and payments due or payable prior to or at the Closing or thereafter (including damages, equitable relief and payments for past, present or future infringements, misappropriations, dilutions, or misuse thereof, the right to sue and recover for past infringements, misappropriations, dilutions or misuse thereof and any and all corresponding rights that, now or hereafter, may be secured throughout the world): (i) patents, patent applications, patent disclosures and inventions (whether or not patentable and whether or not reduced to practice) and any reissue, continuation, continuation-in-part, division, revision, extension or reexamination thereof; (ii) trademarks, service marks, industrial designs, trade dress, Internet domain names and web sites, logos, topographies, trade names and corporate names, and other indicia of source, together with all goodwill associated therewith; (iii) copyrights, copyrightable works and mask works; (iv) all registrations, applications and renewals for any of the foregoing; (v) trade secrets and confidential information (including ideas, formulae, compositions, know-how, manufacturing and production processes and techniques, research and development information, drawings, specifications, designs, plans, proposals, technical data, financial, business and marketing plans, and customer and supplier lists and related information); and (vi) computer software and software systems (including data, source code and object code, databases and related documentation).

" Purchase Price " means One Hundred Thirty Million Dollars ($130,000,000).

" R&W Policy " means that certain representation and warranty insurance policy to be issued by XL Catlin Mergers and Acquisitions Group in favor of the Buyer with a policy limit to be not less than $13,000,000.

" R&W Policy Expenses " means the costs of the R&W Policy, including the premium therefor and underwriting fees, commissions, and Taxes payable in respect thereof.

" Released Parties " shall have the meaning set forth in Section 11.12 .

" Reviewed Financial Statements " shall have the meaning set forth in Section 4.6 .

" Sanctioned Country " means any country or region that is, or has been in the last five years, the subject or target of a comprehensive embargo under Sanctions Laws (including, without limitation, Cuba, Iran, North Korea, Sudan, Syria, and the Crimea region of Ukraine).

" Sanctioned Person " means any individual or entity that is the subject or target of sanctions or restrictions under Sanctions Laws or Ex-Im Laws, including: (i) any individual or entity listed on any applicable U.S. or non-U.S. sanctions- or export-related restricted party list, including, without limitation, the U.S. Department of the Treasury Office of Foreign Assets Control's (" OFAC ") Specially Designated Nationals and Blocked Persons List; (ii) any entity that

is, in the aggregate, 50 percent or greater owned, directly or indirectly, or otherwise controlled by a person or persons described in clause (i); or (iii) any national of a Sanctioned Country.

" Sanctions Laws " means all U.S. and non-U.S. Laws relating to economic or trade sanctions, including, without limitation, the Laws administered or enforced by the United States (including by OFAC or the U.S. Department of State), and the United Nations Security Council.

" Seller " shall have the meaning set forth in the Preamble .

" Seller Parties " shall have the meaning set forth in Section 9.2(b) .

" Shares " shall have the meaning set forth in the Recitals .

" Shortfall Amount " shall have the meaning set forth in Section 2.3(d)(i) .

" Straddle Period " shall have the meaning set forth in Section 10.1(d) .

" Subsidiary " means, with respect to any Person, any entity of which securities or other ownership interests having ordinary voting power to elect a majority of the board of directors or other persons performing similar functions are at the time directly or indirectly owned by such Person.

" Target Working Capital " means an amount equal to Fifteen Million One Hundred Forty Three Thousand Eight Hundred Sixty One Dollars ($15,143,861).

" Tax " or " Taxes " means any federal, state, local or foreign income, gross receipts, capital gains, franchise, alternative or add-on minimum, estimated, sales, use, goods and services, transfer, registration, value added, excise, natural resources, severance, stamp, occupation, premium, windfall profit, environmental, customs, duties, real property, personal property, escheat, capital stock, social security, unemployment, employment, disability, payroll, license, employee or other withholding, contributions or other tax, of any kind whatsoever, including any interest, penalties or additions to tax or additional amounts in respect of the foregoing, whether disputed or not.

" Tax Representations " shall have the meaning set forth in Section 9.1 .

" Tax Returns " means returns, declarations, reports, claims for refund, information returns or other documents (including any related or supporting schedules, statements or information) filed or required to be filed in connection with the determination, assessment or collection of Taxes of any party or the administration of any laws, regulations or administrative requirements relating to any Taxes.

" Transaction Documents " means this Agreement, the Escrow Agreement, and any other agreement entered into pursuant hereto to which the Seller and/or the Company is a party; provided that in no event shall any employment agreement, transaction bonus agreement or similar agreement entered into with any employee of the Company or any agreement or document executed to consummate the Debt Financing constitute a Transaction Document hereunder.

" Transaction Expenses " means the aggregate amount of unpaid fees, commissions or expenses that have been incurred on or prior to the Closing on behalf of the Company, the Seller or any of their respective Affiliates, for which the Company Group is liable or for which the Buyer or any of its Affiliates is liable on behalf of the Seller or Company Group as a result of the transactions contemplated by this Agreement or the Transaction Documents, in connection with the preparation, negotiation and execution of this Agreement and/or the consummation or performance of any of the transactions contemplated by this Agreement and the other Transaction Documents or relating to bonuses, wages, vacation accruals, severance and any other outstanding liabilities to the independent contractors and employees of the Company payable as a result of or in connection with the transactions contemplated hereby, and any expenses borne or to be borne by the Company as a result of the consummation transactions contemplated hereby or payments made in respect of any equity incentives or similar arrangements (and, in each case, the employer portion of any payroll, social security, unemployment or similar Tax incurred in connection therewith (without duplication of any Taxes taken into account as Indebtedness)), and any other (i) fees and expenses of any broker, investment banker or financial advisor, (ii) fees and expenses of counsel, advisors, consultants, investment bankers, accountants, auditors and experts, (iii) severance, stay, retention, sale, change of control or similar payment made or required to be made with respect to any current or former director, officer, employee, contractor, consultant or agent as a result of, or in connection with, this Agreement and the transactions contemplated by this Agreement and the employer portion of payroll, social security, unemployment or similar Taxes relating thereto, (iv) the pro rata portion (based on the number of days of the year elapsed through the Closing Date) of bonuses payable by the Company with respect to the fiscal year ending December 31, 2017, and any Taxes payable by the Company in connection therewith (including the employer portion of any payroll, social security, unemployment or similar Tax imposed on such amounts), solely to the extent not paid prior to the Closing or not accrued for and included in the calculation of Working Capital. Notwithstanding anything to the contrary contained herein, " Transaction Expenses " shall not include (A) any amounts included in Indebtedness (i.e., there shall be no duplication of any amounts as Indebtedness and Transaction Expenses), (B) any amounts that are reflected in the Working Capital as a current liability or (C) expenses incurred by the Company Group pursuant to Section 8.9 .

" WARN Act " means the Worker Adjustment Retraining and Notification Act of 1988 any or similar state or local Law;

" Working Capital " means the Company's current assets (excluding cash and Tax assets) less current liabilities (excluding Tax liabilities, Indebtedness and Transaction Expenses), each calculated in accordance with the Accounting Policies and Principles, consistently applied.

1.2 Other Definitional and Interpretative Provisions

(a) The words "hereof," "herein" and "hereunder" and words of like import used in this Agreement shall refer to this Agreement as a whole and not to any particular provision of this Agreement. The captions herein are included for convenience of reference only and shall be ignored in the construction or interpretation hereof. References to Articles, Sections, Exhibits and Schedules are to Articles, Sections, Exhibits and Schedules of this Agreement unless otherwise specified. All Exhibits and Schedules annexed hereto or referred to herein are hereby incorporated in and made a part of this Agreement as if set

forth in full herein. Any capitalized terms used in any Exhibit or Schedule but not otherwise defined therein, shall have the meaning as defined in this Agreement. Any singular term in this Agreement shall be deemed to include the plural, and any plural term the singular. Whenever the words "include," "includes" or "including" are used in this Agreement, they shall be deemed to be followed by the words "without limitation," whether or not they are in fact followed by those words or words of like import. "Writing," "written" and comparable terms refer to printing, typing and other means of reproducing words (including electronic media) in a visible form. References to any agreement or contract are to that agreement or contract as amended, modified or supplemented from time to time in accordance with the terms hereof and thereof. References to any Person include the successors and permitted assigns of that Person. References from or through any date mean, unless otherwise specified, from and including or through and including, respectively. References to "law" or "laws" shall be deemed also to include any and all Laws. References to "Dollars" and "$" mean U.S. dollars. Whenever this Agreement refers to a number of days, such shall refer to calendar days, unless such reference is specifically to "Business Days."

ARTICLE II
PURCHASE AND SALE

2.1 Purchase of Shares

At the Closing and subject to the terms and conditions of this Agreement, Buyer shall purchase, and the Seller shall sell, convey, assign, transfer and deliver, free and clear of all Liens (other than transfer restrictions under applicable securities Laws), to Buyer, the Shares (the " Purchase ").

2.2 Payment of Closing Amounts

On the Closing Date, Buyer shall pay, repay or deliver, as applicable:

(a) the Closing Purchase Amount (by wire transfer in immediately available funds) to the Seller.

(b) all Indebtedness of the Company outstanding as of immediately prior to the Closing and set forth on the Indebtedness Payoff Schedule delivered at Closing and attached hereto. In order to facilitate such repayment, prior to the Closing, the Seller shall cause the Company to obtain and deliver to Buyer payoff letters for all such Indebtedness, which payoff letters shall be in form and substance reasonably acceptable to Buyer and shall indicate that the lenders of such Indebtedness have agreed to release all Liens in respect of such Indebtedness relating to the assets and properties of the Company upon receipt of the amounts indicated in such payoff letters (the " Payoff Letters ").

(c) the Company's Transaction Expenses set forth on the Company Transaction Expenses Payment Schedule delivered at Closing and attached hereto, on behalf of the Company, the Seller or their respective Affiliates, as applicable, to the extent unpaid as of immediately prior to the Closing. In order to facilitate such payment, prior to the Closing,

the Seller shall cause the Company to obtain and deliver to Buyer invoices with respect to each such Transaction Expenses that is to be paid by Buyer pursuant to this Section 2.2(c).

(d) the Escrow Amount to the Escrow Agent.

2.3 Closing Statement; Post-Closing Adjustments to Purchase Price

(a) Determination of Closing Adjustment. No later than three (3) Business Days prior to the Closing, the Company shall provide Buyer with a written statement certified by an executive officer of the Company (the "Estimated Closing Statement") of its good faith estimate of Working Capital as of the close of business on the day prior to the Closing Date ("Estimated Working Capital"), its good faith estimate of the aggregate amount of all Cash of the Company as of the close of business on the day prior to the Closing Date ("Estimated Cash"), its good faith estimate of the aggregate amount of all Indebtedness of the Company as of immediately prior to the Closing ("Estimated Indebtedness"), its good faith estimate of the aggregate amount of all Transaction Expenses that will be unpaid as of immediately prior to the Closing ("Estimated Transaction Expenses"), and the amount, if any, by which the Purchase Price is to be adjusted as a result thereof. The Company shall reasonably consult with Buyer prior to delivery of the Estimated Closing Statement; provided, that in no event shall such consultation or the delivery of such Estimated Closing Statement be deemed to constitute the agreement of Buyer to any of the estimates or amounts set forth in such Estimated Closing Statement, and in no way shall delivery of the Estimated Closing Statement or the consummation of the Closing be construed as a waiver by Buyer of its rights under this Section 2.3. In connection with the preparation of the Estimated Closing Statement, the Seller shall consult in good faith with Buyer regarding the amounts and calculations therein, and provide Buyer with reasonable supporting documentation for the calculations included therein, and make the financial records of the Company Group reasonably available to Buyer in connection therewith and consider in its sole discretion any comments or modifications from Buyer; provided that the Estimated Working Capital, Estimated Cash, Estimated Indebtedness and Estimated Transaction Expenses set forth in the Estimated Closing Statement (i)will be prepared in accordance with the definitions thereof and, in the case of Estimated Working Capital, Estimated Cash and Estimated Indebtedness, consistently with the Accounting Policies and Principles, and (ii) will disregard any and all effects on the assets and Liabilities of the Company as a result of the transactions contemplated by this Agreement (including any financing arrangements entered into by Buyer or any of its Affiliates in connection therewith or any purchase accounting or other similar adjustments).

(b) Determination of Post-Closing Adjustment. No later than ninety (90) days following the Closing, Buyer shall deliver to the Seller a written statement certified by an executive officer of Buyer (the "Closing Statement") setting forth the calculation of the actual Working Capital as of the close of business on the day prior to the Closing Date ("Actual Working Capital"), a calculation of the actual Cash of the Company as of the close of business on the day prior to the Closing Date ("Actual Cash"), a calculation of the actual Indebtedness of the Company as of immediately prior to the Closing ("Actual Indebtedness"), a calculation of the actual Transaction Expenses as of the Closing ("Actual Transaction Expenses"). The Actual Working Capital, Actual Cash, Actual Indebtedness

and Actual Transaction Expenses set forth in the Closing Statement (i) will be prepared in accordance with the definitions thereof and, in the case of Actual Working Capital, Actual Cash and Actual Indebtedness, consistently with the Accounting Policies and Principles, and (ii) will disregard any and all effects on the assets and Liabilities of the Company as a result of the transactions contemplated by this Agreement (including any financing arrangements entered into by Buyer or any of its Affiliates in connection therewith or any purchase accounting or other similar adjustments). If the Closing Statement is not delivered within ninety (90) days following the Closing, the Estimated Cash, the Estimated Indebtedness and the Estimated Transaction Expenses will be deemed the Final Cash, Final Indebtedness, and Final Transaction Expenses, respectively, absent manifest error.

(c) Disputed Final Adjustment .

(i) No later than thirty (30) days following the delivery by Buyer of the Closing Statement, the Seller shall notify Buyer in writing whether it accepts or disputes the accuracy of the calculation of Actual Working Capital, Actual Cash, Actual Indebtedness and Actual Transaction Expenses. During such thirty (30) day period, the Seller and its agents shall be provided with such access to the financial books and records of the Company as well as any relevant work papers of the Company Group as the Seller may reasonably request to enable it to evaluate the calculations of Actual Working Capital, Actual Cash, Actual Indebtedness and Actual Transaction Expenses prepared by Buyer. If the Seller accepts the calculation of Actual Working Capital, Actual Cash, Actual Indebtedness and Actual Transaction Expenses determined pursuant to Section 2.3(b) , or if the Seller fails within such thirty (30) day period to notify Buyer of any dispute with respect thereto, then the calculation of Actual Working Capital determined pursuant to Section 2.3(b) shall be the " Final Working Capital ," the calculation of Actual Cash determined pursuant to Section 2.3(b) shall be the " Final Cash ," the calculation of Actual Indebtedness determined pursuant to Section 2.3(b) shall be the " Final Indebtedness ," and the calculation of Actual Transaction Expenses determined pursuant to Section 2.3(b) shall be the " Final Transaction Expenses ," which, in each case, shall be deemed final and conclusive and binding upon all Parties in all respects.

(ii) If the Seller disputes the accuracy of the calculation of Actual Working Capital, Actual Cash, Actual Indebtedness or Actual Transaction Expenses, the Seller shall provide written notice to Buyer no later than thirty (30) days following the delivery by Buyer to the Seller of the calculation of Actual Working Capital, Actual Cash, Actual Indebtedness and Actual Transaction Expenses (the " Dispute Notice "), setting forth in reasonable detail those items that the Seller disputes (each such item, an " Item of Dispute "). During the thirty (30) day period following delivery of the Dispute Notice, Buyer and the Seller shall negotiate in good faith with a view to resolving their disagreements over each Item of Dispute. During such thirty (30) day period and until the final determination of Actual Working Capital, Actual Cash, Actual Indebtedness and/or Actual Transaction Expenses in accordance with this Section 2.3(c)(ii) or Section 2.3(c)(iii) , as the case may be (as so determined, or as determined pursuant to

Section 2.3(c)(i) above, " Final Working Capital ," " Final Cash ," " Final Indebtedness ," and " Final Transaction Expenses ," respectively), the Seller and its agents shall be provided with such access to the financial books and records of the Company Group, as well as any relevant work papers of the Company, during normal business hours and without interruption to the Business, as the Seller may reasonably request to enable it to address all matters set forth in any Dispute Notice. If the Parties resolve their differences over the disputed items in accordance with the foregoing procedure, Final Working Capital, Final Cash, Final Indebtedness and/or Final Transaction Expenses shall be the amounts agreed upon by them. If the Parties fail to resolve their differences over the disputed items within such thirty (30) day period, then Buyer and the Seller shall forthwith jointly select a mutually agreeable, nationally or regionally recognized accounting firm (the " Accounting Arbitrator ") to make a binding determination as to the disputed items in accordance with this Agreement.

(iii) The Accounting Arbitrator will under the terms of its engagement have no more than thirty (30) days from the date of referral and no more than ten (10) Business Days from the final submission of written information and written testimony by Buyer and the Seller (which will be provided to each other) within which to render its written decision with respect to each Item of Dispute (and only with respect to any unresolved Items of Dispute set forth in the Dispute Notice) and the final calculation of Actual Working Capital, Actual Cash, Actual Indebtedness and/or Actual Transaction Expenses shall be based solely on the resolution of such Items of Dispute in accordance with the Accounting Policies and Principles. The Accounting Arbitrator shall review such written submissions, and base its determination solely on such submissions and in accordance with this Agreement; provided , that in resolving any disputed item, the Accounting Arbitrator may not assign a value to any item greater than the maximum value or less than the minimum value for each such item claimed by the Seller in the Estimated Working Capital, Estimated Cash, Estimated Indebtedness or Estimated Transaction Expenses or by Buyer in the Actual Working Capital, Actual Cash, Actual Indebtedness or Actual Transaction Expenses, as applicable. The decision of the Accounting Arbitrator shall be deemed final and binding upon the Parties and enforceable by any court of competent jurisdiction and the Accounting Arbitrator's final calculation of Actual Working Capital shall be deemed the " Final Working Capital ," the Accounting Arbitrator's final calculation of Actual Cash shall be deemed the " Final Cash ," the Accounting Arbitrator's final calculation of Actual Indebtedness shall be deemed the " Final Indebtedness ," and/or the Accounting Arbitrator's final calculation of Actual Transaction Expenses shall be deemed the " Final Transaction Expenses ." The fees and expenses of the Accounting Arbitrator shall be allocated to be paid by Buyer, on the one hand, and the Seller, on the other, based upon the percentage that the portion of the contested amount not awarded to each Party bears to the amount actually contested by such Party, as determined by the Accounting Arbitrator.

(d) Payment following Calculation of Final Working Capital, Final Cash, Final Indebtedness and Final Transaction Expenses.

(i) Following the determination of Final Working Capital, Final Cash, Final Indebtedness and Final Transaction Expenses, the Closing Purchase Amount shall be recalculated by substituting the Final Working Capital for the Estimated Working Capital in Section 2.3(a) , the Final Cash for the Estimated Cash in Section 2.3(a) , the Final Indebtedness for the Estimated Indebtedness in Section 2.3(a) , and the Final Transaction Expenses for the Estimated Transaction Expenses in Section 2.3(a) (the " Adjusted Purchase Amount ") and if (A) the Adjusted Purchase Amount is greater than the Closing Purchase Amount (such excess amount, if any, the " Excess Amount "), then (I) Buyer and the Seller shall within three (3) Business Days cause the Escrow Agent to release to the Seller the Adjustment Escrow Amount and (II) Buyer shall within three (3) Business Days pay to the Seller the Excess Amount; (B) the Closing Purchase Amount is greater than the Adjusted Purchase Amount (such shortfall amount, if any, the " Shortfall Amount "), then within three (3) Business Days Buyer and the Seller shall cause the Escrow Agent to release to Buyer an aggregate amount equal to the Shortfall Amount from the Adjustment Escrow Amount (with any Shortfall Amount that exceeds the Adjustment Escrow Amount to come from the Indemnification Escrow Amount, or if the Indemnification Escrow Amount has been released or exhausted, from the Seller directly); provided that if the Shortfall Amount is less than the Adjustment Escrow Amount, then within three (3) Business Days Buyer and the Seller shall cause the Escrow Agent to release to the Seller the remaining amount of the Adjustment Escrow Amount; and (C) the Closing Purchase Amount is equal to the Adjusted Purchase Amount, then neither party shall make any payment pursuant to this Section 2.3(d) and within three (3) Business Days Buyer and the Seller shall cause the Escrow Agent to release to the Seller the Adjustment Escrow Amount.

(ii) All payments pursuant to this Section 2.3(d) shall be made by wire transfer of immediately available funds to an account designated in advance by the Seller or Buyer, as applicable, and shall be made on or prior to the fifth (5 th) Business Day following: (A) the thirty (30)-day period following Buyer's delivery of the calculation of the Actual Working Capital, Actual Cash, Actual Indebtedness and Actual Transaction Expenses pursuant to Section 2.3(b) if the Seller does not timely dispute any of such amounts pursuant to Section 2.3(c)(i) ; (B) the date of the Seller's and Buyer's mutual determination of Final Working Capital, Final Cash, Final Indebtedness and Final Transaction Expenses in the event the Seller timely disputes either of such amounts pursuant to Section 2.3(c)(i) and the Seller's and Buyer's differences are resolved without the engagement of an Accounting Arbitrator pursuant to Section 2.3(c)(ii) ; and (C) the date of the Accounting Arbitrator's determination of Final Working Capital, Final Cash, Final Indebtedness and/or Final Transaction Expenses pursuant to Section 2.3(c)(iii) in the event the Seller timely disputes either of such amounts pursuant to Section 2.3(c)(i) and the Seller and Buyer are unable to resolve their differences pursuant to Section 2.3(c)(ii) .

2.4 Closing Transactions

(a) Closing . The closing of the transactions contemplated by this Agreement (the " Closing ") shall take place at the offices of Kirkland & Ellis LLP at 555 California Street, Suite 2700, San Francisco, California, 94104, on the second Business Day following the satisfaction (or waiver by the party entitled to the benefit thereof) of the conditions to the Closing set forth in Section 7.1 and Section 7.2 (other than the conditions that must be satisfied (or waived by the party entitled to the benefit thereof) at the Closing, but subject to the satisfaction or waiver of such conditions at the Closing). The date upon which the Closing occurs shall be referred to as the " Closing Date ." The Closing shall be deemed to be effective as 12:01 a.m. on the Closing Date. All proceedings to be taken and all documents to be executed and delivered by all Parties at the Closing will be deemed to have been taken and executed simultaneously and no proceedings will be deemed to have been taken nor documents executed or delivered until all have been taken, executed and delivered.

(b) Closing Transactions . On the Closing Date, the Parties shall consummate the following " Closing Transactions ":

(i) The Seller shall deliver to Buyer the Shares;

(ii) Buyer shall deliver to the Seller the consideration specified in Section 2.2(a) in exchange for the transfer to Buyer of the Shares; and

(iii) The Parties and their respective Affiliates shall deliver the certificates and other documents and instruments required to be delivered by or on behalf of such Party under Article III .

2.5 Use of Cash

The Parties hereby agree that, notwithstanding anything to the contrary herein: (A) the Seller may cause the Company Group to use Cash to pay, on or prior to the Closing, all Indebtedness and/or Transaction Expenses; and (B) the Subsidiaries of the Company may make cash advances, cash dividend payments or other cash distributions to the Company and/or its other Subsidiaries for purposes of the Company's or any of its Subsidiaries' paying, on or prior to the Closing, such Indebtedness and/or Transaction Expenses.

2.6 Minnesota Investment Fund Payout

Within ten (10) Business Days following receipt by the Company Group of the Minnesota Investment Fund Payment, Buyer shall pay (or cause the Company to pay) to the Seller the amount of the Minnesota Investment Fund Payment. If all or any portion of the Minnesota Investment Fund Payment is required by the State of Minnesota to be returned (other than due to a breach of the terms thereof by Buyer or the Company Group), then, within ten (10) business days of receipt by the Seller of documentation from the State of Minnesota confirming such requirement, the Seller shall pay to Buyer or its designee such returned amount.

2.7 Tax Withholding

Notwithstanding anything in this Agreement to the contrary, Buyer and the Company shall be entitled to deduct and withhold from the amounts paid hereunder as Buyer or the Company, as applicable, is required to deduct and withhold with respect to the making of such payment under the Code or any applicable provision of state, local or foreign Tax law; provided, however, that Buyer (or its designee) shall use commercially reasonable efforts to give the Seller three (3) days advance written notice prior to any such withholding to permit the Seller to take any reasonably available steps to eliminate or minimize such withholding and Buyer (or its designee) shall cooperate in good faith with any reasonable request of the Seller to eliminate or minimize such withholding. Any amounts deducted and withheld pursuant to this Section 2.7 shall be timely paid over to the proper Governmental Authority. To the extent that amounts are so deducted or withheld by Buyer or the Company and paid over to the proper Governmental Authority, such deducted or withheld amounts shall be treated for all purposes of this Agreement as having been paid to the Person in respect of which such deduction and withholding was made.

ARTICLE III
CLOSING DELIVERIES

3.1 Seller Closing Deliveries

On the Closing Date, the Seller and the Company shall deliver, or caused to be delivered, to Buyer, each of the following:

(a) copies of all third party, governmental and regulatory approvals, authorizations, filings, releases, waivers, terminations or other consents required in connection with the consummation of the transactions contemplated by this Agreement and the other Transaction Documents that are set forth on Schedule 3.1(a) ;

(b) certified copies of the certificate of incorporation and bylaws of the Company and the resolutions of its board of directors and the Seller's board of managers authorizing the execution, delivery and performance of this Agreement and the other Transaction Documents to which the Company or the Seller, as applicable, are a party, as applicable, and approving the consummation of the transactions contemplated hereby and thereby;

(c) a certified copy of the resolution of the Company's board of directors terminating the Company's 401(k) plan no later than the day prior to the Closing Date, contingent on the occurrence of the Closing;

(d) certificates of the secretary of state of the State of Minnesota and each jurisdiction where the Company is qualified to do business (including, without limitation, the states listed on Schedule 4.1(a)) stating that the Company is in good standing;

(e) a non-foreign affidavit from the Seller dated as of the Closing Date, sworn under penalty of perjury and in form and substance required under the Treasury Regulations issued pursuant to Code §1445 certifying that the Seller is not a "Foreign Person" as defined in Code §1445;

(f) the Escrow Agreement, duly executed by each of the Seller and the Escrow Agent;

(g) the Payoff Letters;

(h) written resignations in the form attached as Exhibit A from each director of the Company Group, effective at or prior to the Closing;

(i) all other documents, instruments and certificates specifically required by this Agreement to be delivered by the Company and/or the Seller at the Closing;

(j) evidence, in form and substance reasonably satisfactory to Buyer, of the termination of the Contracts set forth on Schedule 3.1(j) ;

(k) a certificate to the effect that each of the conditions specified in Section 7.1(a) and Section 7.1(b) have been satisfied; and

(l) such other documents, instruments or certificates as Buyer may reasonably request to effect the transactions contemplated hereby.

3.2 Buyer Closing Deliveries

Buyer shall deliver, or shall cause to be delivered, to the Seller, as applicable:

(a) evidence of the wire transfers referred to in Section 2.2(a) (as promptly as reasonably practicable following the availability thereof after the Closing)

(b) the Escrow Agreement, duly executed by Buyer and the Escrow Agent;

(c) certified copies of the resolutions of Buyer's board of managers authorizing the execution, delivery and performance of this Agreement and the other Transaction Documents and approving the consummation of the transactions contemplated hereby and thereby;

(d) a certificate to the effect that each of the conditions specified in Section 7.2(a) has been satisfied;

(e) the resolutions of Buyer's board of managers authorizing the execution, delivery and performance of this Agreement and the other Transaction Documents to which it is a party, and approving the consummation of the transactions contemplated hereby and thereby;

(f) certificates of the secretary of state of the State of Delaware stating that the Buyer is in good standing; and

(g) such other documents, instruments or certificates as the Seller may reasonably request to effect the transactions contemplated hereby.

ARTICLE IV
REPRESENTATIONS AND WARRANTIES CONCERNING THE COMPANY

As a material inducement to Buyer to enter into and perform its obligations under this Agreement, the Seller and the Company hereby represent and warrant to Buyer, jointly and severally, as of the date hereof and as of the Closing, that:

4.1 Organization and Corporate Power; Capitalization

(a) The Company is a corporation duly organized, validly existing and in good standing under the laws of the State of Minnesota. Each Subsidiary of the Company is duly organized, validly existing and in good standing (in jurisdictions where the concept of "good standing" is applicable) in the jurisdiction in which such member is organized. The Company Group is qualified to do business in every jurisdiction in which such qualification is necessary, except where the failure to so qualify has not had or would not reasonably be expected to have a Material Adverse Effect. All jurisdictions in which the Company or its Subsidiaries is qualified to do business are set forth on Schedule 4.1(a). The Company Group has full corporate power and authority. The Company has delivered to Buyer correct and complete copies of its certificate of incorporation and bylaws (each as amended to date) or other Governing Documents for each member of the Company Group. No member of the Company Group is in default under or in violation of any provision of its certificate of incorporation or bylaws (or similar governing documents). The Company Group does not own or have any right to acquire, directly or indirectly, any outstanding capital stock of, partnership interest, joint venture interest, equity participation or other security or interest in, any other Person.

(b) The authorized and issued and outstanding shares of capital stock of the Company, including the beneficial ownership with respect to such stock, is as set forth on Schedule 4.1(b). All issued and outstanding shares of capital stock of the Company have been duly authorized and are validly issued, fully paid and non-assessable. There are no outstanding options, warrants, rights to subscribe to, or securities or rights convertible into, units or shares or evidencing ownership of the Company capital stock or contracts, commitments, understandings, or arrangements by which such entity is bound to issue additional shares of capital stock. There are no voting trusts, proxies or similar voting arrangements with respect to the capital stock of the Company.

(c) Schedule 4.1(c) sets forth the name and title of each officer and director for each member of the Company Group.

4.2 Authorization of Transactions

The Company has full corporate power and authority to execute and deliver this Agreement and each of the Transaction Documents, as applicable, to which it is a party and to consummate the transactions contemplated thereby. No other corporate proceedings on the part of the Company is necessary to approve and authorize the execution and delivery of this Agreement or the other Transaction Documents to which the Company is a party and the consummation of the transactions contemplated hereby and thereby. This Agreement and all other

Transaction Documents to which the Company is a party have been duly executed and delivered by the Company and constitute valid and binding agreements of the Company, enforceable against the Company in accordance with their terms (subject to applicable bankruptcy, insolvency, reorganization, moratorium or other laws affecting generally the enforcement of creditors' rights and subject to general principles of equity).

4.3 Subsidiaries

Except as set forth on Schedule 4.3 attached hereto, (i) at all times prior to the date hereof, the Company has not had any Subsidiaries; and (ii) each Subsidiary set forth on Schedule 4.3 is directly and wholly-owned by the Company.

4.4 Sufficiency of Assets

The assets of the Company Group, including the assets leased by the Company Group or provided by third-parties to the Company Group, in each case, pursuant to valid Contracts, constitute all the assets and services used by the Company Group in operating the Business of the Company Group as currently conducted. Buyer will acquire the Company Group with such assets at the Closing.

4.5 Absence of Conflicts

Except as set forth on Schedule 4.5 attached hereto, the execution, delivery and performance of this Agreement and the other Transaction Documents and the consummation of the transactions contemplated hereby and thereby by the Company do not and shall not (a) conflict with or result in any breach of any of the terms, conditions or provisions of, (b) constitute a default under, (c) result in a violation of, (d) give any third party the right to modify, terminate or accelerate or cause the modification, termination or acceleration of, any obligation under, (e) result in the creation of any Lien upon any asset of the Company Group, or (f) require any authorization, consent, approval, exemption or other action by or notice or declaration to, or filing with, any Governmental Authority, under (i) the provisions of the formation documents of any member of the Company Group, (ii) any Material Contract, (iii) any Law to which any member of the Company Group is subject or (iv) any judgment, order or decree to which any member of the Company Group is subject.

4.6 Financial Statements

(a) The Company has delivered to Buyer the following financial statements, copies of which are attached hereto as Schedule 4.6(a) (collectively, the " Financial Statements "):

(i) the audited consolidated balance sheets of the Company Group as of December 31, 2015 and December 31, 2016, and the related consolidated statements of operations, stockholders' equity and cash flows for the fiscal periods then ended, and the related notes to such financial statements;

(ii) the unaudited consolidated balance sheet of the Company Group as of August 31, 2017 (the " Latest Balance Sheet "), and the related unaudited

consolidated statements of operations, stockholders' equity and cash flows for the eight (8)-month period then ended.

The Financial Statements fairly present in all material respects (i) the financial position of the Company Group and (ii) the results of operations, changes in cash flows and stockholders' equity of the Company Group, as applicable, as of the date of and for the periods referred to in such Financial Statement, and are consistent with the books and records of the Company Group, which in turn present fairly the financial condition and results of operations of the Company Group as of and for the periods referred to therein. Subject to the absence of footnotes and year-end audit adjustments with respect to any unreviewed Financial Statement (none of which, alone or in the aggregate, are material), the Financial Statements have been prepared consistently and in accordance with the Accounting Policies and Principles, consistently applied.

(b) To the Knowledge of the Seller, since September 4, 2012, there has never been (i) any actual fraud by any of the Company Group's employees in connection with the preparation of any financial statements of the Company, or (ii) any willful misconduct by any Company Group employee in connection with the preparation of financial statements or the internal accounting controls used by the Company Group or (iii) any written claim or allegation regarding any of the foregoing.

4.7 Absence of Undisclosed Liabilities

No member of the Company Group has any material Liability, whether incurred on or prior to the Closing, except (i) Liabilities reflected on the face of the Latest Balance Sheet, (ii) Liabilities under Contracts described in Schedule 4.11 or Schedule 4.12 or under Contracts which are not required to be disclosed thereon (but not Liabilities for breaches thereof), (iii) Liabilities which have arisen after the date of the Latest Balance Sheet in the Ordinary Course of Business otherwise in accordance with the terms and conditions of this Agreement (none of which is a liability for breach of contract, breach of warranty, tort or infringement or a claim or lawsuit or an environmental liability) and (iv) Liabilities disclosed on Schedule 4.7. No member of the Company Group has any Liability, whether vested or contingent, for any activities which are unrelated to the operation of the Business of the Company Group.

4.8 Absence of Certain Developments

Except as set forth in Schedule 4.8 and except as expressly contemplated by this Agreement, since the Latest Balance Sheet, the Company Group has conducted its business in all material respects only in the Ordinary Course of Business. Except as set forth on Schedule 4.8, since the Latest Balance Sheet, the Company Group has not:

(a) suffered a Material Adverse Effect or suffered any theft, damage, destruction or casualty loss in excess of Fifty Thousand Dollars ($50,000) in the aggregate to its assets (excluding costs associated with the maintenance and repair of the Company Group's equipment in the Ordinary Course of Business of the Company Group), whether or not covered by insurance;

(b) borrowed any amount or incurred or become subject to any Indebtedness not otherwise disclosed pursuant to the terms of this Agreement;

(c) discharged or satisfied any Lien or paid any Liability (other than Liabilities paid in the Ordinary Course of Business), prepaid any amount of Indebtedness or subjected any portion of its properties or assets to any Lien;

(d) sold, leased, licensed, assigned, transferred, pledged, allowed to lapse or cancel or otherwise disposed of or encumbered (including transfers to the Seller or any Insider) any of its tangible or intangible assets having an individual value in excess of Fifty Thousand Dollars ($50,000) (including Company Proprietary Rights) (except for sales of inventory, non-exclusive licenses granted in the Ordinary Course of Business to customers on an arm's length basis), or disclosed any confidential information (other than pursuant to agreements requiring the person to whom the disclosure was made to maintain the confidentiality of the Company Group in such confidential information);

(e) waived, canceled, compromised or released any rights or claims of value in excess of Twenty Five Thousand Dollars ($25,000) individually or Fifty Thousand Dollars ($50,000) in the aggregate, whether or not in the Ordinary Course of Business;

(f) entered into, amended or terminated any Material Contract;

(g) implemented any employee layoffs;

(h) made, granted or promised any bonus or any wage, salary or compensation increase to any director, officer, employee, sales representative or consultant or made, granted or promised any increase in any employee benefit plan or arrangement, or established, adopted, entered into, amended (excluding any amendment required by Law) or terminated any Employee Benefit Plan (or arrangement that, had it been in existence on the date of this Agreement, would be an Employee Benefit Plan);

(i) made any other change in employment terms for any of its directors and officers or entered into any transaction with any Insider;

(j) conducted its cash management customs and practices other than in the Ordinary Course of Business (including, without limitation, with respect to maintenance of working capital balances and inventory levels, collection or acceleration of accounts receivable, payment of accounts payable, accrued liabilities and other Liabilities and pricing and credit policies);

(k) made any individual capital expenditure in excess of Fifty Thousand Dollars ($50,000);

(l) made any loans or advances to, or guarantees for the benefit of, any Persons (other than advances to employees for travel and business expenses incurred in the Ordinary Course of Business which do not exceed Twenty Five Thousand Dollars ($25,000) in the aggregate);

(m) instituted or settled any claim or lawsuit for an amount involving in excess of Twenty Five Thousand Dollars ($25,000) in the aggregate or involving equitable or injunctive relief;

(n) acquired any other business or Person (or any significant portion or division thereof), whether by merger, consolidation or reorganization or by purchase of its assets or stock or acquired any other material assets outside the Ordinary Course of Business;

(o) received any notice of any claim or potential claim of ownership, interest or right by any Person other than the Company in or to the Company Proprietary Rights, or of infringement, misappropriation, dilution or misuse by the Company Group of any other Person's Proprietary Rights;

(p) materially changed the pricing or royalties set or charged by the Company Group to its customers or licensees pursuant to the terms of existing Contracts as in effect as of the date hereof; or

(q) committed or agreed to do any of the foregoing.

4.9 Real Property

(a) Schedule 4.9(a)-1 sets forth the address of each Leased Real Property, and a complete list of all Leases (including all amendments, extensions, renewals, guaranties and other written agreements with respect thereto) for each such Leased Real Property (including the date and name of the parties to such Lease document). The Company has delivered to Buyer a complete copy of each such Lease document. Except as set forth in Schedule 4.9(a)-2 , with respect to each of the Leases: (i) such Lease is legal, valid, binding, enforceable against the applicable member of the Company Group and is in full force and effect; (ii) the Company Group's possession and quiet enjoyment of the Leased Real Property under such Lease has not been disturbed, and there are no disputes with respect to such Lease; (iii) no member of the Company Group or, to the Knowledge of the Seller, any other party to the Lease is in material breach or material default under such Lease, and no event has occurred or circumstance exists which, with the delivery of notice, the passage of time or both, would constitute such a breach or default, or permit the termination, modification or acceleration of rent under such Lease; and (iv) the other party to such Lease is not an Affiliate of, and otherwise does not have any economic interest in, the Company Group.

(b) Except as set forth on Schedule 4.9(a) , the Company Group has a valid leasehold interest in the Leased Property.

(c) Except as set forth on Schedule 4.9(c) , the buildings, improvements, computer equipment, personal properties, vehicles and other tangible assets of the Company Group are operated in conformity with all applicable laws and regulations, are structurally sound (in the case of the buildings and improvements), are in good condition and repair, except for reasonable wear and tear not caused by neglect excepted, and are usable in the Ordinary Course of Business of the Company as currently conducted.

4.10 Taxes

Except as set forth on Schedule 4.10, (i) the Company Group has timely filed all Tax Returns which are required to be filed, taking into account any extension of time to file granted to or validly obtained on behalf thereof; and all such Tax Returns are true, complete and accurate in all material respects, (ii) all Taxes due and payable by the Company Group, whether or not shown on a Tax Return, have been paid, and no such Taxes are delinquent, (iii) since the date of the Latest Balance Sheet, the Company Group has not incurred any Liabilities for Taxes outside the Ordinary Course of Business; (iv) no deficiency for any amount of Tax has been asserted or assessed by a taxing authority against any member of the Company Group and the Company does not reasonably expect that any such assertion or assessment of Tax liability will be made, (v) there is no action, suit, proceeding or audit or any notice of inquiry of any of the foregoing currently in progress or pending against or with respect to any member of the Company Group regarding Taxes and, to the Knowledge of the Seller, no action, suit, proceeding or audit has been threatened against or with respect to any member of the Company Group regarding Taxes, (vi) no member of Company Group has consented to extend the time in which any Tax may be assessed or collected by any taxing authority, which extension will remain in effect after the Closing, (vii) no member of the Company Group has been a member of an Affiliated Group, other than any such group of which the Company is the common parent, (viii) no claim has ever been made in writing by a taxing authority in a jurisdiction where a member of the Company Group does not file Tax Returns that such entity, as applicable, is or may be subject to Taxes assessed by such jurisdiction, (ix) the Company Group does not have any Liability for Taxes of any other Person under Treasury Regulations Section 1.1502-6 (or any similar provision of state, local or foreign Tax law), as a transferee, by contract, or otherwise, (x) the Company Group has withheld and paid all Taxes required to have been withheld and paid in connection with amounts paid or owing to any employee, independent contractor, creditor, member or other third party, (xi) each contract, arrangement, or plan of the Company Group that is a "nonqualified deferred compensation plan" (as defined for purposes of Code Section 409A(d) (1)) is, and has been, in material compliance with Code Section 409A and the applicable guidance issued thereunder, (xii) the Company Group has no obligation to reimburse or "gross-up" any Person for any Taxes imposed under Section 4999 or 409A of the Code, (xiii) no Person holds Shares that are subject to a "substantial risk of forfeiture" within the meaning of Code §83 and the Treasury Regulations promulgated thereunder for which a valid Code §83(b) election has not been made, (xiv) no amount that could be received (whether in cash or property or the vesting of property) as a result of the consummation of the transactions contemplated hereby by any employee officer, director, stockholder or other service provider of any member of the Company Group would not be deductible by reason of Section 280G of the Code or would be subject to an excise tax under Section 4999 of the Code, (xv) the Company Group will not be required to include any material item of income in, or exclude any material item of deduction from, taxable income for any taxable period (or portion thereof) ending after the Closing Date as a result of any: (A) change in method of accounting for a taxable period ending on or prior to the Closing Date; (B) "closing agreement" as described in Code Section 7121 (or any corresponding or similar provision of state, local or foreign income Tax law) executed prior to the Closing; (C) intercompany transactions occurring at or prior to the Closing or any excess loss account in existence at Closing described in Treasury Regulations under Code Section 1502 (or any corresponding or similar provision of state, local or foreign income Tax law); (D) any use of an improper method of accounting for a taxable period ending on or prior to the Closing Date; (E) installment sale or open transaction disposition made prior to the Closing; (F) prepaid amount

received prior to the Closing; or (G) election by any member of the Company Group under Code Section 108(i) , (xvi) in the two year period preceding the date hereof, the Company Group has not distributed stock of another Person, or has not had its stock distributed by another Person, in a transaction that was purported or intended to be governed in whole or in part by Code Section 355 or Code Section 361 , and (xvii) the Company is not participating, and has not participated, in any "reportable transaction" as defined in Code Section 6707A(c)(1) and Treasury Regulation Section 1.6011-4(b). Notwithstanding anything to the contrary in this Agreement, the Company makes no representations or warranties in respect of the existence, amount, usability, or limitations on usage of the Tax attributes of any member of the Company Group for Tax periods (or portions thereof) beginning on or after the Closing Date, including, without limitation, net operating losses, capital loss carry forwards, foreign tax credit carry forwards, asset bases, research and development credits, and depreciation periods. The representations and warranties set forth in this Section 4.10 and Section 4.18 (to the extent related to Tax) are the Company's sole and exclusive representations and warranties regarding Tax matters of the Company Group.

4.11 Contracts and Commitments

Except as set forth on Schedule 4.11(a) attached hereto, no member of the Company Group is, as of the date of this Agreement, a party to or bound by any (each of the agreements required to be disclosed pursuant to this Section 4.11 , a " Material Contract "):

(a) Contract with any employee, director, officer, or other service provider providing (A) for employment or engagement on a full-time, part-time or consulting basis, (B) severance benefits, or (C) any change in control, sale, transaction or retention bonus;

(b) guarantee of any Liability or obligation of another Person (other than another member of the Company Group), in each case, other than commercial customer, supplier or vendor contracts entered into in the Ordinary Course of Business the primary purpose of which is not a guarantee;

(c) Contract under which it is lessee of or holds or operates any personal property owned by any other party, except for any lease of personal property under which the aggregate annual rental payments do not exceed $150,000;

(d) Contract under which it is a licensee of or is otherwise granted by a third party any rights to use any Proprietary Rights (other than commercially available off-the-shelf software products licensed under non-exclusive end-user object code license agreements);

(e) Contract under which it is a licensor or otherwise grants to a third party any rights to use any Company Proprietary Rights (other than Proprietary Rights licensed to customers on a non-exclusive basis in the Ordinary Course of Business);

(f) material (A) joint development Contract, (B) joint venture Contract, or (C) strategic alliance or similar Contract;

(g) Contract under which it is lessor of or permits any third party to hold or operate any material personal property owned or controlled by it;

(h) collective bargaining agreement or other agreement with any labor union or other labor organization;

(i) currently effective settlement, conciliation or similar Contract with any Governmental Authority or pursuant to which any member of the Company Group will have any outstanding monetary obligation after the date of this Agreement in excess of $ 150,000 or any material non-monetary obligations ;

(j) Lease;

(k) Contract with an Material Customer or Material Supplier;

(l) Contract (or group of related Contracts with the same party) that (A) is not a Contract between any member of the Company Group and a customer of the Company Group and (B) involves consideration or an outstanding monetary obligation after the date of this Agreement in excess of $150,000;

(m) Contract concerning confidentiality or non-competition or otherwise including provisions on joint price-fixing, market or customer sharing, exclusivity or market classification;

(n) Contract relating to the provision of co-location or software, data or infrastructure hosting services to the Company Group; or

(o) Contract for the development of Proprietary Rights for the benefit of the Company Group.

(p) The Seller has delivered to Buyer true, correct and complete copies of each written Material Contract, together with all amendments, waivers and other changes thereto, and true, correct and complete summaries of the material terms of each oral Material Contract, if any. Except as disclosed on Schedule 4.11(b) , (i) no Material Contract has been canceled or, to the Knowledge of the Seller, breached by the other party, and the Seller has no Knowledge of any planned breach by any other party to any Material Contract, (ii) the Company Group has performed in all material respects all the obligations required to be performed by it in connection with the Material Contracts and is not in material default under or in material breach of any Material Contract, and, to the Knowledge of the Seller, no event or condition has occurred or arisen which with the passage of time or the giving of notice or both would result in a material default or material breach thereunder, and (iii) each Material Contract is legal, valid, binding, enforceable against the applicable member of the Company Group (subject to applicable bankruptcy, insolvency, reorganization, moratorium or other laws affecting generally the enforcement of creditors' rights and subject to general principle of equity) and is in full force and effect.

(q) Since September 4, 2012, no member of the Company Group has used any name or names under which it has invoiced account debtors, maintained records regarding its assets or otherwise conducted business other than the exact names set forth on Schedule 4.11(b) .

4.12 Government Contracts

Within the last three (3) years, the Company Group has not (a) breached or violated any Law, clause or other material requirement pertaining to any Government Contract; (b) been excluded from bidding by a Governmental Authority; (c) been audited or investigated by any Governmental Authority with respect to any Government Contract; (d) conducted or initiated any internal investigation or made any disclosure with regard to any irregularity in connection with a Government Contract.

4.13 Proprietary Rights

(a) Schedule 4.13(a) sets forth a complete and correct list of: (i) all U.S. and foreign patents and patent applications owned or filed by the Company Group; (ii) all registered and material unregistered trademarks, service marks, and trade names (and applications therefor) owned by the Company Group; (iii) all registered copyrights owned by the Company Group; (iv) all Internet domain names owned by the Company Group (collectively, the " Registered Intellectual Property "). The Company Group does not own any proprietary software.

(b) (i) Except as set forth on Schedule 4.13(b)(i) , the Company Group exclusively owns and possesses all right, title and interest in and to the Registered Intellectual Property, and exclusively owns and possesses all right, title and interest in and to, or has a valid and enforceable written license to use, each other Proprietary Right used or exploited in the operation of the Business of the Company Group as currently conducted (collectively, the " Company Proprietary Rights ") free and clear of all Liens; (ii) except as set forth on Schedule 4.13(b)(ii) , no claim by any Person contesting the validity, enforceability, use or ownership of any of the Owned Proprietary Rights has been made, is currently outstanding or is threatened in writing, and, to the Knowledge of the Seller, there are no grounds for the same; (iii) no loss or expiration of any Company Proprietary Rights is pending or threatened or, to the Knowledge of the Seller, reasonably foreseeable; (iv) no member of the Company Group received any written notices of, nor to the Knowledge of the Seller, are there any facts which indicate a reasonable likelihood of, any infringement, misappropriation or dilution by, or other possible conflict by, any Person with respect to any Owned Proprietary Rights, or the Company with respect to any Proprietary Rights of any other Person (including any demand or request that the Company license rights from a third party); (v) no member of the Company Group (including the operation) has infringed, misappropriated, diluted or otherwise conflicted with any Proprietary Rights of any other Person; and (vi) to the Knowledge of the Seller, the Owned Proprietary Rights have not been infringed, misappropriated, diluted or conflicted by any other Person.

(c) Except as set forth on Schedule 4.13(c) , the Company has not disclosed any of its trade secrets or confidential information to any third party other than pursuant to a written confidentiality agreement. The Company has taken commercially reasonable actions to maintain and protect the Company Proprietary Rights, including the value of any trade secrets and any confidential information of the Company Group or of any third party that has been disclosed to the Company Group under an obligation of confidentiality.

(d) All employees and consultants responsible for the development of any Company Proprietary Rights for the Company: (i) have maintained the confidentiality of any proprietary or confidential information of the Company; and (ii) have not asserted any personal claim or interest in any Company Proprietary Rights developed by such individual. Except as set forth on Schedule 4.13(d) , all employees and consultants responsible for the development of any Company Proprietary Rights for the Company have executed and delivered to the Company written agreements providing that such individual or entity (1) shall maintain the confidentiality of any proprietary or confidential information of the Company; and (2 have assigned to the Company all right, title and interest in and to the Company Proprietary Rights developed by such individual or entity. To the Knowledge of the Seller, there have been no breaches or alleged breaches of any such instrument by such individual or entity.

(e) The computer software and hardware, and other elements of automated communications equipment or data or information processing systems, including any outsourced systems used or relied upon by the Company (collectively, the " IT Systems ") are sufficient for the Business of the Company Group as currently conducted and have not suffered any outage or failure in the past twelve (12) months that has not been remediated in all material respects. The Company maintains commercially reasonably security and backup plans and procedures. The Company has taken commercially reasonable steps to protect and preserve the integrity and operation of the IT Systems. There have been no unauthorized intrusions into or breaches of the IT Systems. The Company has obtained and possesses valid licenses to use all of the software programs present on the computers and other software-enabled electronic devices and IT Systems that it uses in connection with its business. The Company is in compliance with, and has a sufficient number of licenses for the operation of such IT Systems as currently conducted.

(f) There have not been any material problems, defects, or deficiencies in any of the Company Products that: (i) prevent such Company Products from operating substantially as described in its related documentation or specifications; (ii) prevent such Company Products from operating in all material respects as warranted to any third party; or (iii) prevent the Company from conducting its Business as currently conducted. The Company Proprietary Rights include all source-code, object code and other documentation and materials necessary to operate the Business of the Company as currently conducted, including installation and user documentation, engineering specifications, flow charts, and know-how reasonably necessary for the use, maintenance, enhancement, development and other exploitation of the Company Products.

(g) The Company and the conduct of its business have complied with all applicable Laws and Contracts entered into by the Company which contain confidentiality obligations and the Company's own policies, rules and procedures relating to the access, use, collection, processing, storage, sharing, distribution, disclosure, transfer, destruction or disposal of any personal, sensitive, or confidential information or data (whether in electronic or any other form or medium) disclosure and transfer of any such information or data collected or processed by the Company or by third parties having authorized access to the records of the Company. No written claims have been asserted or threatened against the Company by any Person alleging a violation of such Person's privacy, personal or

confidentiality rights under the privacy policies of the Company, under any Contracts entered into by the Company which contain confidentiality obligations, or under any Law. With respect to all information and data described in this section, the Company has taken industry standard steps reasonably necessary (including implementing and monitoring compliance with adequate measures with respect to technical, physical, organizational and administrative security) to ensure that the information and data is protected against loss and against unauthorized access, use, modification, disclosure or other misuse. There has been no unauthorized access to or other misuse of such information or data.

4.14 Litigation; Proceedings

Except as set forth in Schedule 4.13 , there are no, and since September 4, 2012, there have been no, Actions, judgments or decrees pending or, to the Knowledge of the Seller, threatened against or affecting any member of the Company Group at law or in equity, or before or by any Governmental Authority, and to the Knowledge of the Seller there is no basis for any of the foregoing. Since September 4, 2012, the Company Group has not received any formal written legal opinion (excluding emails and other ordinary course correspondence) of the Company's legal counsel to the effect that the Company Group is exposed from a legal standpoint to any liability which may be material to the business of the Company Group as previously, presently or proposed to be conducted. The Company Group is not subject to any outstanding order, judgment or decree issued by any Governmental Authority.

4.15 Brokerage

Except as set forth on the Schedule 4.15 , there are no other claims for brokerage commissions, finders' fees or similar compensation in connection with the transactions contemplated by this Agreement based on any arrangement or agreement made by or on behalf of the Company Group.

4.16 Governmental Licenses and Permits

Schedule 4.16 contains a complete listing of all material permits, licenses, franchises, certificates, approvals, consents, certificates of authorization, registrations and other authorizations of foreign, federal, state and local governments or regulatory authorities, or other similar rights (collectively, the " Licenses ") owned or possessed by the Company Group or used by the Company Group. The Company Group owns or possesses all right, title and interest in and to all Licenses which are necessary to conduct the business of the Company Group as currently conducted. The Company Group is currently in compliance in all material respects with the terms and conditions of such Licenses. No loss or expiration of any License is pending or, to the Knowledge of the Seller, threatened (including, without limitation, as a result of the transactions contemplated hereby) other than expiration in accordance with the terms thereof, which terms do not expire as a result of the consummation of the transactions contemplated hereby. The consummation of the transactions contemplated by this Agreement will not require any consent, renewal or formal notice with respect to any License.

4.17 Employees

(a) Except as disclosed on Schedule 4.17(a), to the Knowledge of the Seller, no executive employee and no group of employees or independent contractors of the Company Group has any plans to terminate, or materially alter the nature of, his, her or their employment or relationship as an independent contractor with the Company Group. Each member of the Company Group has complied with and is in compliance in all material respects with all applicable Laws relating to employment and labor, including provisions thereof relating to wages, hours, vacation, employee leave, overtime, employment discrimination, workers' compensation, termination and severance pay, human rights, occupational health and safety, equal opportunity, labor relations, collective bargaining and the payment of social security and other Taxes, the WARN Act, and the Immigration Reform and Control Act of 1986. The Company Group is not a party to or bound by any collective bargaining agreement or other agreement or relationship with any labor organization. There are no pending or, to the Knowledge of the Seller, threatened strikes, walkouts, lockouts, slowdowns, picketing, grievances, unfair labor practice charges or complaints or other material employee or labor disputes against or affecting the Company Group, and no such labor disputes have occurred since September 4, 2012. There is no pending or, to the Knowledge of the Seller, threatened, unfair labor practice charge or complaint against the Company Group. The Seller does not have any Knowledge of any organizational effort presently being made or threatened by or on behalf of any labor organization with respect to employees of the Company Group and since September 4, 2012, to the Knowledge of the Seller, there have been no organizational efforts by or on behalf of any labor organization with respect to employees of the Company Group. To the Knowledge of the Seller, no employee or independent contractor of the Company Group is subject to any noncompete, nondisclosure, confidentiality, employment, consulting or similar Contract relating to, affecting or in conflict with the Business as currently conducted by the Company Group or with respect to such employee's or independent contractor's right to be employed or engaged by the Company Group. Except as could not result in material Liability, the Company Group has fully and timely paid all wages, salaries, wage premiums, commissions, bonuses, expense reimbursements, severance and other compensation that has come due and payable to its current and former employees and other services providers under applicable Law, Contract, or Company Group policy. Each individual who has provided services to the Company Group, Seller, or any of its Affiliates within the past three (3) years and who was classified and treated as an independent contractor was properly classified and treated as such for purposes of applicable Law. In the past three (3) years, the Company Group has not implemented any employee layoffs that did or could give rise to notice or payment obligations under the WARN Act.

(b) Except as disclosed on Schedule 4.17(b), no member of the Company Group is party to any agreement which could require any member of the Company Group to pay any additional compensation, bonuses (including, without limitation, any change in control, transition, sale or retention bonuses) or other amounts as a result, in whole or in part, of the execution and delivery of this Agreement or the other Transaction Documents or the consummation of the transactions contemplated hereby and thereby.

4.18 Employee Benefit Plans

(a) Schedule 4.18(a) contains a true and complete list of each employee pension benefit plans (as defined in Section 3(2) of ERISA), employee welfare benefit plans (as defined in Section 3(1) of ERISA), and each other health, welfare, post-employment welfare, retirement, disability, stock option, restricted stock unit, stock appreciation rights, phantom equity, equity incentive, equity-based, profits interest, stock purchase, change in control, retention, deferred compensation (whether qualified or nonqualified), bonus, incentive, severance, separation, employment, paid-time off, or other material benefit or compensation plans, programs, policies, contracts, agreements or arrangements, whether in writing or oral and whether or not terminated, that are sponsored, maintained or contributed to by any members of the Company Group or with respect to which the Company Group has any Liability (" Employee Benefit Plans "). No employee Benefit Plan is nor does any member of the Company Group have any Liability with respect to a (i) plan that is or was subject to Title IV of ERISA or Section 412 of the Code, (ii) "multiemployer plan" (as defined in Section 3(37) of ERISA), (iii) "multiple employer plan" (as defined in Section 413 of the Code) or (iv) "multiple employer welfare arrangement" (as defined in Section 3(40) of ERISA), including as a consequence of at any time being considered a single employer under Section 414 of the Code with any ERISA Affiliate. The Company Group has no current or potential Liability or obligation to provide post-termination or post-employment health, life or other "welfare-type" benefits, other than in accordance with Section 4980B of the Code or other similar applicable state Law.

(b) The Employee Benefit Plans (and related trusts) have been funded, administered and maintained, in form and in operation, in all material respects in accordance with their terms and the requirements of applicable Laws and regulations, including ERISA and the Code; and the Employee Benefit Plans which are intended to be "qualified plans" qualify under Section 401(a) of the Code, and each such Employee Benefit Plan, and each trust (if any) forming a part thereof, has received a favorable determination letter from the Internal Revenue Service or is entitled to rely on a favorable opinion letter from the Internal Revenue Service as to the qualification under the Code of such Employee Benefit Plan and the tax-exempt status of such related trust and, to the Knowledge of Seller, nothing has occurred that could adversely affect the qualification of such Employee Benefit Plan or the tax exempt status of such related trust.

(c) Except as set forth on Schedule 4.18(c) , all required reports and descriptions (including Form 5500 Annual Reports, Summary Annual Reports and Summary Plan Descriptions) with respect to each Employee Benefit Plan have been properly and timely filed with the appropriate government agency and distributed to participants as required.

(d) Except as set forth on Schedule 4.18(d) , with respect to each Employee Benefit Plan, all contributions, distributions, reimbursements, and other payments which are due (including all employer contributions and employee salary reduction contributions) have been paid to such Employee Benefit Plan on a timely basis, all contributions, distributions, reimbursements, and other payments for prior plan years which are not yet due and with respect to the current plan year for the period ending on the Closing Date have been made or accrued in accordance with the Accounting Policies and Principles in the Company Group's financial statements, and, with respect to employee welfare benefit plans, all premiums or other payments which are due have been paid on a timely basis.

Except as taken into account in determining Estimated Working Capital, no unfunded liability exists with respect to any Employee Benefit Plan.

(e) With respect to each Employee Benefit Plan, (i) there have been no prohibited transactions as defined in Section 406 of ERISA or Section 4975 of the Code, (ii) no fiduciary (as defined in Section 3(21) of ERISA) has any material Liability for breach of fiduciary duty or any other failure to act or comply in connection with the administration or investment of the assets of such Employee Benefit Plans, (iii) no actions, audits, investigations, hearings, proceedings, suits or claims with respect to the assets thereof (other than routine claims for benefits) are pending or, to the Knowledge of the Seller, threatened, and the Seller has no Knowledge of any facts which would give rise to or could reasonably be expected to give rise to any such actions, audits, investigations, hearings, proceedings, suits or claims, and (iv) each Employee Benefit Plan that is a "group health plan" as defined in Section 733(a)(1) of ERISA has complied in all material respects with the Affordable Care Act.

(f) With respect to each of the Employee Benefit Plans, the Company has furnished to Buyer true and complete copies of (i) the plan documents (including any adoption agreement, if applicable), summary plan descriptions, summaries of material modifications, other material employee communications and a summary of any unwritten Employee Benefit Plan, (ii) the most recent determination letter or opinion letter received from the Internal Revenue Service, (iii) the Form 5500 Annual Reports (including all schedules and other attachments) for the most recent three (3) years, (iv) all related trust agreements, insurance contracts or other funding agreements which implement such Employee Benefit Plans and (v) all Contracts relating to each such plan, including, without limitation, service provider agreements, insurance contracts, investment management agreements and recordkeeping agreements.

(g) Except as disclosed in Schedule 4.18(f) the consummation of the transactions contemplated by this Agreement (either alone or in combination with any other event) will not accelerate the time of the payment, funding or vesting of, or increase the amount of, or result in the forfeiture of compensation or benefits under any Employee Benefit Plan or any other employee benefit arrangement.

4.19 Insurance

. Schedule 4.19 lists each insurance policy maintained by or on behalf of the Company Group with respect to the properties, assets and business of the Company Group, together with a claims history for the past two (2) years. All of such insurance policies are in full force and effect, and since September 4, 2012 the Company Group has not been (i) in default with respect to its Liabilities under any such insurance policies or (ii) denied insurance coverage. The Company Group has no self-insurance or co-insurance programs.

4.20 Affiliate Transactions

Except as disclosed on Schedule 4.20 , no officer, director, stockholder or other Affiliate or, to the Knowledge of the Seller, any employee of the Company Group or any individual

related by blood, marriage or adoption to any such Person or any entity in which any such Person owns any beneficial interest (collectively, the " Insiders "), is a party to any Contract with the Company Group or which is pertaining to the business of the Company Group or has any interest in any property, real or personal or mixed, tangible or intangible, used in or pertaining to the business of the Company Group, in each case, other than offer letters, employment agreements, agreements relating to confidentiality and ownership of intellectual property, and other agreements entered into with employees in the Ordinary Course of Business of the Company Group.

4.21 Compliance with Laws

Except as set forth in Schedule 4.21 , (a) the Company Group and its officers, directors, stockholders, and employees (in their capacity as such) have since September 4, 2012 complied in all material respects with and are currently in compliance in all material respects with all Laws which are applicable to the Business or the Company Group or any owned or leased properties of the Company Group and to which the Company Group or its officers, directors, stockholders, and employees (in their capacity as such) are subject, and (b) since September 4, 2012, (i) no claims have been filed against the Company Group alleging a violation of any such Laws and (ii) the Company Group has never received notice of any such violations.

4.22 Powers of Attorney; Guarantees

There are no outstanding powers of attorney executed on behalf of the Company Group other than the Company Group's accountants for Tax purposes and customary grants pursuant to equipment leases or similar arrangements with respect to the filing of financing statements and the Company Group is not a guarantor of any Indebtedness of any other Person other than endorsements for collection in the Ordinary Course of Business of the Company Group.

4.23 Environmental Compliance

Except as set forth on Schedule 4.23 hereof:

(a) The Company Group is and since September 4, 2012 has been in compliance in all material respects with all Environmental Laws, which compliance has included obtaining, maintaining, and complying with all Licenses required pursuant to Environmental Laws .

(b) The Company Group has not since September 4, 2012, or earlier if outstanding, received any notice, report, or other information from any Governmental Authority or any Person regarding any material violation of, or material Liability under, any Environmental Law.

(c) The Company Group has not manufactured, distributed, released, transported, treated, handled, stored, disposed or arranged for the disposal of, or exposed any Person to, any Hazardous Material, or owned or operated any property or facility contaminated by any Hazardous Material, in each case, so as has given or would give rise to any material Liability under any Environmental Law.

(d) The Company Group has not assumed, undertaken, become subject to, or provided an indemnity with respect to, any material Liability of any other Person relating to Environmental Laws or Hazardous Materials.

(e) The Company Group has not designed, manufactured, sold, marketed, installed, repaired, or distributed Company Products or other items containing asbestos or other Hazardous Materials and is not subject to any Liabilities with respect to the presence of asbestos or other Hazardous Materials in any Company Product or other such items or in or upon any property, premises, or facility.

(f) The Seller or the Company Group has furnished to Buyer all environmental audits, assessments, and reports and all other material environmental, health and safety documents, in each case relating to the Company Group's past or current properties, facilities, or operations which are in their possession or under their reasonable control.

4.24 Customer and Supplier Relationships

Attached as Schedule 4.24 is a list of (i) the names of each customer of the Company Group (by dollar amount of sales to such customers) that represents more than ten percent (10%) of the sales of the Company Group as a whole (the " Material Customers "), and (ii) a list of the names of the top ten (10) suppliers and vendors of the Company Group (by dollar amount of purchases from such suppliers and vendors) (the " Material Suppliers "), for each of the fiscal years ended December 31, 2015 and December 31, 2016 and the eight (8) month period ended August 31, 2017. No Material Supplier has canceled any Contract with, or otherwise ceased to do business with, the Company Group and, to the Knowledge of the Seller, there has been no threat in writing by any such Material Supplier to stop, materially decrease the rate of, or materially change the terms (whether related to payment, price or otherwise) with respect to, supplying materials, products or services to the Company Group at any time in the last two (2) years (whether as a result of the consummation of the transactions contemplated hereby or otherwise). No Material Customer has cancelled any Contract with, or otherwise ceased to do business with, the Company Group, and, to the Knowledge of the Seller, no such Material Customer has given notice to the Company Group in writing that it will materially decrease the rate of its purchases of goods and services from the Company Group (for purposes of clarification, excluding notices and other communications regarding ordinary course fluctuations from time to time). Notwithstanding the forgoing, neither the Seller nor the Company makes any representation or warranty with respect to (i) the Company Group's relationship with Buyer or any of its Affiliates as a customer of the Company Group or (ii) the impact of the announcement of the transactions contemplated hereby or the consummation thereof on any of its relationships with its Material Suppliers or Material Customers.

4.25 Inventory

The Company Group maintains sufficient inventory to conduct the business of the Company Group in the Ordinary Course of Business. Except as set forth on Schedule 4.25 , all inventory has been valued at the lesser of cost or market. To the Knowledge of the Seller, the quantities of each item of inventory (whether raw materials, intermediaries, work-in-process or finished goods) are not excessive and are reasonable (and not insufficient) in the present

circumstances of the business of the Company Group. Except as set forth on Schedule 4.25, the Company Group is not in possession of any inventory that is not owned by the Company Group, including goods already sold.

4.26 International Trade and Anti-Corruption Matters

(a) Neither the Company Group, nor any of its officers, directors or employees, nor to the Knowledge of the Seller, any agent, (x) is currently, or has been in the last five years: (i) a Sanctioned Person, (ii) organized, resident or located in a Sanctioned Country, (iii) engaging in any dealings or transactions with any Sanctioned Person or in any Sanctioned Country, to the extent such activities violate applicable Sanctions Laws or Ex-Im Laws, (iv) engaging in any export, reexport, transfer or provision of any goods, software, technology, data or service without, or exceeding the scope of, any required or applicable licenses or authorizations under all applicable Ex-Im Laws, or (v)otherwise in violation of applicable Sanctions Laws, Ex-Im Laws, or U.S. anti-boycott Laws (collectively, " Trade Control Laws "); or (y) has at any time made any unlawful payment or given, offered, promised, or authorized or agreed to give, any money or thing of value, directly or indirectly, to any Government Official or other Person in violation of any applicable Anti-Corruption Laws.

(b) Since September 4, 2012, the Company Group has not, in connection with or relating to the business of the Company Group, received from any Governmental Authority or any other Person any notice, inquiry, or internal or external allegation; made any voluntary or involuntary disclosure to a Governmental Authority; or conducted any internal investigation or audit concerning any actual or potential violation or wrongdoing, in each case related to Trade Control Laws or Anti-Corruption Laws.

4.27 NO ADDITIONAL REPRESENTATIONS AND WARRANTIES

EXCEPT FOR THE REPRESENTATIONS AND WARRANTIES OF THE SELLER AND THE COMPANY EXPRESSLY SET FORTH IN THIS AGREEMENT AND IN ANY OTHER TRANSACTION DOCUMENT TO WHICH THE SELLER OR THE COMPANY IS A PARTY, NEITHER THE COMPANY, THE SELLER, NOR ANY OF THEIR RESPECTIVE AFFILIATES OR REPRESENTATIVES MAKES OR HAS MADE, AND THE SELLER AND THE COMPANY HEREBY DISCLAIM, ANY ADDITIONAL REPRESENTATIONS OR WARRANTIES OF ANY KIND OR NATURE, EXPRESS OR IMPLIED, INCLUDING AS TO THE CONDITION, VALUE OR QUALITY OF THE BUSINESS OR THE ASSETS OF THE COMPANY GROUP OR THE MERCHANTABILITY, USAGE, SUITABILITY OR FITNESS FOR ANY PARTICULAR PURPOSE WITH RESPECT TO SUCH ASSETS OR BUSINESS, OR ANY PART THEREOF, OR AS TO THE WORKMANSHIP THEREOF, OR THE ABSENCE OF ANY DEFECTS THEREIN, WHETHER LATENT OR PATENT, IT BEING UNDERSTOOD THAT SUCH SUBJECT ASSETS ARE BEING ACQUIRED "AS IS, WHERE IS" ON THE CLOSING DATE, AND IN THEIR PRESENT CONDITION, AND BUYER SHALL RELY ON ITS OWN EXAMINATION AND INVESTIGATION THEREOF.

ARTICLE V
REPRESENTATIONS AND WARRANTIES WITH RESPECT TO THE SELLER

As a material inducement to Buyer to enter into and perform its obligations under this Agreement, the Seller hereby represents and warrants to Buyer, as of the date hereof and as of the Closing, that:

5.1 Shares

Except as set forth on Schedule 5.1 , the Seller holds of record and owns beneficially the Shares and has full right, power and authority to transfer such Shares to Buyer, free and clear of any Liens, other than Liens resulting from this Agreement. The Seller is not a party to any option, warrant, purchase right, or other contract or commitment that could require the Seller to sell, transfer, or otherwise dispose of any capital stock of the Company (other than this Agreement). Except as set forth on Schedule 5.1 , the Seller is not a party to any shareholders agreement, voting agreement, voting trust, proxy, or other agreement or understanding with respect to the voting of any capital stock of the Company.

5.2 Authorization of Transactions

The Seller has full limited liability company power, authority and legal capacity to enter into this Agreement and the other Transaction Documents to which the Seller is a party and to perform its obligations hereunder and thereunder. This Agreement and the other Transaction Documents to which the Seller is a party have been duly executed and delivered by the Seller and constitute valid and binding agreements of the Seller, enforceable in accordance with their respective terms (subject to applicable bankruptcy, insolvency, reorganization, moratorium or other laws affecting generally the enforcement of creditors' rights and subject to general principles of equity).

5.3 Absence of Conflicts

Except as set forth on Schedule 5.3 , either the execution and the delivery of this Agreement and the other Transaction Documents to which any Seller is a party, nor the consummation of the transactions contemplated hereby and thereby, shall (a) conflict with, result in a breach of any of the provisions of, (b) constitute a default under, (c) result in the violation of, (d) give any third party the right to terminate or to accelerate any obligation under, or (e) require any authorization, consent, approval, execution or other action by or notice to any court or other governmental body, under the provisions of any Contract to which the Seller is bound or affected, or any statute, regulation, rule, judgment, order, decree or other restriction of any government, governmental agency or court to which the Seller is subject.

5.4 Brokerage

There are no claims for brokerage commissions, finders' fees or similar compensation in connection with the transactions contemplated by this Agreement based on any arrangement or agreement made by or on behalf of the Seller.

5.5 Litigation

There are no actions, suits, proceedings or orders pending or, to the Knowledge of the Seller, threatened against or affecting the Seller at law or in equity, or before or by any federal, state, municipal or other governmental department, commission, board, bureau, agency or instrumentality, domestic or foreign, which would adversely affect the Seller's performance under this Agreement and the other Transaction Documents to which the Seller is a party or the consummation of the transactions contemplated hereby or thereby.

5.6 Governmental Authorities and Consents

Except as set forth on Schedule 5.6 , (i) the Seller is not required to submit any notice, report or other filing with any governmental authority in connection with the execution or delivery by it of this Agreement and the other Transaction Documents to which the Seller is a party or the consummation of the transactions contemplated hereby or thereby, and (ii) no consent, approval or authorization of any governmental or regulatory authority is required to be obtained by any Seller in connection with its execution, delivery and performance of this Agreement and the other Transaction Documents to which the Seller is a party or the transactions contemplated hereby or thereby.

5.7 NO ADDITIONAL REPRESENTATIONS AND WARRANTIES

EXCEPT FOR THE REPRESENTATIONS AND WARRANTIES OF THE SELLER SET FORTH IN THIS AGREEMENT AND IN ANY OTHER TRANSACTION DOCUMENT TO WHICH THE SELLER IS A PARTY, NEITHER THE SELLER, THE COMPANY, NOR ANY OF THEIR RESPECTIVE AFFILIATES OR REPRESENTATIVES MAKES, OR HAS MADE, AND THE SELLER HEREBY DISCLAIMS, ANY ADDITIONAL REPRESENTATIONS OR WARRANTIES OF ANY KIND OR NATURE, EXPRESS OR IMPLIED.

ARTICLE VI
REPRESENTATIONS AND WARRANTIES OF BUYER

As a material inducement to the Seller and the Company to enter into and perform their respective obligations under this Agreement, Buyer hereby represents and warrants to the Seller and the Company, as of the date hereof and as of the Closing, that:

6.1 Organization and Corporate Power

Buyer is duly organized, validly existing and in good standing under the laws of its jurisdiction of formation. Buyer is not in default under or in violation of any provision of its certificate of incorporation.

6.2 Authorization of Transaction

Buyer has full corporate power and authority to execute and deliver this Agreement and each of the Transaction Documents to which it is a party and to consummate the transactions contemplated hereby and thereby. The board of directors of Buyer has duly approved this Agreement and all other Transaction Documents to which it is a party and has duly authorized the execution and delivery of this Agreement and all other Transaction Documents to which it is a

party and the consummation of the transactions contemplated hereby and thereby. No other corporate proceedings on the part of Buyer are necessary to approve and authorize the execution and delivery of this Agreement or the other Transaction Documents to which it is a party and the consummation of the transactions contemplated hereby and thereby. This Agreement and all other Transaction Documents to which Buyer is a party have been duly executed and delivered by Buyer and constitute the valid and binding agreements of Buyer enforceable against Buyer in accordance with their terms (subject to applicable bankruptcy, insolvency, reorganization, moratorium or other laws affecting generally the enforcement of creditors' rights and subject to general principles of equity).

6.3 No Conflicts

The execution, delivery and performance of this Agreement and the other Transaction Documents and the consummation of the transactions contemplated hereby and thereby by Buyer do not and shall not (a) conflict with or result in any breach of any of the terms, conditions or provisions of, (b) constitute a default under, (c) result in a violation of, (d) give any third party the right to modify, terminate or accelerate or cause the modification, termination or acceleration of, any obligation under, (e) result in the creation of any Lien upon the assets of Buyer, or (f) require any authorization, consent, approval, exemption or other action by or notice or declaration to, or filing with, any court or administrative or other governmental body or agency, under (i) the provisions of the formation or organizational documents of Buyer, (ii) any contract to which Buyer is bound or affected, (iii) any law, statute, rule or regulation to which Buyer is subject or (iv) any judgment, order or decree to which Buyer is subject.

6.4 Governmental Authorities and Consents

Other than in connection with or in compliance with Hart-Scott-Rodino Antitrust Improvements Act of 1976 (as amended, the " HSR Act ") or any other approvals set forth on Schedule 6.4 , (i) Buyer is not required to submit any notice, report or other filing with any governmental authority in connection with the execution or delivery by it of this Agreement and the other Transaction Documents to which it is a party or the consummation of the transactions contemplated hereby or thereby, and (ii) no consent, approval or authorization of any governmental or regulatory authority is required to be obtained by Buyer in connection with its execution, delivery and performance of this Agreement and the other Transaction Documents to which it is a party or the transactions contemplated hereby or thereby.

6.5 Litigation

There are no actions, suits, proceedings or orders pending or, to Buyer's knowledge, threatened against or affecting Buyer at law or in equity, or before or by any federal, state, municipal or other governmental department, commission, board, bureau, agency or instrumentality, domestic or foreign, which would adversely affect the performance of Buyer under this Agreement and the other Transaction Documents to which Buyer is a party or the consummation of the transactions contemplated hereby or thereby.

6.6 Brokerage

There are no claims for brokerage commissions, finders' fees or similar compensation in connection with the transactions contemplated by this Agreement based on any arrangement or agreement made by or on behalf of Buyer.

6.7 Financial Ability to Perform; Solvency

(a) Buyer will have at the Closing, available cash funds, credit facilities or other sources of immediately available funds sufficient to consummate the transactions contemplated by this Agreement. Buyer's obligations to consummate the transactions contemplated by this Agreement are not subject to any financing condition (whether pursuant to the Debt Financing or otherwise).

(b) Buyer has delivered to the Seller a true, correct and complete copy of the executed commitment letter (including all exhibits, schedules and amendments thereto), dated November 3, 2017 (the " Debt Commitment Letter "), among Buyer and Merrill Lynch, Pierce, Fenner & Smith Incorporated, SunTrust Robinson Humphrey, Inc., SG Americas Securities, LLC, Bank of America, N.A., SunTrust Bank and Societe Generale , pursuant to which such parties have agreed and committed to provide financing to Buyer on the terms and conditions set forth therein on or prior to the Closing Date (the " Debt Financing "). There are no side letters or other agreements related to the funding of the Debt Financing other than the Debt Commitment Letter and the fee letter related thereto (a true, correct and complete copy of which has been provided to the Seller, except that financial and economic terms not affecting conditionality have been redacted). As of the date hereof, the Debt Commitment Letter is (a) is the valid, binding and enforceable obligation of Buyer and, to the knowledge of Buyer, the other parties thereto and, to the knowledge of the Buyer, is in full force and effect, and (b) has not been amended, restated or otherwise modified or waived. As of the date hereof, the commitments contained in the Debt Commitment Letter have not been withdrawn, modified or rescinded in any respect. There are no conditions precedent to the funding of the full amount of the Debt Financing, other than as expressly set forth in the Debt Commitment Letter. Buyer has fully paid all fees required to be paid prior to the date of this Agreement pursuant to the Debt Commitment Letter. Assuming the accuracy of the Company's and Seller's representations and warranties hereunder, as of the date hereof, to the knowledge of Buyer, no event has occurred which, with or without notice, lapse of time or both, would or would reasonably be expected to constitute a default or breach on the part of Buyer or, any other parties thereto, under the Debt Commitment Letter. Assuming the accuracy of the Company's representations and warranties hereunder, as of the date hereof, Buyer does not have any reason to believe that any of the conditions to the Debt Financing will not be satisfied or that the Debt Financing will not be available to Buyer on the Closing Date.

(c) Immediately after giving effect to the transactions contemplated by this Agreement and the closing of any financing by Buyer in connection herewith (including the Debt Financing), and assuming the accuracy of the representations and warranties of the Seller and the Company contained herein, (i) the present fair saleable value of the property of Buyer Guarantor and its Subsidiaries on a consolidated and going concern basis will be greater than the amount that will be required to pay the probable Liabilities of Buyer Guarantor and its Subsidiaries on a consolidated basis as they become absolute and

matured; (ii) Buyer Guarantor and its Subsidiaries on a consolidated basis do not intend to, and do not believe that they will, incur debts or liabilities beyond their ability to pay as such debts and liabilities mature; and (iii) Buyer Guarantor and its Subsidiaries on a consolidated basis are not engaged in business or a transaction, and are not about to engage in business or a transaction, for which Buyer Guarantor and its Subsidiaries' property on a consolidated basis would constitute unreasonably small capital.

6.8 Investigation by Buyer

Buyer acknowledges that it and its Affiliates have: (a) had an opportunity to discuss the business, management and financial affairs of the Company Group with officers of the Company Group, and (b) conducted their own independent investigation of the Company Group.

6.9 No Reliance

Buyer hereby acknowledges and agrees to the statements set forth in Section 4.28 and Section 5.7 , and that: (i) Buyer is not relying on any representations, warranties, statements or omissions of the Seller, the Company Group, or any of their respective Affiliates or representatives, other than the representations and warranties of the Seller and the Company expressly set forth in this Agreement or in any other Transaction Document to which the Seller is a party; and (ii) except to the extent specifically set forth in this Agreement and any other Transaction Document to which the Seller or the Company is a party, the Buyer is purchasing the Shares on an "as-is, where-is" basis. In connection with Buyer's investigation of the Company Group, Buyer acknowledges that Buyer or Buyer's representatives have received from or on behalf of the Company Group certain projections, including projected statements of operating revenues and income from operations of the Company Group and certain business plan information. Buyer further acknowledges that there are uncertainties inherent in attempting to make such estimates, projections and other forecasts and plans, that Buyer is familiar with such uncertainties, that Buyer is taking full responsibility for making its own evaluation of the adequacy and accuracy of all estimates, projections and other forecasts and plans so furnished to it (including the reasonableness of the assumptions underlying such estimates, projections and forecasts) and that Buyer shall have no claim against the Seller, the Company Group, or any of their respective Affiliates or representatives with respect thereto. Buyer further acknowledges that neither the Seller, the Company Group, nor any of their respective Affiliates or representatives makes or has made, and that each of them disclaims, any representations or warranties whatsoever with respect to such estimates, projections and other forecasts and plans (including the reasonableness of the assumptions underlying such estimates, projections and forecasts).

ARTICLE VII
CLOSING CONDITIONS; TERMINATION

7.1 Conditions to Obligations of Buyer

The obligation of Buyer under this Agreement to consummate the transactions contemplated hereby is subject to satisfaction of the following conditions as of the Closing:

(a) Representations and Warranties and Covenants . (i) The Fundamental Representations shall be true and correct in all but de minimis respects as of the Closing

Date as though then made (except with respect to those of such representations and warranties which speak as to a particular date, which representations and warranties shall be so true and correct at and as of such date), and (ii) the other representations and warranties set forth in Article IV and Article V shall be true and correct in all material respects (without giving effect to any "Material Adverse Effect" or other materiality qualifications therein (except Section 4.6 and Section 4.8(a)) as of the Closing Date as though then made (except with respect to those of such representations and warranties which speak as to a particular date, which representations and warranties shall be so true and correct at and as of such date). The Company shall have performed and complied with in all material respects all of its covenants and agreements required to be performed or complied with by it under this Agreement prior to the Closing Date.

(b) Absence of Material Adverse Change . From and after the date of this Agreement, there shall not have occurred a Material Adverse Effect.

(c) Absence of Litigation . There shall not be (i) in force any injunction, writ or order of any nature issued by any Governmental Authority directing that the transactions provided for herein not be consummated as herein provided or (ii) any Action, pending or threatened, before any Governmental Authority with respect to the transactions contemplated hereby.

(d) Closing Deliveries . On or prior to the Closing, the Company and the Seller shall have delivered, or caused to be delivered, to Buyer the deliverables under Section 3.1 .

(e) Regulatory Approvals . All waiting periods (and any extensions thereof) applicable to the transactions contemplated by this Agreement under the HSR Act or any other antitrust laws shall have been terminated or shall have expired. All regulatory consents and approvals set forth on Schedule 7.1(e) shall have been obtained.

(f) Third Party Consents . The Company and the Seller will have obtained (on terms reasonably satisfactory to Buyer) and delivered to Buyer all third-party consents and approvals set forth on Schedule 7.1(f) .

(g) Real Property Holding Corporation Affidavit . The Company shall deliver an affidavit and notice of the Company that meets the requirements of Treasury Regulation Section 1.897-2(h), dated within 30 days prior to the Closing Date and in form and substance reasonably acceptable to Buyer along with written authorization for Buyer to deliver such notice form to the Internal Revenue Service on behalf of the Company upon Closing.

7.2 Conditions to Obligations of the Company and the Seller

The obligation of the Company and the Seller under this Agreement to consummate the transactions contemplated hereby is subject to the satisfaction of the following conditions as of the Closing:

(a) Representations and Warranties and Covenants . The representations and warranties set forth in Article VI shall be true and correct in all material respects as of the

Closing Date as though then made (except with respect to those of such representations and warranties which speak as to a particular date, which representations and warranties shall be so true and correct in all respects at and as of such date), except as would not prevent Buyer from consummating the transactions contemplated by this Agreement. Buyer shall have performed and complied with in all material respects all of its covenants and agreements required to be performed or complied with by it under this Agreement prior to or at the Closing.

(b) Absence of Litigation . There shall not be (i) in force any injunction, writ or order of any nature issued by any Governmental Authority directing that the transactions provided for herein not be consummated as herein provided or (ii) any Action pending or threatened before any court or Governmental Authority with respect to the transactions contemplated hereby.

(c) Closing Deliveries . On or prior to the Closing, Buyer shall have delivered, or caused to be delivered, to the Company the deliverables required under Section 3.2 .

(d) Regulatory Approvals . All waiting periods (and any extensions thereof) applicable to the transactions contemplated hereby under the HSR Act or any other antitrust laws shall have been terminated or shall have expired. All regulatory consents and approvals set forth on Schedule 7.2(d) shall have been obtained.

7.3 Termination

(a) This Agreement may be terminated at any time prior to the Closing only as follows:

(i) by mutual written consent of each of Seller, Buyer and the Company;

(ii) by written notice by either Buyer, on the one hand, or the Seller or the Company, on the other hand, in either case if there has been a material breach of warranty or material breach of covenant on the part of the Company or the Seller (in the case of termination by Buyer) or Buyer (in the case of termination by the Seller or the Company) in the representations and warranties or covenants of such Party set forth in this Agreement, in each case, such that the conditions set forth in Section 7.1 (in the case of termination by Buyer) or Section 7.2 (in the case of termination by the Seller or the Company), as the case may be, could not be satisfied as of the Closing (but only if and so long as the Party seeking to terminate this Agreement under this Section 7.3(a)(ii) is not then in breach of this Agreement in any material respect, and (B) has provided written notice of such material breach and such material breach has continued without cure for twenty (20) days after such notice of breach has been delivered);

(iii) by either Buyer, on the one hand, or the Company or the Seller, on the other hand, in either case by delivery of written notice of termination to the other Parties prior to the Closing, if the Closing has not occurred by the date that is ninety (90) days after the date of this Agreement (the " Termination Date ");

provided , however , that the right to terminate this Agreement pursuant to this clause (iii) shall not be available to any party whose failure to perform or comply with any of the covenants, agreements or conditions hereof to be performed or complied with by it prior to the Closing was the primary cause of the failure to close on or before the Termination Date ; or

(iv) by either Buyer, on the one hand, or the Company or the Seller, on the other hand, in either case by delivery of written notice of termination to the other Parties prior to the Closing, if the consummation of the transactions contemplated hereby is permanently enjoined or prohibited by the terms of a final, non-appealable ruling, award, decision, determination, injunction, judgment, order, decree or subpoena entered, promulgated, issued or made by any Governmental Authority of competent jurisdiction.

(b) In the event of termination of this Agreement as provided in Section 7.3(a) hereof, this Agreement will forthwith become void and there will be no Liability or other obligation hereunder or under any of the other agreements and instruments contemplated hereby on the part of any of Buyer, the Company, the Seller, or any of their respective Affiliates, except that the provisions of this Section 7.3 , Section 10.5 , Section 10.6 and Article XI hereof will survive any such termination and except as expressly provided in the following sentence. If this Agreement is terminated pursuant to Section 7.3(a)(ii) or (iii) , such termination will not relieve or release any Party from any liability to the other Party for (A) Actual Fraud in the making of the representations and warranties herein, (B) any willful breach of covenants or agreements set forth in this Agreement (other than Section 6.7 or Section 8.9) occurring prior to such termination or (C) any breach by the Buyer Parties of Section 6.7 or Section 8.9 prior to such termination (the " Surviving Liabilities "), and the provisions of this Agreement shall survive such termination to the extent required so that each Party may enforce all rights and remedies available to such Party hereunder or under applicable Laws in respect of such Surviving Liabilities so that any Party responsible for any such Surviving Liabilities shall remain liable for the consequences thereof.

(c) Each Party shall be deemed to have waived its rights to terminate this Agreement following consummation of the transactions contemplated hereby.

ARTICLE VIII
COVENANTS PRIOR TO CLOSING

8.1 Affirmative Covenants

From the date hereof to the Closing (the " Interim Period "), except as (1) otherwise expressly required by this Agreement, (2) required by applicable Law, (3) set forth on Schedule 8.1 or (4) otherwise consented to in writing by Buyer (which consent shall not be unreasonably withheld, conditioned or delayed), (x) the Company shall, and the Seller shall cause the Company to, and the Seller and the Company shall cause the Subsidiaries of the Company to, use commercially reasonable efforts to carry on the Business in the Ordinary Course of Business, and (y) without limiting the generality of the foregoing, the Company shall, and the Seller shall cause the Company to, and the Seller and the Company shall cause the Subsidiaries of the Company to:

(a) use commercially reasonable effects to conduct the Company Group's cash management customs and practices (including the collection of receivables and payment of payables) and billing, marketing, sales and discount practices in the Ordinary Course of Business of the Company Group, and use commercially reasonable efforts to keep the Company Group's business organization, properties, assets and business relationships intact;

(b) cooperate with Buyer in Buyer's investigation of the Business as Buyer may reasonably request and provide Buyer with reasonable access at reasonable times and upon reasonable notice, to the offices, properties, senior management and books and records of the Company Group that Buyer may reasonably request, in each case, to the extent the Company Group is permitted to do so under applicable Law, and without prejudicing attorney-client or similar privilege or attorney work product protection; provided that (x) such access shall not unreasonably interfere with the operations of the Company Group (and shall otherwise be subject to the Company's security measures and insurance requirements and shall not unreasonably interfere with the operations of the Company). All requests for such access or information shall be directed to such Persons as the Company may designate in writing from time to time (collectively, the " Designated Contacts "). Other than the Designated Contacts, none of Buyer nor any of its representatives shall contact any employee, customer, supplier, landlord or other material business relation of the Company Group without the prior written consent of the Company (except in the ordinary course of Buyer's business consistent with past practice, but in any event, not in relation to the Company Group (except in the course of its relationship as a customer of the Company Group) or the transactions contemplated hereby);

(c) furnish promptly to Buyer, and in any event at least five (5) business days prior to the Closing Date (to the extent requested at least eight days prior to the Closing Date), all documentation and other information regarding the Seller and the Company Group required under applicable "know your customer" and anti-money laundering rules and regulations, including the PATRIOT Act;

(d) maintain the existence of and use commercially reasonable efforts to protect all material Proprietary Rights owned or used by the Company Group;

(e) use commercially reasonable efforts to cause the conditions to Buyer's obligation to close to be satisfied;

(f) use commercially reasonable efforts to do all things necessary and proper to consummate the transactions contemplated by this Agreement, as soon as practicable, including obtaining third party consents; and

(g) promptly deliver to Buyer written notices (to the extent permitted to do so under applicable Law), upon becoming aware of (A) any fact, change, condition, circumstance, event, occurrence or non-occurrence that has caused any representation or warranty in this Agreement made by the Company or the Seller to be untrue or inaccurate in any material respect at any time after the date hereof and prior to the Closing, (B) any material failure on the part of the Company or the Seller to comply with or satisfy any

covenant, condition or agreement to be complied with or satisfied by it hereunder, or (C) (1) any injunction, writ or order of any nature issued and directing that the transactions provided for herein not be consummated as herein provided or (2) any Action pending or threatened before any Governmental Authority with respect to the transactions contemplated hereby; provided that the delivery of any notice pursuant to this Section 8.1(g) shall not limit or otherwise affect the remedies available hereunder to Buyer, or the representations or warranties of, or the conditions to the obligations of, the Parties; provided , further , if Buyer has the right to, but does not elect to, terminate this Agreement within five (5) Business Days of its receipt of any such written notice, then Buyer shall be deemed to have irrevocably waived its right to terminate this Agreement with respect to such matter.

8.2 Negative Covenants

During the Interim Period, except as (1) otherwise expressly required herein, (2) required by applicable Law, (3) set forth on Schedule 8.2 or (4) otherwise consented to in writing by Buyer (which shall not be unreasonable withheld, conditioned or delayed), the Company shall not, with respect to the Company Group:

(a) take any action or omit to take any action that would require disclosure under Section 4.5 hereof (without giving effect to any "date hereof" qualification set forth therein) as of the Closing Date;

(b) hire or otherwise enter into or amend any employment or consulting agreement or arrangement with any Person whose cash compensation would exceed, on an annualized basis, $100,000;

(c) except as required by the terms of any Employee Benefit Plan or Contract set forth on Schedule 8.2(c) or any applicable Law or this Agreement, (A) modify or increase the compensation or benefits payable to any of its executives or senior managers or (B) modify or increase the compensation or benefits payable to any of its other employees (other than in the Ordinary Course of Business of the Company Group), (C) enter into or amend any Contract providing for, making or granting any transaction, stay-on or retention bonus or severance or termination pay to any director, officer, employee, consultant or other individual service provider, other than to employees with an annual base salary of less than $100,000 per year in an aggregate amount not to exceed $100,000, and only to the extent the foregoing constitutes a Transaction Expense hereunder, (D) enter into or amend any Employee Benefit Plan, program, policy or Contract, except as required by Law, (E) accelerate the payment, funding, right to payment or vesting of any compensation or benefits, or (F) terminate the employment or service of any employee of the Company Group (other than terminations for cause or due to permanent disability);

(d) implement any employee layoffs that could reasonably be expected to implicate the WARN Act;

(e) take any action or omit to take any action, the taking or omission of which, would reasonably be expected to have a Material Adverse Effect;

(f) (A) enter into or amend any Contract restricting in any way the conduct of the business of any member of the Company Group, or, (B) enter into any Contract with any officer, director, equityholder or Affiliate of the Company Group, or (C) incur any Indebtedness, outside of the Ordinary Course of Business;

(g) settle or compromise any material Action or threatened material Action;

(h) enter into, materially amend or modify, or terminate any agreement that would be a Material Contract if such agreement were in effect as of the date of this Agreement;

(i) fail to continue planned marketing in the Ordinary Course of Business;

(j) (A) make any material adverse change in the types, nature, composition or quality of the products or services sold, leased or delivered by the Company Group, (B) make any material change in product specifications or prices or terms of distribution of the products, (C) make any material change in pricing, discount, allowance, warranty, refund or return policies or practices, (D) grant any material pricing, discount, allowance or return terms for any customer or vendor not in accordance with such policies and prior terms for such customer or vendor, including by materially modifying the manner in which the Company Group licenses or otherwise distributes its products or making any material change in the proportion of fully paid-up and subscription-based licenses granted to customers or (E) make any change in standard billing or collection procedures or practices, including any modification to the practice of billing customers annually for the applicable annual amount for any multi-year revenues, except, with respect to each of the foregoing clauses (A) through (E), in the Ordinary Course of Business;

(k) make or change any election with respect to material Taxes, adopt or change any material Tax accounting method, amend any material Tax Return, enter into any closing agreement related to any income or other material Taxes, settle any income or other material Tax claim or assessment, consent to any extension or waiver of the limitation period applicable to any Tax claim or assessment, or surrender any right to claim a Tax refund;

(l) (A) delay or postpone the payment of accounts payable or accrued expenses outside the Ordinary Course of Business, (B) accelerate the collection of, or discounting, accounts receivable outside the Ordinary Course of Business, (C) change cash management policies, (D) engage in any discounts or price reductions or alter the extension of credit terms to any customer, in each case outside of the Ordinary Course of Business, or (E) otherwise knowingly and intentionally engage in any activity that has the effect of accelerating to earlier periods sales or the collection of accounts or notes receivable that otherwise would be expected to occur in subsequent periods, other than in the Ordinary Course of Business;

(m) disclose any of the Company Group's trade secrets to any third party, other than pursuant to confidentiality agreements;

(n) enter into any Contract that obligates the Company Group to develop any Proprietary Rights for any third party;

(o) license any Proprietary Rights, except for non-exclusive licenses granted to customers in the Ordinary Course of Business; or

(p) enter into any Contract to do anything prohibited by this Section 8.2 .

8.3 Exclusivity

The Company and the Seller agree that, during the Interim Period, on behalf of themselves and their Affiliates, neither they nor any of their respective officers, directors, employees, stockholders, partners, members, agents, financial advisors, consultants, attorneys, accountants, representatives or other advisors will, directly or indirectly (i) solicit, initiate, knowingly facilitate or encourage the submission of any Acquisition Proposal or accept any such Acquisition Proposal; (ii) participate in any discussions, negotiations or other communications (as a sender thereof) regarding, or furnish to any Person any information with respect to, or take any other action to knowingly facilitate or encourage any inquiries or the making of any proposal that constitutes, or could reasonably be expected to lead to, any Acquisition Proposal (except to provide notice of the existence of these provisions), or otherwise knowingly cooperate in any way, knowingly assist or knowingly participate in, knowingly facilitate or knowingly encourage any effort or attempt by any other Person to seek to do any of the foregoing; or (iii) enter into any agreement with respect to any Acquisition Proposal. Immediately following the execution and delivery of this Agreement, the Company shall, and the Company shall cause its and its Subsidiaries' respective officers, directors, employees, agents, financial advisors, consultants, attorneys, accountants, representatives or other advisors to, cease and cause to be terminated all existing discussions, negotiations and other communications with any Persons conducted heretofore with respect to any of the foregoing. If any Person, whether in his or her capacity as a representative of the Company or the Seller, takes any action that the Company is obligated pursuant to this Section 8.3 to cause such Person not to take, then the Company shall be deemed for all purposes of this Agreement to have breached this Section 8.3 . The Company and the Seller shall, as promptly as practicable, notify Buyer if any other proposals or offers, or any expressions of interest for the Company are made, including the terms and conditions of such inquiry or proposal (unless such disclosure is prohibited by a confidentiality agreement executed prior to the date hereof). The Company shall not release any third party from, or waive any provision of, any confidentiality or standstill agreement to which it is a party.

8.4 Monthly Financial Statements

During the Interim Period, the Company shall promptly (but in no event later than the 30th day following the end of each month ended after the Latest Balance Sheet Date) deliver to Buyer copies of the Company Group's monthly financial statements (as prepared in the Ordinary Course of Business consistent with past practice for internal use) as they are finalized during the Interim Period (the " Monthly Financial Statements "). The Monthly Financial Statements shall be prepared in a manner consistent with the Company's Latest Balance Sheet, and shall be consistent in all material respects with the books and records of the Company Group, and shall fairly present, in all material respects, the Company's consolidated balance sheets and the related consolidated

statements of operations, stockholders' equity (deficit) and cash flows for the fiscal periods then ended, and the related notes to the financial statements; provided that such Monthly Financial Statements shall not include customary footnotes or other year-end audit adjustments (none of which, alone or in the aggregate, are material) and shall be prepared consistently and in accordance with the Accounting Policies and Principles, consistently applied .

8.5 Antitrust Filings

(a) Buyer (and its Affiliates, if applicable), on the one hand, and the Company, on the other hand, will, (1) file, or cause to be filed, with the United States Federal Trade Commission (" FTC ") and the Antitrust Division of the United States Department of Justice (" DOJ ") a Notification and Report Form relating to this Agreement and the transactions contemplated by this Agreement as required by the HSR Act within ten (10) Business Days following the date of this Agreement (such filings shall specifically request early termination of the waiting period, and Buyer shall be responsible for one hundred percent (100%) of the filing fee payable under the HSR Act); and (2) promptly file comparable pre-transaction notification filings, forms and submissions with any Governmental Authority that are required by other applicable antitrust laws in connection with the transactions contemplated by this Agreement (with any comparable pre-transaction filings to be made as soon as reasonably practicable following the date of this Agreement and Buyer shall be responsible for one hundred percent (100%) of the filing fee payable with respect to such filing). Each of Buyer and the Company will (A) cooperate and coordinate (and cause its respective Affiliates to cooperate and coordinate) with the other in the making of such filings; (B) supply the other (or cause the other to be supplied) with any information or documents that may be required in order to make such filings, provided that insofar as any such information or documents are competitively sensitive, such information or documents may be provided directly to the relevant Governmental Authorities or, if required, on an outside counsel-to-counsel, in each case on a strictly confidential basis; (C) supply (or cause the other to be supplied) any additional information that reasonably may be required or requested by the FTC, the DOJ or the Governmental Authorities of any other applicable jurisdiction in which any such filing is made; and (D) use their reasonable best efforts to (1) cause the expiration or termination of the applicable waiting periods pursuant to the HSR Act and any other antitrust laws applicable to the transactions contemplated by this Agreement; and (2) obtain any required consents pursuant to any antitrust laws applicable to the transactions contemplated by this Agreement as soon as practicable. Buyer (and its Affiliates, if applicable), on the one hand, and the Company (and its Affiliates), on the other hand, will promptly inform the other party of any material communication from any Governmental Authority regarding the transactions contemplated by this Agreement in connection with such filings. If any Party or Affiliate thereof receives a request for additional information or documentary material from any Governmental Authority with respect to the transactions contemplated by this Agreement pursuant to the HSR Act or any other antitrust laws applicable to the transactions contemplated by this Agreement, then such Party will make (or cause to be made), as soon as reasonably practicable and after consultation with the other Parties, an appropriate response to such request. Notwithstanding anything to the contrary in this Section 8.6 , materials provided to the other party or its outside legal counsel may be redacted as necessary (i) to address

good faith legal privilege or confidentiality concerns, (ii) to comply with applicable Law and (iii) to remove any information relating to Company valuation.

(b) Without limiting the generality of the Parties' undertaking pursuant to Section 8.5(a), each Party agrees to use its reasonable best efforts to avoid or eliminate impediments under any antitrust, competition or trade regulation Law that may be asserted by any Governmental Authority so as to enable the Parties to expeditiously consummate the transactions contemplated by this Agreement no later than the Termination Date.

8.6 Directors and Officers Indemnification and Insurance

(a) Buyer shall, and shall cause the Company (following the Closing) and each of its Subsidiaries to, fulfill and honor the obligations of the Company and each of its Subsidiaries to any individual who at any time prior to the Closing was a director or officer of the Company or any of its Subsidiaries (each, an " D&O Indemnitee " and, collectively, the " D&O Indemnitees ") pursuant to any indemnification provisions under the articles of organization, bylaws, certificate of formation or operating agreement (or any similar organizational documents) (" Governing Documents ") of any member of the Company Group as in effect immediately prior to the date hereof; provided that to the extent that any amounts paid by the Company Group under this Section 8.6(a) in connection with any claim brought by Buyer are based on any facts or circumstances that form the basis for an indemnification claim by Buyer under Article IX for which the Seller is determined to be liable in accordance with Article IX, such amounts shall be deemed to be a Loss for which the Buyer may be entitled to indemnification subject to and in accordance with Article IX. From and after the Closing Date, except as required by applicable Law, Buyer shall cause the Company (following the Closing) and each of its Subsidiaries to maintain provisions with respect to indemnification and exculpation from liability that are no less favorable than those set forth in the Governing Documents of the Company Group as of immediately prior to the date hereof, which provisions shall not be amended, repealed or otherwise modified during such period in any manner that would adversely affect such indemnification rights thereunder of any D&O Indemnitee.

(b) For six (6) years after the Closing Date, Buyer shall, or shall cause the Company (following the Closing) to, maintain in effect the Company Group's current directors' and officers' liability insurance or a "tail" insurance policy from an insurance carrier with the same or better credit rating as the Company Group's current insurance carrier on terms at least as favorable as the Company Group's current directors' and officers' liability insurance for the six (6) year period following the Closing, in each case covering such acts or omissions occurring at or prior to the Closing Date with respect to the D&O Indemnitees (and including in connection with the transactions contemplated by this Agreement), on terms and scope with respect to such coverage, and in amount, at least as favorable to those of such policy in effect on the date of this Agreement. Without limiting the foregoing, prior to the Closing Date, the Company shall purchase, at the Company's expense, "tail" coverage for the six-year period following the Closing under the directors' and officers' liability insurance policies of the Company Group to be in place prior to the Closing Date with respect to matters existing or occurring at or prior to the Closing Date that provides coverage no less favorable in scope and amount to the coverage

provided by such policies at such time (the " D&O Tail "). The D&O Tail shall provide that the D&O Tail shall be the insurer of first resort with respect to the D&O Indemnitees (i.e., its obligations to the D&O Indemnitees are primary and any duplicative, overlapping or corresponding obligations of the Company Group are secondary) and that the D&O Indemnitees shall not be required to seek indemnification from the Company Group prior to making a claim against the D&O Tail. The costs of the D&O Tail will be a Transaction Expense payable at Closing to the extent such costs are not paid prior to Closing.

(c) This Section 8.6(c) (A) shall survive the Closing, (B) is intended to benefit and may be enforced by the Company, Buyer and the D&O Indemnitees, and any heir of the D&O Indemnitees, and (C) shall be binding on all successors and assigns of Buyer and the Company (following the Closing). The respective obligations of Buyer and the Company (following the Closing) under this Section 8.6(c) shall not be terminated or modified in such a manner as to adversely affect the rights of any D&O Indemnitee to whom this Section 8.6(c) applies unless (x) such termination or modification is required by applicable Law (and then only to the extent so required) or (y) the affected D&O Indemnitee shall have consented in writing to such termination or modification (it being expressly agreed that the D&O Indemnitees to whom this Section 8.6(c) applies shall be third-party beneficiaries of this Section 8.6(c)).

(d) In the event that Buyer, the Company (following the Closing) or any of their respective successors or assigns (i) consolidates with or merges into any other Person and is not the continuing or surviving corporation or entity of such consolidation or merger or (ii) transfers or conveys all or substantially all of its properties and assets to any Person, then, and in each such case, proper provision shall be made so that the successors and assigns of Buyer and the Company (following the Closing) or the transferee of such properties and assets shall expressly assume and be responsible for all of the obligations thereof set forth in this Section 8.6(d) .

8.7 R&W Policy

(a) The Buyer Parties shall pay all of the R&W Policy Expenses. The R&W Policy shall contain a waiver of subrogation rights against the Seller for the benefit of the Seller, other than in the case of Actual Fraud by such Seller in the making of the representations and warranties in this Agreement and shall not contain any other Liability on the part of the Seller. The Buyer's only recourse for breaches of the representations and warranties set forth in Article IV (other than with respect to breaches of Fundamental Representations or in the event of Actual Fraud in the making of the representations and warranties in this Agreement) shall be, and shall not exceed, the Indemnity Escrow Amount, subject to and in accordance with Article IX .

(b) Without the prior written consent of the Seller (which consent shall not be unreasonably withheld, conditioned or delayed), Buyer shall not modify or amend any material provision in the R&W Policy regarding waiver of subrogation against Seller or in any other manner that will have an adverse effect on the Seller.

(c) (i) Promptly following Buyer obtaining a conditional binder to the R&W Policy, Buyer shall provide the Seller with a complete copy of such conditional binder and (ii) promptly following binding of coverage by Buyer for the R&W Policy, Buyer shall provide the Seller with evidence of such binding.

8.8 280G Cooperation

The Seller will, prior to the Closing Date, provide stockholder approval under the requirements of Section 280G(b) (5)(B) of the Code and the Treasury Regulations promulgated pursuant thereto (including seeking to obtain any necessary waiver from any affected individual) with respect to any payments that might otherwise be excess parachute payments so that, if stockholder approval is received, payments by the Company or its Subsidiaries to any disqualified individuals of the Company or its Subsidiaries arising in whole or in part as a result of the transactions contemplated by this Agreement based on arrangements in place at the Closing will not reasonably be expected to constitute parachute payments under Section 280G of the Code. At least three (3) Business Days prior to taking such actions, the Seller shall deliver to Buyer for advance review and comment (which review and comment shall not be unreasonably conditioned, withheld or delayed) copies of any documents or agreements necessary to effect this Section 8.8 , including any stockholder consent form, disclosure statement or waiver and the applicable calculations performed by the Company's advisors.

8.9 Debt Financing

(a) Buyer Parties shall use their respective reasonable best efforts to take, or cause to be taken, all actions and to do, or cause to be done, all things necessary, proper or advisable to consummate the Debt Financing on the terms and subject to the conditions described in the Debt Commitment Letter, including (i) maintaining in effect the Debt Commitment Letter until the transactions contemplated by this Agreement are consummated, (ii) satisfying all conditions applicable to it in the Debt Commitment Letter, (iii) entering into definitive agreements with respect thereto on the terms and conditions consistent in all material respects with the terms and conditions contemplated by the Debt Commitment Letter (or on terms no less favorable (taken as a whole) to the Buyer Parties with respect to conditionality and the aggregate amount of the Debt Financing), subject to any amendments or modifications thereto permitted by this Section 8.9 , and (iv) enforcing their respective rights under the Debt Letter Commitment in the event of a breach or purported breach thereof.

(b) The Debt Commitment Letter may be amended, restated, supplemented or otherwise modified or superseded (i) to add or replace one or more lenders, (ii) to increase the amount of indebtedness or otherwise replace one or more facilities with one or more new facilities or modify one or more facilities to replace or otherwise modify the Debt Commitment Letter, or (iii) in any manner not prohibited by this Section 8.9(b) , provided , that such new Debt Commitment Letter shall not (x) amend the conditions to the Debt Financing so as to adversely impact the ability of Buyer Parties to timely consummate the transactions contemplated hereby on the Closing Date or the likelihood of consummation of the transactions contemplated hereby or to delay or prevent the Closing Date; (y) reduce the aggregate amount of available Debt Financing below an amount sufficient to

consummate the transactions contemplated by this Agreement (unless, in the case of this clause (y), such amount is replaced with one or more new debt facilities pursuant to new debt commitment letters on terms no less favorable in any material respect to the Buyer Parties than the terms set forth in the Debt Commitment Letter) or (z) materially prevent, delay or impair the availability of financing under the Debt Commitment Letter on the Closing Date.

(c) If any portion of the Debt Financing becomes unavailable on the express terms and conditions contemplated in the Debt Commitment Letter, Buyer Parties shall use their respective reasonable best efforts to arrange and obtain alternative financing from alternative sources in an amount sufficient to consummate the transactions contemplated by this Agreement as promptly as practicable following the occurrence of such event.

(d) The Company and the Seller (and their respective representatives, including legal and accounting) shall, and the Seller shall cause the Company to, and the Seller and the Company shall cause the Subsidiaries of the Company to, at Buyer Parties' sole expense, provide such cooperation as is reasonably necessary in connection with the arrangement of the Debt Financing as may be reasonably requested by Buyer, including: (A) providing Buyer from time to time information regarding the Company Group reasonably requested by the lenders providing the Debt Financing, including, providing reasonable access to such lenders and their advisors to the officers, properties, senior management, books and records and contracts of the Company Group at reasonable times and upon reasonable notice, (B) providing reasonable assistance with the preparation and negotiation of, and facilitating the execution and delivery by the appropriate officers of the Company Group of, loan agreements, pledge and security documents and other customary definitive documents and/or certificates (including a solvency certificate) in connection with the Debt Financing (such documents, collectively, the "Financing Documents") and making senior management of the Company reasonably available for meetings so long as the foregoing does not unreasonably interfere with the conduct of the Company's business; provided that such signatures, for the avoidance of doubt, shall not be effective prior to the consummation of the transactions contemplated hereby, (C) providing reasonable assistance with the completion of schedules and other information disclosures reasonably requested by Buyer (including in connection with the Financing Documents), (D) obtaining the Payoff Letters in a form reasonably satisfactory to Buyer and the Debt Financing Sources, (E) as of the Closing Date, taking all corporate actions reasonably requested by Buyer to authorize the consummation of the Debt Financing, (F) facilitating the pledge of the collateral for the Debt Financing Sources, in each case, to the extent the Company Group is not prohibited from doing so under applicable Law; provided that such pledge, for the avoidance of doubt, shall not be effective prior to the consummation of the transactions contemplated hereby; provided, further, that such access shall not unreasonably interfere with the operations of the Company Group, and (G) providing all such other reasonable assistance as necessary in order for Buyer to satisfy the conditions to the consummation of the Debt Financing or in order to satisfy Buyer's obligations under the Debt Commitment Letter or the Financing Documents; provided , however , that all of the foregoing agreements, documents and/or certificates shall be deemed to have been executed and delivered in favor of Buyer (and the Company Group as owned by Buyer) without any Liability whatsoever of the Seller with respect thereto.

(e) Buyer shall keep the Seller reasonably informed of material developments relating to the Debt Financing and, if reasonably requested in writing by the Seller, on the status of Buyer's efforts relating thereto. Without limiting the generality of the foregoing, Buyer shall promptly notify the Seller in writing of (i) the receipt of (A) any written notice or (B) other written communication, in each case from any Debt Financing Source with respect to any material breach, material default, termination or repudiation by any party to any of the Debt Commitment Letter or other material agreements related to the Debt Financing, (ii) any material dispute or disagreement between or among parties to any of the Debt Commitment Letter with respect to the obligation to fund the Debt Financing or the amount of the Debt Financing to be funded at the Closing and (iii) if at any time for any reason Buyer believes in good faith that it will not be able to timely obtain all or any portion of the Debt Financing on the terms and conditions contemplated by the Debt Commitment Letter; provided , that in no event will the Buyer Parties be under any obligation to disclose any information that is subject to attorney-client or similar privilege. If Buyer shall be required to notify the Seller pursuant to the immediately preceding sentence, as soon as reasonably practicable after the Seller delivers to Buyer a written request, Buyer shall provide any information reasonably requested by the Seller relating to any circumstance referred to in the immediately preceding sentence.

(f) Notwithstanding anything to the contrary in this Agreement, none of the Seller, the Company Group, or their respective officers, directors, employees, accountants, legal counsel and other representatives shall be required to take any action that would subject such Person to bear any costs, fees or expenses that will not be reimbursed in accordance with the immediately following sentence or to pay any commitment or other similar fee or make any other payment, or incur any other Liability, or provide or agree to provide any indemnity in connection with the Debt Financing or their performance of their respective obligations under this Section 8.9 and any information utilized in connection therewith, in each case, with respect to the Company Group, that is not conditioned on, or is effective prior to the Closing. Buyer shall (i) promptly upon request by the Company reimburse the Company for all reasonable and documented out-of-pocket costs incurred by the Company Group in connection with such cooperation (including those of their accountants, consultants, legal counsel, agents and other representatives) and (ii) indemnify and hold harmless the Seller, the Company Group, and their respective Affiliates and representatives from and against any and all Liabilities suffered or incurred by them in connection with the arrangement of the Debt Financing or providing any of the information utilized in connection therewith; in each case, other than to the extent such costs, expenses, Liabilities or other items occurred as a result of the gross negligence, bad faith or willful misconduct of the Company Group.

(g) Nothing in this Section 8.9 or otherwise in this Agreement shall limit or shall be construed as limiting or otherwise modifying the representations and warranties of the Buyer set forth in Section 6.7 .

8.10 Employee Matters

Buyer acknowledges and agrees that (a) obtaining or entering into any employment agreement or similar agreement with any employee of the Company is not a condition to the

Closing (any such agreement, a " Management Agreement ") and (b) the resignation of one of more management-level employees of the Company shall neither (i) constitute a breach of any provision of this agreement nor (ii) result in the failure of any condition set forth in Section 7.1 to be satisfied or deemed satisfied; provided that such resignation is not the direct result of any action, that if taken after the Closing, would constitute a breach of that certain Restrictive Covenant Agreement, dated as of the date hereof, by and among the Company, Buyer and Graycliff Mezzanine II LP, a Delaware limited partnership. If any Management Agreement has not been obtained, Buyer will each continue to be obligated, subject to the satisfaction or waiver of the conditions set forth herein, to consummate the transactions contemplated herein.

ARTICLE IX
SURVIVAL AND RELATED MATTERS

9.1 Survival

All representations, warranties, covenants and agreements set forth in this Agreement, the Transaction Documents or in any writing or certificate delivered in connection with this Agreement or the transactions contemplated by this Agreement shall survive from the Closing Date until the twelve (12) month anniversary of the Closing Date; provided , however , the representations and warranties set forth in Section 4.17(b) (Employee Benefit Plan), to the extent related to Tax, and Section 4.10 (Taxes) (collectively, the " Tax Representations ") shall survive until the earlier of thirty (30) days after the expiration of the applicable statute of limitations applicable to such Tax matter under applicable Tax law and the seventh (7 th) anniversary of the Closing Date; provided , further , that the representations and warranties set forth in Section 4.23 (Environmental) shall survive until the fifth (5 th) anniversary of the Closing Date; provided , further , that the representations and warranties set forth in Section 4.1 (Organization and Corporation Power; Capitalization), Section 4.2 (Authorization of Transactions), Section 4.15 (Brokerage), Section 5.1 (Shares), Section 5.2 (Authorization of Transactions), Section 5.4 (Brokerage), Section 6.1 (Organization and Corporate Power), Section 6.2 (Authorization of Transaction), Section 6.6 (Brokerage) and Section 6.7(b) (Solvency) (collectively, with the Tax Representations, the " Fundamental Representations ") shall survive until the sixth (6th) anniversary of the Closing Date. The representations, warranties, covenants and agreements made herein are intended among other things to allocate the economic cost and the risks inherent in the transactions contemplated hereby between the Parties and, accordingly, a Party shall be entitled to the remedies provided in this Agreement by reason of any breach of any such representation, warranty, covenant or agreement by another Party notwithstanding whether any employee, representative or agent of the Party seeking to enforce a remedy knew or had reason to know of such breach and regardless of any investigation by such Party. Except as set forth in Section 9.3 , no claim may be brought in respect of a breach of any representation, warranty or covenant contained in this Agreement after the expiration of the survival period applicable to such representation, warranty or covenant, as set forth in this Section 9.1 .

9.2 Indemnification

(a) The Seller's Indemnification . After the Closing, the Seller shall indemnify Buyer, its Affiliates and their respective officers, directors, employees, agents, partners, representatives, successors and permitted assigns (collectively, the " Buyer Parties ") and

hold each of them harmless from and against and pay on behalf of or reimburse such Buyer Parties in respect of any loss, Liability, demand, claim, action, cause of action, cost, damage, deficiency, Tax, penalty, fine or expense, whether or not arising out of third party claims (including, without limitation, interest, penalties, reasonable attorneys', accountants' and other professionals' fees and expenses, court costs and all reasonable amounts paid in investigation, defense or settlement of any of the foregoing) (collectively, " Losses " and individually, a " Loss ") which any such Buyer Party suffers, sustains or becomes subject to, arising from or as a result of:

(i) the breach by the Seller or the Company of any representation or warranty made by the Seller or the Company contained in this Agreement, the other Transaction Documents or any certificate of the Seller or the Company Group delivered by the Seller or the Company to the Buyer pursuant hereto or thereto;

(ii) the breach of any covenant or agreement to be performed by (A) the Seller or (B) the Company prior to the Closing contained in this Agreement or the other Transaction Documents;

(iii) any Transaction Expenses of the Company as of the Closing to the extent not repaid prior to, or in connection with, the Closing and not otherwise included in the calculation of Final Transaction Expenses, Final Indebtedness, or Final Working Capital;

(iv) any Indebtedness of the Company as of the Closing to the extent not repaid prior to, or in connection with, the Closing and not otherwise included in the calculation of Final Indebtedness, Final Transaction Expenses or Final Working Capital; and

(v) any defined benefit pension plan, including any multiemployer pension plan, subject to Title IV of ERISA, including as a consequence of any Acquired Company having been treated as a single employer with any ERISA Affiliate.

provided , that with respect to any claim for indemnification by the Buyer pursuant to Section 9.2(a)(i) : (A) the Seller shall have no liability for such claim unless the aggregate amount of Losses with respect to all indemnification claims made pursuant to Section 9.2(a)(i) exceeds Nine Hundred Seventy Five Thousand Dollars ($975,000) (the " Deductible ") and then only to the extent the Losses relating to such claims exceed the Deductible; provided , that in calculating whether the Deductible has been exceeded, only claims (or series of claims arising from the same or substantially similar facts or circumstances) for Losses in excess of Twenty-Five Thousand Dollars ($25,000) (the " Mini-Basket ") shall be considered and (B) the Seller's maximum liability for all such claims shall not exceed Nine Hundred Seventy Five Thousand Dollars ($975,000) (the " Cap "); provided , that such limitation shall not apply to, and each Buyer Party shall be entitled to make, claims for indemnification in respect of (i) Losses arising out of any breach of any Fundamental Representation, (ii) pre Closing Taxes (which are covered by Section 10.1(c) ; or (iii) Losses arising out of Actual Fraud in the making of the representations and warranties in this Agreement, in each case notwithstanding the exhaustion of the Indemnification Escrow Amount;

provided further , however , that the Seller's maximum liability for all claims pursuant to Section 9.2(a) and Section 10.1(c) shall not exceed an amount equal to the portion of the Purchase Price actually received by the Seller. For purposes of Section 9.2(a) and Section 9.2(b) , the existence of a breach and the determination of the Loss related thereto shall be determined without giving effect to any qualification in the representations and warranties of the Seller or Buyer by "materiality," "in all material respects," "Material Adverse Effect" or words of similar effect, other than Section 4.6 , Section 4.8(a) , and Section 4.11 , and, for the avoidance of doubt, any defined term.

(b) Buyer Indemnification . Buyer Parties shall, jointly and severally, indemnify the Seller and its successors and permitted assigns (collectively, the " Seller Parties ") and hold each of them harmless from and against and pay on behalf of or reimburse the Seller Parties in respect of any Loss which such Seller Party suffers, sustains or becomes subject to, arising from or as the result of:

(i) the breach by either Buyer Party of any representation or warranty made by such Buyer Party contained in this Agreement, any other Transaction Document or any certificate delivered by Buyer to the Seller pursuant hereto;

(ii) the breach of any covenant or agreement to be performed by either Buyer Party contained in this Agreement or the other Transaction Documents;

(iii) the arrangement of the Debt Financing (including any action taken in accordance with Section 8.9); or

(iv) the operations, conduct, errors or omissions of the Company after the Closing Date;

provided , that with respect to any claim for indemnification by Buyer pursuant to Section 9.2(b)(i) (other than with regard to Fundamental Representations or claims for Actual Fraud in the making of the representations and warranties of the Buyer Parties in this Agreement): (A) Buyer shall have no liability for such claim unless the aggregate amount of Losses with respect to all indemnification claims made pursuant to Section 9.2(b)(i) exceeds the Deductible and then only to the extent the Losses relating to such claims exceed the Deductible; provided , further , that in calculating whether the Deductible has been exceeded, only claims (or series of claims arising from the same or substantially similar facts or circumstances) for Losses in excess of the Mini-Basket shall be considered, and (B) Buyer's maximum liability for all such claims shall not exceed the Cap; provided , that such limitation shall not apply to, and each Seller Party shall be entitled to make, claims for indemnification in respect of (i) Losses arising out of any inaccuracy or breach of any Fundamental Representation and (ii) Losses arising out of Actual Fraud in the making of the representations and warranties in this Agreement.

(c) Procedure.

(i) Direct Claims . In order to seek indemnification against a party to this Agreement or one of its Affiliates under this Article IX or Section 10.1(c) , the Party claiming indemnification (the " Indemnified Party ") shall deliver notice (a " Claims Notice ") to the Party from whom the indemnification is sought (the " Indemnifying Party ") (which notice, if sent by Buyer, shall be sent to the Seller

and shall also be sent to the Escrow Agent). The failure to give a prompt Claims Notice shall not, however, relieve the Indemnifying Party of its indemnification obligations, except and only to the extent that the Indemnifying Party forfeits any material right or defense by reason of such failure. Such Claims Notice shall describe the Direct Claim in reasonable detail and shall indicate the estimated amount, if reasonably practicable, of the Loss that has been or may be sustained by the Indemnified Party. The Indemnifying Party shall have 30 days after its receipt of the Claims Notice to respond in writing to such Direct Claim (an " Objection Notice "). During such 30 -day period, the Indemnified Party shall allow the Indemnifying Party and its professional advisors to investigate the matter or circumstance alleged to give rise to the Direct Claim and the Indemnified Party shall reasonably cooperate with the Indemnifying Party's investigation by giving such necessary information and reasonable assistance, at the Indemnifying Party's expense (including access to the Buyer's, Seller's and Company's premises and personnel and the right to examine and copy any accounts, documents or records). If the Indemnifying Party delivers an Objection Notice prior to 11:59 p.m. (ET) on the thirtieth (30th) day after the Indemnifying Party's receipt of the Claims Notice, then no payment shall be made under this Section 9.2(c)(i) until such claim shall have been resolved. If the Indemnifying Party fails to deliver an Objection notice prior to 11:59 p.m. (ET) on the thirtieth (30 th) day following the Indemnifying Party's receipt of the Claim Notice, then the Indemnifying Party shall be conclusively and irrevocably deemed to have accepted such Direct Claim and within three (3) Business Days thereafter (i) if the Indemnifying Party is the Seller, then the Seller and Buyer shall deliver to the Escrow Agent an instruction directing the Escrow Agent to deliver to Buyer (or its designee) from the Indemnification Escrow Amount an amount equal to the Losses set forth in such Claim Notice, and (ii) if the Indemnifying Party is Buyer, then Buyer shall pay to the Seller (or its designee) by wire transfer of immediate funds the amount in such Claims Notice. Notwithstanding the foregoing, if an Indemnifying Party fails to deliver an Objection Notice with respect to a Claims Notice involving (i) the breach of a Fundamental Representation, (ii) a claim for Actual Fraud in the making of the representations and warranties in this Agreement or in any other Transaction Document, or (iii) a claim arising from the breach of any covenant or agreement to be performed by a Party pursuant to this Agreement or the other Transaction Documents, then claims relating thereto shall be deemed to have been rejected, in which case the Indemnified Party shall be free to pursue such remedies as may be available to the Indemnified Party on the terms and subject to the conditions of this Agreement.

(ii) Resolution of Direct Claim Conflicts.

(A) If the Indemnifying Party delivers an Objection Notice pursuant to Section 9.2(c)(i) , the Seller and Buyer shall attempt in good faith to agree upon the rights of the respective parties with respect to each of such claims that are rejected or deemed rejected. If the Indemnified Party is a Buyer Party, and if the Seller and Buyer should so agree as to a resolution to such indemnity claim, Buyer and the Seller shall prepare, execute and

deliver to the Escrow Agent a joint written instructions setting forth such agreement, including the amounts Buyer and the Seller agree should be released from the Indemnification Escrow Amount. The Escrow Agent shall be entitled to rely on any joint written instructions and make distributions of the Indemnification Escrow Amount in accordance with the terms thereof.

(B) In the event Buyer and the Seller are unable to agree upon the resolution of an indemnity claim set forth in an Objection Notice within thirty (30) days following delivery of such Objection Notice, or in the event of any other dispute arising pursuant to this Section 9.2 or Section 10.1(c) , either Buyer or the Seller may pursue any and all legal or equitable remedies available to them pursuant to this Agreement, and the Escrow Agent shall only distribute funds thereafter with respect to the claims relating to such Objection Notice pursuant to joint written instructions as described in Section 9.2(c)(ii) (A) or a final, non-appealable court order from a court of competent jurisdiction.

(iii) Third Party Claims . In the event a Buyer Party or the Seller receives a third party claim (a " Third Party Claim ") for which indemnification may be sought hereunder against such Indemnified Party, such Indemnified Party shall promptly provide written notification (a " Third Party Claim Notice ") to the Indemnifying Party (which if the Indemnified Party is a Buyer Party, such Third Party Claim Notice shall be sent to the Seller and the Escrow Agent) of such claim after it receives such Third Party Claim specifying the nature of such Third Party Claim and the amount or estimated amount thereof, together with copies of all notices and documents (including court papers) served on or received by such Indemnified Party, which notice must be identified as a "Third Party Claim Notice." If the Third Party Claim may result in a claim for Losses payable from the Indemnification Escrow Amount, the Seller shall have the right, at its sole cost and expense, to assume the entire control of the defense, compromise or settlement of such claim (including the selection of counsel reasonably satisfactory to Buyer), subject to the right of the Indemnified Party to participate (with counsel of its choice, but the fees and expenses of such additional counsel shall solely be at the expense of the Indemnified Party); provided , that the Indemnifying Party will not be entitled to control, and the Indemnified Party will be entitled to have sole control over, the defense, compromise or settlement of any Third Party Claim (and the cost of such defense and any Losses with respect to such Third Party Claim shall constitute an amount for which the Indemnified Party is entitled to indemnification hereunder) if (A) seeks non-monetary relief, (B) involves criminal or quasi-criminal allegations, (C) involves a claim to which the Indemnified Party reasonably believes an adverse determination would be detrimental to or injure the Indemnified Party's reputation or future business prospects, (D) involves a claim which, upon petition by the Indemnified Party, the appropriate court rules that the Indemnifying Party failed or is failing to vigorously prosecute or defend, or (E) involves a claim which the Indemnified Party believes in good faith could not be satisfied by the Indemnifying Party if the claim were adversely decided; provided

that: if the named parties to any Third Party Claim or proceeding include both an Indemnifying Party and the Indemnified Party, and if the Indemnified Party has been advised in writing by counsel that there may be one or more legal defenses available to such Indemnified Party that are different from, or additional to, those available to the Indemnifying Party, then the Indemnified Party shall be entitled, at the Indemnifying Party's reasonable cost and expense, to one separate counsel of its own choosing. If the Indemnifying Party shall control the defense of any such claim, (X) each Indemnified Party shall reasonably cooperate with the Indemnifying Party in the defense thereof and (Y) the Indemnifying Party will not compromise or settle, or offer or consent to compromise or settle, any such action, suit, proceeding, claim or demand (other than, after consultation with the applicable Indemnified Party, an action, suit, proceeding, claim or demand to be settled solely by the payment of money damages) that (A) does not involve granting by the Person or Persons asserting such claim or demand of an unconditional release from all liability of the Indemnified Party and its Affiliates with respect to such claim (and any potential similar or analogous claims), (B) involves any non-monetary relief or remedy, including any restrictions on any Indemnified Party's ability to operate or compete or (C) involves any admission of wrongdoing or violation of law or acknowledges the Indemnified Party's liability for future acts, in each case without the prior written consent of the Indemnified Party, which consent may be withheld in the Indemnified Party's sole discretion. If the Indemnifying Party does not assume the defense of a Third Party Claim within thirty (30) days after receipt of the Third Party Claim Notice (or ceases in good faith to continue the defense), then the Indemnified Party shall have the right to control the defense, compromise or settlement of such Third Party Claim (including the selection of counsel), subject to the right of the Indemnifying Party to participate (with counsel of its choice, but the fees and expenses of such additional counsel shall solely be at the expense of the Indemnifying Party), and the Indemnified Party will not compromise or settle any such action, suit, proceeding, claim or demand without the prior written consent of the Indemnifying Party, which consent shall not be unreasonably withheld, conditioned or delayed. The party hereto that is not conducting the defense shall provide the party conducting the defense and its counsel with reasonable access during normal business hours to such party's records and personnel relating to any Third Party Claim and both parties shall otherwise reasonably cooperate in conducting the defense in the defense or settlement thereof. This Section 9.2(c)(iii) shall not apply to any Third Party Claims involving Taxes, which shall be governed by Section 10.1(e) of this Agreement.

(d) Tax Savings; Insurance and Third Party Recoveries . The amount of any Losses payable under Section 9.2 and Section 10.1(c) by the Indemnifying Party shall be net of any (i) amounts actually recovered by the Indemnified Party under applicable insurance policies (excluding the R&W Policy), or from any other Person alleged to be responsible therefor (net of any expenses incurred in pursuing the claim and the net present value of any premium increase related to the payment of the claim (and no right of subrogation shall accrue to such third party indemnitor or insured thereunder) and (ii) Tax savings attributable to such Losses realized by the Indemnified Party in the taxable year in which such Losses and the immediately succeeding taxable year, calculated on a "with or

without" basis and taking into account any Tax detriment to such Indemnified Party from the receipt of the indemnification payment; provided, however, that any increase in Tax attributable to a reduction in Purchase Price by reason of Section 9.2(e) herein shall not be treated as a detriment for this purpose. If the Indemnified Party receives any amounts under applicable insurance policies (excluding amounts received under the R&W Policy), or from any other Person alleged to be responsible for any Loss, subsequent to an indemnification payment by the Indemnifying Party, then such Indemnified Party shall promptly reimburse the Indemnifying Party for any payment made or expense incurred by such Indemnifying Party in connection with providing such indemnification payment up to the amount received by the Indemnified Party, net of any reasonable expenses incurred by such Indemnified Party in collecting such amount.

(e) Payments. Amounts paid to or on behalf of any Party as indemnification under Section 10.1(c) or this Article IX shall be treated as adjustments to the consideration paid for the Shares hereunder.

(f) Mitigation of Damages. Each Party's right to indemnification hereunder shall be subject to such Party's obligations under applicable law to mitigate damages, including pursuing recovery of such damages under any indemnification agreement or other bona fide arrangements with third parties or any applicable insurance policy, and each Party shall use commercially reasonable efforts to mitigate damages for which indemnification is available hereunder to the extent applicable law requires mitigation of damages for which breach of contract damages are available; provided, however, that no Party shall be required to pursue indemnification from or bring any Action against a customer or supplier.

(g) Offset. Any Loss which any Buyer Party is entitled to indemnification from the Seller pursuant to this Article IX or Section 10.1(c) may, at the option of such Buyer Party, be satisfied by setting off all or any portion of such Losses against payment of any amount due to the Seller from any Buyer Party.

(h) R&W Policy; Escrow Account. Notwithstanding anything to the contrary contained herein, the aggregate maximum amount available to, and the sole and exclusive remedy of, the Buyer Parties for claims for indemnification pursuant to Section 9.2(a) shall be the proceeds of the Indemnity Escrow Amount in the Escrow Account from time to time; provided, however, that the limitation set forth in this Section 9.2(h) shall not apply to Losses arising out of or resulting from a breach of the Fundamental Representations or Actual Fraud in the making of the representations and warranties in this Agreement or in the other Transaction Documents.

(i) Environmental Limitations. Buyer Parties shall not be entitled to recover under this Article IX for any Loss (and no such Loss shall be aggregated for purposes of this Article IX) to the extent caused or triggered by (i) any "Phase II" investigation, sampling or other invasive testing of environmental media, any remedial or investigatory action or any disclosure or reporting to any Governmental Authority or other Person, in each case by Buyer and that is not required by Environmental Laws or Licenses issued under Environmental Laws, mandated by a Governmental Authority, necessary in response

to developments occurring after the Closing which indicate a potential material threat to human health or the environment, conducted in connection with defending against or otherwise responding to a Third Party Claim, or required to comply with any lease requirements pertaining to any Leased Real Property; (ii) any changes in Law or (iii) any change in operations at or use of a properties of the Buyer or the Company Group, in the case of each of clauses (i), (ii), and (iii), that occurs after the Closing.

(j) Calculation of Losses.

(i) Notwithstanding anything to the contrary herein, the Seller shall have no obligation to indemnify any Buyer Party pursuant to this Section 9.2 for any Loss resulting from or arising from (i) any amounts included in the calculation of the Final Indebtedness, Final Transaction Expenses, or Final Working Capital, including as any Tax liabilities, as finally determined pursuant to Section 2.3(c) of this Agreement; (ii) any Taxes with respect to which Seller has an indemnification obligation under Section 10.1(c) of this Agreement; (iii) Taxes resulting from an actual or deemed election under Section 338 or Section 336 of the Code (or any corresponding or similar election under state, local or foreign Tax law) with respect to the transactions pursuant to this Agreement; (iv) Taxes attributable to an action taken by Buyer or any of its Affiliates (including any member of the Company Group) outside the Ordinary Course of Business and not contemplated by this Agreement on the Closing Date following the Closing; (vi) Taxes with respect to any Tax Period beginning on the day after the Closing Date or with respect to the portion of any Straddle Period beginning on the day after the Closing Date (determined under the principles of Section 10.1(d)) attributable to a breach of a Tax Representation other than a breach of any of the Tax Representations set forth in clauses (ix), (xii), (xv), and (xvii) (solely as such clause (xvii) relates to "listed transactions" within the meaning of Section 6707A(c)(2) of the Code) of Section 4.10 ; or (vii) Taxes attributable to a breach by Buyer of any of its obligations under Section 10.1(g) of this Agreement.

(ii) Notwithstanding anything to the contrary contained herein, in no event shall any Party be liable for any punitive or exemplary damages, or any consequential damages to the extent (and only to the extent) that such damages are not otherwise recoverable under a breach of contract claim under Delaware Law (except to the extent any of the forgoing are awarded in a judgment issued by a court or other authority of competent jurisdiction in any Third Party Claim), in connection with (a) a breach of any Fundamental Representation or a breach of the representations and warranties in Section 4.6 of this Agreement, (b) Actual Fraud in the making of the representations and warranties in this Agreement or any other Transaction Document, or (c) a claim arising from the breach of any covenant or agreement to be performed by a Party pursuant to this Agreement or the other Transaction Documents.

9.3 Exclusive Remedy

Except to the extent provided in Section 11.13 and in the case of Actual Fraud in the making of any representation and warranty (including with respect to any survival periods or other limitations on indemnification (whether in respect of dollar thresholds or otherwise) set forth in this Agreement or any other Transaction Document), each of the Parties acknowledges and agrees that the indemnification provisions set forth in this Article IX and Section 10.1(c) shall be the exclusive remedies of the Parties with respect to any and all claims by the Buyer Parties (whether in contract or tort) relating to this Agreement or any other Transaction Document, the events giving rise to or subject matter of this Agreement and/or the transactions contemplated hereby or thereby.

9.4 Escrow Matters

From and after the Closing, any indemnification for a Loss for which a Buyer Party is entitled pursuant to Section 9.2(a)(i) and Section 10.1(c) as a result of a breach of representations and warranties (other than the Fundamental Representations or Losses in respect of Actual Fraud in the making of the representations and warranties in this Agreement) shall be first satisfied by recouping all of such Loss from the Indemnification Escrow Amount in accordance with the terms of this Agreement and the Escrow Agreement, until the Indemnification Escrow Amount is exhausted or released pursuant thereto.

ARTICLE X
ADDITIONAL AGREEMENTS

10.1 Tax Matters

(a) Preparation and Filing of Tax Returns . Buyer shall timely prepare and file, or shall cause to be timely prepared and filed, Tax Returns for the Company Group with respect to taxable periods ending on or before the Closing Date (the " Pre-Closing Tax Period ") and Straddle Periods, in each such case which are filed or originally due to be filed after the Closing Date (taking into account any extension of time to file granted to or obtained on behalf thereof); provided , however , that Buyer shall provide each such Tax Return (together with supporting schedules and information) to the Seller for its review, comment and approval, which approval shall not be unreasonably withheld conditioned or delayed, at least twenty (20) Business Days prior to the date on which such Tax Return is due to be filed and shall incorporate into the final Tax Returns filed any reasonable comments provided by the Seller not later than five (5) Business Days prior to the due date of such Tax Return. Such Tax Returns shall be prepared in a manner consistent with past practices except as otherwise required to comply with applicable Law; provided that any deductions that are attributable to the write-off of capitalized financing fees, and the deductible portions of Transaction Expenses (which, for purposes of any such Transaction Expenses that are success-based under IRS Revenue Procedure 2011-29 , shall equal but not exceed seventy percent (70%) thereof, such that the remaining thirty percent (30%) thereof shall be capitalized in accordance with the safe harbor election established by IRS Revenue Procedure 2011-29) and Indebtedness and any other expenses that arise on or before the Closing Date as a result of the transactions contemplated hereby, and any compensatory payments or deductible amounts related to any accrued bonus or similar amount, shall be deducted to the maximum extent allowable under applicable Law in the

Pre-Closing Tax Period. The Seller shall pay to Buyer any amount shown to be due on any such Tax Return for which the Seller is obligated to indemnify the Buyer pursuant to Section 10.1(c)(i) taking into account the limitations set forth in Article IX and Section 10.1(c)(ii)). With respect to any Tax shown to be due on any such Tax Return, Buyer shall pay to the Seller the excess, if any, of the amount of such Tax included in the Estimated Accrued Income Taxes over the amount of such Tax shown pursuant to Section 10.1(c)(i) , taking into account the limitations set forth in Article IX and Section 10.1(c)(ii) .

(b) Cooperation on Tax Matters . The Parties shall cooperate fully, as and to the extent reasonably requested by any other Party, in connection with the filing of Tax Returns, and any audit, litigation or other proceeding with respect to Taxes. Such cooperation shall include the retention and (upon the other Party's request) the provision of records and information which are reasonably relevant to any such audit, litigation or other proceeding and making employees available on a mutually convenient basis to provide additional information and explanation of any material provided hereunder.

(c) Tax Indemnification .

(i) The Seller shall indemnify the Buyer Parties and hold them harmless from and against, without duplication, (i) all Taxes (or the non-payment thereof) of the Company Group for all Pre-Closing Tax Periods and for all Straddle Periods, the portion through the end of the Closing Date as determined pursuant to Section 10.1(d) , (ii) all Taxes imposed on the Company or any Subsidiary as a result of being a member of an Affiliated Group of which the Company (or any predecessor thereof) is or was a member on or prior to the Closing Date, and (iii) any and all Taxes of any Person (other than the Company and its Subsidiaries) imposed on the Company Group as a transferee or successor, by contract or pursuant to any law, rule or regulation, which Taxes relate to an event or transaction occurring before the Closing, and (iv) the employer portion of any and all employment and payroll Taxes imposed on the Company Group with respect to compensatory payments required to be made in connection with the transactions contemplated hereby, excluding, with respect to any such item, the amount (if any) of such item that was taken into account in Indebtedness or Transaction Expense as finally determined pursuant to Section 2.3 . Notwithstanding any other provision of this Agreement to the contrary, the Seller's obligations under this Section 10.1(c) shall survive until the earlier of thirty (30) days after the expiration of the applicable statute of limitations applicable to such Tax matter under applicable Tax law and the seventh (7 th) anniversary of the Closing Date.

(ii) Notwithstanding anything to the contrary herein, the Seller shall have no obligation to indemnify any Buyer Party pursuant to Section 10.1(c)(i) for any Loss resulting from or arising from (i) any Tax included in the Final Indebtedness, Final Transaction Expenses, or Final Working Capital, including as any Tax liabilities, as finally determined pursuant to Section 2.3(c) of this Agreement; (ii) Taxes resulting from an actual or deemed election under Section 338 or Section 336 of the Code (or any corresponding or similar election under state, local or foreign Tax law) with respect to the transactions pursuant to

this Agreement; (iii) Taxes attributable to an action taken by Buyer or any of its Affiliates (including any member of the Company Group) outside the Ordinary Course of Business and not contemplated by this Agreement on the Closing Date following the Closing; (iv) Taxes with respect to any Tax Period beginning on the day after the Closing Date or with respect to the portion of any Straddle Period beginning on the day after the Closing Date (determined under the principles of Section 10.1(c)(ii)) attributable to a breach of a Tax Representation other than a breach of any of the Tax Representations set forth in clauses (ix), (xii), (xv), and (xvii) (solely as such clause (xvii) relates to "listed transactions" within the meaning of Section 6707A(c)(2) of the Code) of Section 4.10 ; or (v) Taxes attributable to a breach by Buyer of any of its obligations under Section 10.1(g) of this Agreement.

(d) Straddle Period . In the case of any taxable period that includes (but does not end on) the Closing Date (a " Straddle Period "), the amount of any Taxes based on or measured by income, receipts, or payroll (including withholding with respect to any such Tax) of the Company Group for the pre-Closing portion of such Straddle Period shall be determined based on an interim closing of the books as of the close of business on the Closing Date, and the amount of other Taxes of the Company Group for the pre-Closing portion of such Straddle Period shall be deemed to be the amount of such Taxes for the entire taxable period multiplied by a fraction the numerator of which is the number of days in the taxable period ending on the Closing Date and the denominator of which is the number of days in the Straddle Period.

(e) Tax Contests . The Seller shall have the right to control, and the Buyer shall have the right to participate in (at its own expense), any audit, litigation or other proceeding with respect to Taxes and Tax Returns of the Company Group for which a Buyer Party would be entitled to indemnification under this Agreement (a " Pre-Closing Tax Contest "); provided , however , that the Seller shall not settle or compromise any such Pre-Closing Tax Contest without the Buyer's prior written consent (not to be unreasonably withheld, conditioned or delayed). The Seller shall keep the Buyer reasonably informed of the details and status of such matter (including promptly providing the Buyer with copies of all written correspondence regarding such matter). The Buyer shall provide the Seller with prompt written notice of any written inquiries by a Governmental Authority relating to a Pre-Closing Tax Contest within ten (10) Business Days of the receipt of such notice. Such notice shall contain factual information (to the extent known to the Buyer) describing the Pre-Closing Tax Contest in reasonable detail and shall include copies of any notice or other document received from any Governmental Authority in respect of such Pre-Closing Tax Contest. If Buyer fails to give the Seller such notice of a Pre-Closing Tax Contest, the Seller's obligation to indemnify the Buyer for any Loss arising out of such Pre-Closing Tax Contest shall be reduced to the extent such failure materially prejudices Seller's indemnification obligations under this Agreement. If the Seller elects not to control such Pre-Closing Tax Contest, then the Buyer shall control such matter, provided in such case that (i) the Seller shall have the right to participate in any such matter (at its own expense), (ii) the Buyer shall keep the Seller reasonably informed of the details and status of such matter (including promptly providing the Seller with copies of all written correspondence regarding such matter), and (iii) the Buyer shall not settle any such proceedings without

the prior written consent of the Seller (not to be unreasonably withheld, conditioned or delayed). In the event of any conflict between this Section 10.1(e) and Section 9.2(c)(iii) (Third Party Claims), the provisions of this Section 10.1(e) shall govern.

(f) Tax Refunds. After the Closing Date, except to the extent (A) specifically included as a Tax asset in Final Closing Statement as finally determined pursuant to Section 2.3(c) of this Agreement, or (B) attributable to the carryback of any loss from a Tax Period beginning on the day after the Closing Date or with respect to the portion of any Straddle Period beginning on the day after the Closing Date (determined under the principles of Section 10.1(d)), the Seller shall be entitled to all Tax refunds (and overpayment of Taxes for a Pre-Closing Tax Period used to reduce any Tax liability for a Tax period beginning after the Closing Date (an " Overpayment Credit ")) received or utilized by Buyer or any of its Affiliates, the Company, or any of its Subsidiaries for any Pre-Closing Tax Period to the extent attributable to (x) Taxes paid by or on behalf the Company or its Subsidiaries on or prior to the Closing Date, (y) Taxes indemnified by the Seller hereunder (in each case, as finally determined hereunder), or (z) Taxes included in the Final Closing Statement, as finally determined pursuant to Section 2.3(c)). Buyer will pay to the Seller any such Tax refund (or an Overpayment Credit) promptly (but in all cases within five business days) after actual receipt of such Tax refund or utilization of an Overpayment Credit; provided that, any such payments to the Seller shall be reduced by any Taxes and reasonable third party costs and expenses attributable to the receipt or delivery of such Tax refund. Buyer shall, if the Seller so requests and at the Seller's expense, file (or cause to be filed) any amended Tax Return or claim for any Tax refunds or equivalent amounts to which the Seller is entitled hereunder.

(g) Tax Covenants. Without the prior written consent of the Seller, which consent will not be unreasonably withheld, conditioned or delayed, Buyer shall not (A) make, and shall not permit any of its Affiliates (including, after the Closing, the Company and its Subsidiaries) to make, any Tax election of the Company or any of its Subsidiaries for a Pre-Closing Tax Period; or (B) permit any of its Affiliates (including the Company and its Subsidiaries after the Closing) to participate in any "voluntary disclosure initiative" (or similar program under federal, state, local or non-U.S. tax Law); or (C) to amend, refile or otherwise modify, any election or Tax Return, in each case, of the Company and its Subsidiaries with respect to any Pre-Closing Tax Period.

10.2 Certain Employee Matters

(a) During the period commencing at the Closing and ending on the date which is twelve (12) months from the Closing (or if earlier, the date of the employee's termination of employment with the Company), Buyer shall and shall cause the Company Group to provide each employee set forth on Schedule 10.2 who remains employed with the Company Group or the Buyer immediately after the Closing Date (" Company Group Continuing Employee ") with: (i) base salary or hourly wages (excluding any overtime wages) which are no less than the base salary or hourly wages provided to such Company Group Continuing Employee by the Company Group immediately prior to the Closing; (ii) target bonus opportunities (excluding equity-based compensation), if any, which are no less than the target bonus opportunities (excluding equity-based compensation) provided

to such Company Group Continuing Employee by the Company Group immediately prior to the Closing and; (iii) severance benefits that are no less favorable than the practice, plan or policy in effect for such Company Group Continuing Employee immediately prior to the Closing.

(b) With respect to any employee benefit plan maintained by Buyer or its Subsidiaries (collectively " Buyer Benefit Plan ") in which any Company Group Continuing Employees will participate effective as of the Closing, Buyer shall, or shall cause the Company Group, to recognize all service of the Company Group Continuing Employees with the Company Group, as if such service were with Buyer, for vesting and eligibility purposes in any Buyer Benefit Plan in which such Company Group Continuing Employees may be eligible to participate after the Closing Date; provided, however, such service shall not be recognized to the extent that (i) such recognition would result in a duplication of benefits, or (ii) such service was not recognized for similar purposes under a corresponding Employee Benefit Plan.

(c) This Section 10.2 shall be binding upon and inure solely to the benefit of each of the Parties hereto, and nothing in this Section 10.2 , express or implied, shall confer upon any person any rights or remedies of any nature. This Section 10.2 (i) shall not be construed to establish, amend or modify any benefit plan, program, agreement or arrangement or create any right in any Company Group employee or any other person to continued employment of any nature or duration, (ii) shall not alter or limit the Buyer's, the Company Group's or any of their Affiliates' ability to amend, modify or terminate any particular benefit plan, program, agreement or arrangement, or (iii) is intended to confer upon any current or former employee any right to employment or continued employment for any period of time by reason of this Agreement, or any right to a particular term or condition of employment.

10.3 Press Releases and Announcements

Except as required by Law, the Parties agree that no press release or other public announcement (including in any trade journal or other publication) of the transactions contemplated hereby shall be made without the prior written consent of Buyer and the Seller; provided that the Seller's consent shall not be unreasonably withheld, conditioned or delayed.

10.4 Further Transfers

The Seller and the Company shall execute and deliver such further instruments of conveyance and transfer and take such additional action as Buyer may reasonably request to effect, consummate, confirm or evidence the transfer to Buyer of the Shares and any other transactions contemplated hereby. The Buyer shall pay any costs associated with the foregoing.

10.5 Expenses

Except as otherwise provided herein, each of the Parties shall pay all of its own fees, costs and expenses (including, without limitation, fees, costs and expenses of legal counsel, investment bankers, brokers or other representatives and consultants and appraisal fees, costs and expenses) incurred in connection with the negotiation of this Agreement, the other Transaction

Documents, the performance of its obligations hereunder and thereunder, and the consummation of the transactions contemplated hereby and thereby. Except as otherwise provided herein, the Seller shall pay all such costs incurred by the Company prior to the Closing.

10.6 Buyer Guaranty

(a) The Buyer Guarantors, jointly and severally, hereby unconditionally, absolutely, and irrevocably guaranty to the Seller the full and punctual performance of and compliance with all covenants, agreements and other obligations of Buyer, now or hereafter existing, under this Agreement and each of the Ancillary Documents, including the due and prompt performance of all covenants, agreements, obligations and other Liabilities of the Buyer under or in respect of this Agreement and the other Transaction Documents (as now or hereafter in existence, the " Obligations "). The guaranty set forth in this Section 10.6 is an absolute, present, primary, unconditional and continuing guaranty of performance, payment and compliance and, without limiting the generality of the foregoing, shall not be released, discharged or otherwise affected by any of the following: (a) any modification, amendment, restatement, waiver or rescission of, or any consent to the departure from, any of the terms of this Agreement approved by the Seller; (b) except as expressly stated herein, any exercise or non-exercise by Buyer of any right or privilege under this Agreement or any notice of such exercise on non-exercise; (c) any extension, renewal, settlement, compromise, waiver or release in respect of any Obligation, by operation of law or otherwise, to the extent approved by or applicable to the Seller, or any assignment of any Obligation by Buyer; (d) any change in the corporate existence, structure or ownership of the Seller; (e) any insolvency, bankruptcy, reorganization or other similar proceeding affecting the Seller or its assets or any resulting release or discharge of any Obligation; (f) the existence of any defense, set-off or other rights (other than a defense of payment or performance) that Buyer Guarantor may have at any time against the Seller, whether in connection herewith or any unrelated transactions; or (g) any other act or failure to act or delay of any kind of Seller or, prior to the Closing, the Company. This Section 10.6 shall continue to be effective, or be automatically reinstated, as the case may be, if at any time payment or performance, or any part thereof, of any of the Obligations is rescinded or must otherwise be restored, returned or rejected by Buyer for any reason. Buyer Guarantor hereby waives any and all defenses to enforcement of the guaranty set forth in this Section 10.6 , now existing or hereafter arising, which may be available to guarantors, sureties and other secondary parties at law or in equity.

(b) Buyer Guarantors acknowledge and agree that their liability under this Section 10.6 is joint and several with Buyer and, upon any breach or default by Buyer, the Seller shall not be obligated to first attempt enforcement against Buyer. In furtherance of the foregoing, the Buyer Guarantors acknowledge that the Seller may bring and prosecute a separate action or actions against the Buyer Guarantors for the full amount of the Obligations, regardless of whether any action is brought against Buyer. Buyer Guarantors agree that (i) the Seller would be damaged irreparably in the event that any of the provisions of this Section 10.6 are not performed in accordance with their specific terms and (ii) the Seller shall be entitled, in addition to any other remedy at law or in equity, to specific performance of the terms of this Section 10.6 , without the necessity of proving the

inadequacy of money damages as a remedy and without posting any bond in connection therewith.

(c) Each Buyer Guarantor represents and warrants to the Seller that, as of the date of this Agreement and as of the Closing Date: (i) Guarantor has the requisite power and authority to execute and deliver this Agreement and to perform its obligations under this Agreement, including the obligations set forth in Section 10.6 ; (ii) this Agreement has been duly and validly executed and delivered by such Buyer Guarantor and, assuming the due authorization, execution and delivery by the other parties hereto, constitutes the valid and legally binding obligation of such Buyer Guarantor, enforceable against such Buyer Guarantor in accordance with its terms and conditions, subject to applicable bankruptcy, insolvency, reorganization, moratorium and other similar Laws affecting creditors' rights generally and general principles of equity; and (iii) the execution and delivery of this Agreement, and such Buyer Guarantor's performance under this Agreement, including such Buyer Guarantor's performance under Section 10.6(a) , do not (x) violate any Law, Decree or other restriction of any Governmental Authority to which such Buyer Guarantor is subject, or any provision of its Organizational Documents or (y) conflict with, result in a breach of, constitute a default under, result in the acceleration of any obligation under, create in any party the right to accelerate, terminate, modify, or cancel, or require any notice under, any Contract, License, instrument, or other arrangement to which such Buyer Guarantor is a party or by which it is bound or to which any of its assets is subject, including, without limitation, the Buyer Parties' existing credit facilities and (iv) the Buyer Guarantors have the financial capacity to pay and perform their obligations under this Agreement, and all funds necessary for the Buyer Guarantors to fulfill their Obligations under this Agreement until the earliest of (x) the Closing Date, (y) valid termination of this Agreement or (c) payment to the Buyer of the full amount of the Obligations.

ARTICLE XI
MISCELLANEOUS

11.1 Amendment and Waiver

This Agreement may be amended and any provision of this Agreement may be waived; provided that any such amendment or waiver shall be binding upon a Party only if such amendment or waiver is set forth in a writing executed by the Seller, Buyer and the Company. No course of dealing between or among any persons having any interest in this Agreement shall be deemed effective to modify, amend or discharge any part of this Agreement or any rights or obligations of any Party under or by reason of this Agreement. Notwithstanding anything to the contrary contained herein, this Section 11.1 and Section 11.3 , Section 11.9 , Section 11.13 , Section 11.14 , and Section 11.17 (and any other provision of this Agreement to the extent an amendment, supplement, waiver or other modification of such provisions would modify the substance of such Sections) may not be amended, supplemented, waived or otherwise modified in any manner that is materially adverse to the Debt Financing Source without the prior written consent of a majority in interest of the Debt Financing Sources party to the Debt Commitment Letter.

11.2 Notices

For purposes of the Closing, the delivery of documents by or to the attorneys or other agents or representatives of a Party shall be deemed to constitute delivery by or to that Party. All notices, demands and other communications given or delivered under this Agreement shall be in writing and shall be deemed to have been given when personally delivered, mailed by first class mail, return receipt requested, or delivered by express courier service or via email transmission (with hard copy to follow). Notices, demands and communications to the Seller, the Company and Buyer shall, unless another address is specified in writing, be sent to the address or facsimile indicated below:

Notice to the Seller or, prior to the Closing, the Company:

Talon Innovations Holdings LLC
c/o Graycliff Partners LP
500 Fifth Avenue, 47 th Floor
New York, NY 10110
Attention: Duke Punhong and Carl Barcoma
Email: dpunhong@graycliffpartners.com
cbarcoma@graycliffpartners.com

with a copy (which shall not constitute notice) to:

Robinson & Cole LLP
Chrysler East Building
666 Third Avenue, 20 th Floor
New York, NY 10017
Attention: Stephen P. Hanson
Email: shanson@rc.com

Notice to Buyer or, following the Closing, the Company, to:

c/o Ichor Systems, Inc.
3185 Laurelview Court
Fremont, CA 94538
Attention: Maurice Carson
Email: mcarson@ichorsystems.com

with a copy (which shall not constitute notice) to:

Kirkland & Ellis LLP
3330 Hillview Avenue
Palo Alto, CA 94304
Attention: Adam D. Phillips, P.C.
Email: adam.phillips@kirkland.com

11.3 Binding Agreement; Assignment

This Agreement and all of the provisions hereof shall be binding upon and inure to the benefit of the Parties and their respective successors and permitted assigns; provided that neither this Agreement nor any of the rights, interests or obligations hereunder may be assigned

by any Party without the prior written consent of the Seller and Buyer. Without the prior written consent of any Party, Buyer and its permitted assigns may at any time, in their sole discretion, assign, in whole or in part, (a) their right to receive the Shares to one or more of their Affiliates; (b) their rights under this Agreement and the other Transaction Documents for collateral security purposes to any lender providing financing to Buyer or any of Buyer's holdings companies or subsidiaries; and (c) their rights under this Agreement and the other Transaction Documents, in whole or in part, to any subsequent purchaser of Buyer, such permitted transferee or any of their divisions or any material portion of their assets (whether such sale is structured as a sale of stock, sale of assets, merger, recapitalization or otherwise); provided , however , that Buyer shall continue to remain liable for all obligations, Liabilities, warranties and covenants of Buyer in the event of any such assignment.

11.4 Severability

If any term, provision, covenant or restriction of this Agreement is held by a court of competent jurisdiction or other Governmental Authority to be invalid, void or unenforceable, the remainder of the terms, provisions, covenants and restrictions of this Agreement shall remain in full force and effect and shall in no way be affected, impaired or invalidated so long as the economic or legal substance of the transactions contemplated hereby is not affected in any manner materially adverse to any Party. Upon such a determination, the Parties shall negotiate in good faith to modify this Agreement so as to effect the original intent of the Parties as closely as possible in an acceptable manner in order that the transactions contemplated hereby be consummated as originally contemplated to the fullest extent possible.

11.5 Interpretation; Construction

(a) If any Party has breached any representation, warranty, or covenant contained herein in any respect, the fact that there exists another representation, warranty, or covenant relating to the same subject matter (regardless of the relative levels of specificity) which the Party has not breached shall not detract from or mitigate the fact that the Party is in breach of the first representation, warranty, or covenant. In addition, each of the Parties acknowledges and agrees that, except to the extent provided otherwise herein, any purchase price adjustments as a result of the application of any provision of this Agreement or any other of the Transaction Documents do not prejudice or limit in any respect whatsoever any Party's rights under any other provision of this Agreement or any other Transaction Document or pursuant to any other applicable requirements of law, except as expressly set forth herein and provided , that no Party shall be entitled to recover for a Loss to the extent such Party has previously been made-whole for such Loss. References in this Agreement to dollar amount thresholds are not, and shall not be deemed to be, evidence of a Material Adverse Effect or "materiality". Any reference herein to "provided" or "made available" to Buyer means, with respect to any document or information, that the same has been made available to Buyer for a continuous period of at least two (2) Business Days prior to the date of this Agreement by means of the virtual data room located at https://merrillcorp.com under project name "Thor Data Room".

(b) Each of the Parties acknowledges that it has been represented by independent counsel of its choice throughout all negotiations that have preceded the

execution of this Agreement and that it has executed the same with consent and upon the advice of said independent counsel. The Parties have participated jointly in the negotiation and drafting of this Agreement. In the event an ambiguity or question of intent arises, this Agreement shall be construed as if drafted jointly by the Parties, and no presumption or burden of proof shall arise, or rule of strict construction applied, favoring or disfavoring any Party by virtue of the authorship of any of the provisions of this Agreement. Accordingly, any rule of law or any legal decision that would require interpretation of any ambiguities in this Agreement against the Party that drafted it is of no application and is hereby expressly waived by the Parties.

11.6 Captions

The captions used in this Agreement are for convenience of reference only and do not constitute a part of this Agreement and shall not be deemed to limit, characterize or in any way affect any provision of this Agreement, and all provisions of this Agreement shall be enforced and construed as if no caption had been used in this Agreement.

11.7 Entire Agreement

The Disclosure Schedules identified in this Agreement are incorporated herein by reference. This Agreement and the documents referred to herein contain the entire agreement between the Parties and supersede any prior understandings, agreements or representations by or between the Parties, written or oral, which may have related to the subject matter hereof in any way.

11.8 Counterparts

This Agreement may be executed in multiple counterparts, each of which shall be deemed an original but all of which taken together shall constitute one and the same instrument.

11.9 Governing Law

(a) This Agreement shall be governed by and construed in accordance with the domestic Laws of the State of Delaware without giving effect to any choice or conflict of law provision or rule (whether of the State of Delaware or any other jurisdiction) that would cause the application of the Laws of any jurisdiction other than the State of Delaware. Any action, suit or other proceeding, at law or in equity, arising out of or relating to this Agreement or any agreements or transactions contemplated hereby shall only be brought in any state or federal court in Wilmington, Delaware. THE PARTIES AGREE THAT JURISDICTION AND VENUE IN ANY ACTION BROUGHT BY ANY PARTY PURSUANT TO THIS AGREEMENT SHALL PROPERLY AND EXCLUSIVELY LIE IN SUCH COURTS. BY EXECUTION AND DELIVERY OF THIS AGREEMENT, EACH PARTY IRREVOCABLY AND EXCLUSIVELY SUBMITS TO THE JURISDICTION OF SUCH COURTS FOR ITSELF AND IN RESPECT OF ITS PROPERTY WITH RESPECT TO SUCH ACTION. THE PARTIES IRREVOCABLY AGREE THAT VENUE WOULD BE PROPER IN SUCH COURT, AND HEREBY WAIVE ANY OBJECTION THAT SUCH COURT IS AN IMPROPER OR INCONVENIENT FORUM FOR THE RESOLUTION OF SUCH ACTION. THE

PARTIES FURTHER AGREE THAT THE MAILING BY CERTIFIED OR REGISTERED MAIL, RETURN RECEIPT REQUESTED, OF ANY PROCESS REQUIRED BY ANY SUCH COURT SHALL CONSTITUTE VALID AND LAWFUL SERVICE OF PROCESS AGAINST THEM, WITHOUT NECESSITY FOR SERVICE BY ANY OTHER MEANS PROVIDED BY STATUTE OR RULE OF COURT. EACH PARTY HERETO HEREBY WAIVES, TO THE FULLEST EXTENT PERMITTED BY APPLICABLE LAW, ANY RIGHT IT MAY HAVE TO A TRIAL BY JURY IN RESPECT TO ANY PROCEEDING DIRECTLY OR INDIRECTLY ARISING OUT OF, UNDER OR IN CONNECTION WITH THIS AGREEMENT, THE DEBT FINANCING OR ANY TRANSACTION CONTEMPLATED HEREBY OR THEREBY. NOTWITHSTANDING THE FOREGOING, CLAIMS AND ACTIONS THAT MAY BE BASED UPON, ARISE OUT OF OR RELATE TO THE DEBT FINANCING SOURCE (WHETHER IN LAW, CONTRACT TORT, EQUITY OR OTHERWISE) SHALL BE GOVERNED BY AND CONSTRUED IN ACCORDANCE WITH THE LAWS OF THE STATE OF NEW YORK, WITHOUT GIVING EFFECT TO ANY CHOICE OF LAW OR CONFLICT OF LAW PROVISION OR RULE (WHETHER OF THE STATE OF NEW YORK OR ANY OTHER JURISDICTION) THAT WOULD CAUSE THE APPLICATION OF THE LAW OF ANY JURISDICTION OTHER THAN THE STATE OF NEW YORK.

(b) Notwithstanding the foregoing clause (a), each Party hereto agrees that it will not bring nor support, and will not support any of its Affiliates in bringing or supporting, any action, cause of action, cross-claim or third-party claim of any kind or description, whether in law or in equity, whether in contract or in tort or otherwise against any Debt Financing Source that may be based upon, arise out of, or relate to the Debt Financing or the Debt Financing Source in any forum other than the Supreme Court of the State of New York, County of New York, or, if under applicable law exclusive jurisdiction is vested in federal courts, in the United States District Court for the Southern District of New York (and the appellate courts thereof). Each party hereto waives any objection to the laying of venue in any such action, suit or proceeding in federal and state courts of the State of New York located in the County of New York, and further waives not to plead or claim in any such court that any such action, suit or proceeding brought in any such court has been brought in any inconvenient forum.

11.10 Parties in Interest

Nothing in this Agreement, express or implied, is intended to confer on any Person other than the Parties and their respective successors and assigns any rights or remedies under or by virtue of this Agreement, except as provided in Section 11.13 .

11.11 Delivery by Facsimile or Electronic Mail

This Agreement and any Transaction Document, and any amendments hereto or thereto, to the extent signed and delivered by means of a facsimile machine or digital imaging and electronic mail, shall be treated in all manner and respects as an original Contract and shall be considered to have the same binding legal effects as if it were the original signed version thereof delivered in person. At the request of any party hereto or to any such Contract, each other party

hereto or thereto shall re-execute original forms thereof and deliver them to all other parties. No party hereto or to any such Contract shall raise the use of a facsimile machine or digital imaging and electronic mail to deliver a signature or the fact that any signature or Contract was transmitted or communicated through the use of a facsimile machine or digital imaging and electronic mail as a defense to the formation of a Contract and each such party forever waives any such defense.

11.12 Releases

The Seller (for itself and its heirs, assigns or executors) releases and forever discharges Buyer and all of its Subsidiaries (including the Company Group) and Affiliates, and their respective directors, officers, agents, equityholders, employees and other representatives (the " Buyer Released Parties ") from any and all claims, suits, demands, causes of action, contracts, covenants, obligations, debts, costs, expenses, attorneys' fees, liabilities of whatever kind or nature in law or equity, by statute, court order, stipulation or otherwise whether now known or unknown, absolute or contingent, liquidated or unliquidated, suspected or unsuspected, and whether or not concealed or hidden (collectively, " Claims "), which have existed or may have existed, or which do exist, through the Closing Date of any kind, by reason of any matter, cause, act, omission or thing whatsoever existing or occurring prior to the Closing, except those Claims arising under this Agreement, the other Transaction Documents and the transactions contemplated herein or therein. The Seller understands that this is a full and final release of all claims, demands, causes of action and liabilities of any nature whatsoever, whether or not known, suspected or claimed, that could have been asserted in any legal or equitable proceeding against the Buyer Released Parties by reason of any matter, cause, act, omission or thing whatsoever existing or occurring prior to the Closing, except as expressly set forth in this Section 11.11(a) . To the extent permitted by law, the Seller expressly waives all rights afforded by any statute which limits the effect of a release with respect to unknown claims. The Seller understands the significance of its release of unknown claims and its waiver of statutory protection against a release of unknown claims. Such released claims include, without in any way limiting the generality of the foregoing language, any and all claims of employment discrimination under any local, state, or federal law or ordinance, including, without limitation, Title VII or the Civil Rights Act of 1964, as amended; the Civil Rights Act of 1991; or the Age Discrimination in Employment Act of 1967, as amended; the Equal Pay Act of 1963, as amended; the Americans with Disabilities Act of 1990; the Family and Medical Leave Act of 1993; the Civil Rights Act of 1966, as amended; the Worker Adjustment Retraining and Notification Act; the Employee Retirement Income Security Act of 1974; any applicable Executive Order Programs; the Fair Labor Standards Act; or their state or local counterparts; or under any public policy, contract or tort, or under common law; or arising under any policies, practices or procedures of the Company Group; or any claim for wrongful discharge, breach of contract, infliction of emotional distress, defamation; or any claim for costs, fees, or other expenses, including attorneys' fees incurred in these matters.

11.13 No Third-Party Beneficiaries

Except as expressly provided in this Agreement, this Agreement is for the sole benefit of the Parties, their heirs, legal guardians and their successors and permitted assigns and nothing herein expressed or implied shall give or be construed to give to any Person, other than the Parties, their heirs, legal guardians, successors and permitted assigns, any legal or equitable rights hereunder, except that the Debt Financing Source shall be express third-party beneficiaries

of this Section 11.13 and Section 11.1 , Section 11.9(b) , Section 11.14 , and Section 11.17 , and each of such Sections shall expressly inure to the benefit of the Debt Financing Source and the Debt Financing Source shall be entitled to rely on and enforce the provisions of such Sections.

11.14 Specific Performance

The Parties agree that: (i) irreparable damage would occur if any provision of this Agreement were not performed by the parties in accordance with the terms hereof; (ii) there would be no adequate remedy at law or in damages to compensate for such performance failure; (iii) the Parties shall be entitled (without the requirement of proving harm or to post a bond or other security) to an injunction or injunctions to prevent breaches of this Agreement, or to enforce specifically the performance of the terms and provisions hereof (including the right of the Seller to cause Buyer Parties to cause the transaction to be consummated on the terms set forth herein and to cause the specific enforcement of Section 10.6), and (iv) no Party will oppose the granting of an injunction, specific performance or other equitable relief on the basis that any Party has an adequate remedy at law or that any award of specific performance or other equitable remedy is not an appropriate remedy for any reason at law or in equity. Without limitation of the foregoing, the Parties hereby further acknowledge and agree that prior to the Closing, the Seller shall be entitled to seek specific performance to enforce specifically the terms and provisions of, and to prevent or cure breaches of the covenants required to be performed by Buyer under this Agreement (including to cause Buyer to consummate the purchase of the Shares) in addition to any other remedy to which the Seller is entitled hereunder. No Debt Financing Source shall be subject to any special consequential, punitive or indirect damages or any damages or a tortious nature.

11.15 Legal Representation

Buyer and the Company hereby agree, on their own behalf, and each of their directors, members, partners, officers and employees, and each of their successors and assigns (all such parties, the " Waiving Parties "), that Robinson & Cole LLP (or a successor) shall not be prohibited from representing the Seller or any of its members or Affiliates, and each of their and their Affiliates' directors, members, partners, officers, employee or Affiliates in connection with any dispute, legal action or obligation arising out of or relating to this Agreement or the other Transaction Documents (any such representation, the " Post-closing Representation ") as a result of its prior representation of the Seller, the Company or any of its Subsidiaries, and each of Buyer and the Company Group on behalf of itself and the Waiving Parties hereby agrees not to assert any conflict of interest therefrom. Buyer and the Company acknowledge that the foregoing provision applies whether or not Robinson & Cole LLP provides legal services to the Seller, and of its members, or the Company or any of its Subsidiaries after the Closing Date. From and after the Closing neither Buyer, the Company, nor any Person purporting to act on behalf of or through Buyer or the Company or any of the Waiving Parties, will seek to obtain any privileged communications among the Company Group or the Seller and Robinson & Cole LLP, made in connection with the negotiation, preparation, execution, delivery and performance under, or any dispute or legal action arising out of or relating to, this Agreement, the other Transaction Documents or the transactions contemplated hereby or thereby. Each of Buyer and the Company (after the Closing), on behalf of itself and the Waiving Parties, will not assert any attorney-client privilege with respect to any communication between Robinson & Cole LLP and the Company, its Subsidiaries or the Seller or any member of the Seller occurring prior to the Closing in

connection with this Agreement, any other Transaction Document or any of the transactions contemplated herein or therein in any Post-Closing Representation.

11.16 Incorporation of Appendices, Exhibits and Schedules

The appendices, exhibits and schedules identified in this Agreement are incorporated herein by reference and made a part hereof.

11.17 Debt Financing Source

Notwithstanding anything herein to the contrary, no Debt Financing Source shall have any Liability to the Seller, the Company and their respective subsidiaries, affiliates, directors, officers, employees, agents, partners, managers, members, or stockholders, and the Seller, the Company and their respective subsidiaries, affiliates, directors, officers, employees, agents, partners, managers, members, or stockholders (the " Seller Parties ") shall not have any claim (whether in tort, contract or otherwise) against the Debt Financing Source, and no Seller Party shall have any Liability to any Buyer Party or any Debt Financing Source, based on, in respect of, or by reason of, the transactions contemplated hereby or by the Debt Financing or in respect of any oral representations made or alleged to be made in connection herewith or therewith. In no event shall the Seller, the Company and their respective subsidiaries, affiliates, directors, officers, employees, agents, partners, managers, members, or stockholders, and the Seller and the Company agree not to and to cause their respective subsidiaries, affiliates, directors, officers, employees, agents, partners, managers, members, or stockholders not to, (a) seek to enforce this Agreement against, make any claims for breach of this Agreement against, or seek to recover monetary damages from, any Debt Financing Source in connection with this Agreement or (b) seek to enforce the commitments against, make any claims for breach of the Debt Financing against, or seek to recover monetary damages from, or otherwise sue, the Debt Financing Source in connection with this Agreement or the Debt Financing or the obligations of Debt Financing Source thereunder. Nothing in this Section 11.17 shall in any way limit or qualify the rights and obligations of the Debt Financing Source and the other parties to the Debt Financing pursuant to the Debt Commitment Letter (or the definitive documents entered into pursuant thereto) to the Buyer or to each other thereunder or in connection therewith.

* * * *

IN WITNESS WHEREOF, each of the Parties hereto has executed this Agreement, or has caused this Agreement to be executed by its respective officer thereunto duly authorized, all as of the day and year first above written.

THE COMPANY :

TALON INNOVATIONS CORPORATION

B y: /s/ Gregory J. Olson
Name: Gregory J. Olson
Title: Chief Executive Officer

SELLER :

TALON INNOVATIONS HOLDINGS LLC

B y: /s/ Gregory J. Olson
Name: Gregory J. Olson
Title: Chief Executive Officer

BUYER :

ICHOR HOLDINGS, LLC

B y: /s/ Maurice Carson
Name: Maurice Carson
Title: President and Chief Financial Officer

BUYER GUARANTORS :

ICHOR HOLDINGS, LTD.

B y: /s/ Maurice Carson
Name: Maurice Carson
Title: President and Chief Financial Officer

ICHOR SYSTEMS, INC.

B y: /s/ Maurice Carson
Name: Maurice Carson
Title: President and Chief Financial Officer

PRECISION FLOW TECHNOLOGIES, INC.

B y: /s/ Maurice Carson
Name: Maurice Carson
Title: President and Chief Financial Officer

CAL-WELD, INC.

B y: /s/ Maurice Carson
Name: Maurice Carson
Title: President and Chief Financial Officer

AJAX-UNITED PATTERNS & MOLDS, INC.

B y: /s/ Maurice Carson
Name: Maurice Carson
Title: President and Chief Financial Officer

Schedule A

Ichor Holdings, Ltd.
Ichor Systems, Inc.
Precision Flow Technologies, Inc.
Cal-Weld, Inc.
Ajax-United Patterns & Molds, Inc.

Exhibit 10.14

July 20, 2017

Mr. Kevin M. Canty
[XXXXX]
[XXXXX]

Dear Kevin,

I am pleased to offer you the position of Chief Operating Officer with Ichor Systems, Inc. Should you accept our offer, your home office will be in Fremont, CA reporting directly to the Chief Executive Officer. The purpose of this letter is to confirm with you the specifics of your offer, consistent with the terms below.

Start Date
Your tentative date of hire is August 7, 2017.

Salary
Your base salary will be $11,923.08 biweekly, which when annualized is equivalent to $310,000.00 per year.

Work Classification
Your position will be full-time, and is considered exempt for purposes of federal wage-hour law, which means that you will not be eligible for overtime pay.

Incentive Bonus
You are eligible to participate in the Company's performance incentive program. This program is subject to the terms and conditions of the plan and at the discretion of the Board of Directors. Your target bonus is 50% of your annual base salary. This bonus is based on companywide financial metrics and successful completion of established MBOs. This plan is subject to change at any time at the Company's discretion.

Equity Incentive
You will be eligible to participate in the Ichor Holdings, 2016 Omnibus Incentive Plan, and will be granted a non-statutory option to acquire 60,000 shares of stock, and 20,000 RSUs, per the terms of the plan. You will receive plan documents under separate cover following the next meeting of the Board of Directors in August.

Benefits
Your participation in the benefit programs, including medical and dental insurance, will begin the first day of the month following your date of hire as long as you have completed your enrollment as required. You will have thirty (30) days from your date of hire to enroll yourself and eligible dependents in the health and welfare benefit programs. You will also be eligible to participate in the 401(k) Retirement Savings Plan.

Paid Time Off (PTO)
You will accrue 3.70 hours of paid time off (PTO) time bi-weekly. This is equivalent to two (2) weeks and two (2) days of PTO time per year.

Sick Time
Upon completion of ninety days (90) of employment, you will receive twenty-four hours (24) of sick time.

Direct Deposit
As a condition of employment, you will be required to accept payment of salary or wages by direct deposit or Pay Card.

Background Check & Drug Test
Ichor Systems maintains a pre-employment drug and alcohol testing policy, a practice designed to prevent the hiring of individuals whose use of illegal drugs or alcohol may indicate a potential for impaired or unsafe job performance. Applicants are required to complete the pre-employment drug screening within 48 hours of offer acceptance. Failure to complete the drug screen within the specified time frame will nullify this offer of employment. This offer of employment is contingent upon successful completion of the drug screen and background checks.

Per company policy, your employment with Ichor Systems is at will. This means that either you or Ichor Systems may terminate the employment relationship at any time, with or without cause, with or without notice.

With respect to the nature of your employment relationship with Ichor Systems, this constitutes the full, complete, and final agreement between you and Ichor Systems. Additionally, no element or elements of the compensation plan listed above can be assigned or transferred by you to any other person, company, or entity of any type.

As a new employee of Ichor Systems you will be required to complete an employee information sheet and an I-9 form. On your first day of work please bring appropriate documentation of proof that you are presently eligible to work in the United States for I-9 purposes.

This offer of employment, if not previously accepted by you, will expire three (3) days from the date of this letter.

If you wish to accept this offer, please sign, date, and return the enclosed copy of this letter to the Human Resources Department. Please sign, date and retain a copy for your records.

Kevin, we are excited to have you join the Ichor team and trust that this letter finds you mutually excited about your new employment with us! Should you have any questions, please contact me at [XXXXX] or email if that is more convenient. I welcome you to Ichor!

Sincerely,

/s/ Jennifer S. Speer

Jennifer S. Speer
Vice President of Human Resources

ACKNOWLEDGEMENT

I, the undersigned, understand and agree to the terms and conditions of employment set forth in this letter. I understand and agree that the terms of this letter supersede any and all prior or contemporaneous agreements and/or promises concerning the terms of my employment and that there are no other promises, expressed or implied, concerning the terms of my employment with Ichor Systems, Inc., other than those expressly set forth or reference herein.

/s/ Kevin Canty	July 21, 2017
Kevin Canty	**Date**

Exhibit 10.15

November 9, 2017

Mr. Jeffrey Andreson
[XXXXX]
[XXXXX]

Dear Jeff,

I am pleased to offer you the position of Chief Financial Officer with Ichor Systems, Inc. Should you accept our offer, your home office will be in Fremont, CA reporting directly to the Chief Executive Officer. The purpose of this letter is to confirm with you the specifics of your offer, consistent with the terms below.

Start Date
Your tentative date of hire is November 27, 2017 or other date as agreed upon.

Salary
Your base salary will be $13,846.15 biweekly, which when annualized is equivalent to $360,000.00 per year.

Work Classification
Your position will be full-time, and is considered exempt for purposes of federal wage-hour law, which means that you will not be eligible for overtime pay.

Sign On Bonus
Your offer of employment includes a one-time bonus in the amount of $200,000.00, as per the attached agreement. This bonus is payable in the first quarter of 2018 coincident with the incentive bonus plan payment schedule.

Incentive Bonus
You are eligible to participate in the Company's performance incentive program. This program is subject to the terms and conditions of the plan and at the discretion of the Board of Directors. Your target bonus is 65% of your annual base salary. This bonus is based on companywide financial metrics and successful completion of established MBOs. This plan is subject to change at any time at the Company's discretion.

Equity Incentive
You will be eligible to participate in the Ichor Holdings, 2016 Omnibus Incentive Plan, and will be granted a non-statutory option to acquire 54,000 shares of stock, and 24,000 RSUs, per the terms of the plan. You will receive plan documents under separate cover following your date of hire.

Benefits
Your participation in the benefit programs, including health and welfare, life and disability, along with other offerings, will begin the first day of the month following your date of hire as long as you have completed your enrollment as required. You will have thirty (30) days from your date of hire to enroll yourself and eligible dependents in the health and welfare benefit programs. You will also be eligible to participate in the 401(k) Retirement Savings Plan.

Paid Time Off (PTO)
You will accrue 3.70 hours of paid time off (PTO) time bi-weekly. This is equivalent to two (2) weeks and two (2) days of PTO time per year.

Sick Time
Upon completion of ninety days (90) of employment, you will receive twenty-four hours (24) of sick time.

Direct Deposit
As a condition of employment, you will be required to accept payment of salary or wages by direct deposit or Pay Card.

Severance
In the event that the company terminates your employment without cause within twelve (12) months of a change of control, subject in each case to your execution and non-revocation of a general release and waiver of claims in the form provided by the Company, you shall be entitled to receive a severance payment equal to twelve (12) months of your base salary.

" *Cause"* *shall mean (a) any refusal by you to perform your reasonable duties and responsibilities in connection with your employment with Ichor Systems, provided that (i) the Company has delivered to you a written warning describing the occurrence of any such act(s) or omission(s) in reasonable detail and (ii)you have not cured the circumstances giving rise to the alleged Cause within fifteen (15) days following your receipt of such warning (iii) any act of fraud, embezzlement, theft, or misappropriation by you or your commission of any other felony crime involving moral turpitude (iv) any gross negligence or willful connection with your employment with Ichor Systems, or (iv) any material breach by you of any of the terms contained in this compensation letter.*

Background Check & Drug Test
Ichor Systems maintains a pre-employment drug and alcohol testing policy, a practice designed to prevent the hiring of individuals whose use of illegal drugs or alcohol may indicate a potential for impaired or unsafe job performance. Applicants are required to complete the pre-employment drug screening within 48 hours of offer acceptance. Failure to complete the drug screen within the specified time frame will nullify this offer of employment. This offer of employment is contingent upon successful completion of the drug screen and background checks.

Per company policy, your employment with Ichor Systems is at will. This means that either you or Ichor Systems may terminate the employment relationship at any time, with or without cause, with or without notice.

With respect to the nature of your employment relationship with Ichor Systems, this constitutes the full, complete, and final agreement between you and Ichor Systems. Additionally, no element or elements of the compensation plan listed above can be assigned or transferred by you to any other person, company, or entity of any type.

As a new employee of Ichor Systems you will be required to complete an employee information sheet and an I-9 form. On your first day of work please bring appropriate documentation of proof that you are presently eligible to work in the United States for I-9 purposes.

This offer of employment, if not previously accepted by you, will expire three (3) days from the date of this letter.

If you wish to accept this offer, please sign, date, and return the enclosed copy of this letter to the Human Resources Department. Please sign, date and retain a copy for your records.

Jeff, we are excited to have you join the Ichor team and trust that this letter finds you mutually excited about your new employment with us! Should you have any questions, please contact me at [XXXXX] or email if that is more convenient. I welcome you to Ichor!

Sincerely,

/s/ Jennifer S. Speer

Jennifer S. Speer
Vice President of Human Resources

ACKNOWLEDGEMENT

I, the undersigned, understand and agree to the terms and conditions of employment set forth in this letter. I understand and agree that the terms of this letter supersede any and all prior or contemporaneous agreements and/or promises concerning the terms of my employment and that there are no other promises, expressed or implied, concerning the terms of my employment with Ichor Systems, Inc., other than those expressly set forth or reference herein.

/s/ Jeffrey Andreson	November 10, 2017
Jeffrey Andreson	**Date**

Exhibit 10.16

THIRD AMENDMENT TO CREDIT AGREEMENT

THIS THIRD AMENDMENT TO CREDIT AGREEMENT (this " Amendment ") is made as of December 11, 2017 by and among ICHOR HOLDINGS, LLC, a Delaware limited liability company (" Ichor Holdings "), ICHOR SYSTEMS, INC., a Delaware corporation (" Ichor Systems "), PRECISION FLOW TECHNOLOGIES, INC., a New York corporation (" Precision Flow "), AJAX-UNITED PATTERNS & MOLDS, INC., a California corporation (" Ajax "), CAL-WELD, INC., a California corporation (" Cal-Weld "), TALON INNOVATIONS CORPORATION, a Minnesota corporation (" Talon ") and TALON INNOVATIONS (FL) CORPORATION, a Florida corporation (" Talon (FL) " and together with Talon, collectively, the " Targets " and each, a " Target ", and collectively with Ajax, Ichor Holdings, Ichor Systems and Precision Flow, the " Borrowers ", and each a " Borrower "), ICICLE ACQUISITION HOLDING B.V. a Netherlands private company with limited liability (" Holdings ") and ICHOR SYSTEMS SINGAPORE PTE. LTD., a Singapore private limited company (" Ichor Singapore " and together with Holdings, the " Guarantors "), BANK OF AMERICA, N.A., as administrative agent (the " Administrative Agent "), and the financial institutions signatory hereto (the " Lenders ").

RECITALS

WHEREAS, the Administrative Agent, certain financial institutions, and the Borrowers entered into that certain Credit Agreement dated as of August 11, 2015 (as amended, supplemented, restated, amended and restated or otherwise modified from time to time, the " Existing Credit Agreement ");

WHEREAS, Ichor Holdings has entered into that certain Stock Purchase Agreement dated as of November 3, 2017 by and among Talon, Talon Innovations Holdings LLC and Ichor Holdings (together with the exhibits and disclosure schedules thereto, the " Acquisition Agreement "), pursuant to which Ichor Holdings has agreed to purchase all of the issued and outstanding stock of the Targets (the purchase and sale of the Targets as contemplated by the Acquisition Agreement is herein referred to as the " Acquisition ");

WHEREAS, in connection with the Acquisition, the Borrowers have requested, and the Lenders are willing to make available to the Borrowers, Incremental Commitments on and subject to the terms and conditions set forth herein;

WHEREAS, the Borrowers wish to amend the Existing Credit Agreement and the Administrative Agent and the Lenders party hereto are willing to agree to such request on and subject to the terms and conditions set forth in this Amendment; and

WHEREAS, this Amendment constitutes a Loan Document and these Recitals shall be construed as part of this Amendment.

AGREEMENT

In consideration of the matters set forth in the recitals and the covenants and provisions herein set forth, and other valuable consideration, the receipt and sufficiency of which are hereby acknowledged, the part ies hereto hereby agree as follows:

1. Definitions . Capitalized terms used but not defined herein are used as defined in the Existing Credit Agreement, as amended by this Amendment (the " Credit Agreement ").

2. Amendment to Credit Agreement . Upon the Effective Date (as defined herein), the Existing Credit Agreement is hereby amended as follows:

(a) The following new definitions are hereby inserted in Section 1.1 of the Existing Credit Agreement in appropriate alphabetical order as follows:

" Benefit Plan " means any of (a) an "employee benefit plan" (as defined in ERISA) that is subject to Title I of ERISA, (b) a "plan" as defined in Section 4975 of the Code or (c) any Person whose assets include (for purposes of ERISA Section 3(42) or otherwise for purposes of Title I of ERISA or Section 4975 of the Code) the assets of any such "employee benefit plan" or "plan".

" Bona Fide Lending Affiliate " means any debt fund affiliate of such entities mentioned in clause (a) or (b) of the definition of Disqualified Institution that is primarily engaged in, or advises funds or other investment vehicles that are engaged in, making, purchasing, holding or otherwise investing in commercial loans, notes, bonds and similar extensions of credit or securities in the ordinary course of its business and whose managers are not involved with the equity investment decisions of such competitor or affiliate.

" Excluded Parties " means any Affiliate of Merrill Lynch, Pierce, Fenner & Smith Incorporated, SunTrust Robinson Humphrey, Inc., SG Americas Securities, LLC, Bank of America, N.A., SunTrust Bank or Societe Generale that is engaged directly or indirectly in a sale of the Targets and their Subsidiaries as sell-side representative.

" PTE " means a prohibited transaction class exemption issued by the U.S. Department of Labor, as any such exemption may be amended from time to time.

" Third Amendment " means that certain Third Amendment to Credit Agreement dated as of the Third Amendment Effective Date among the Administrative Agent, the Borrowers and the Lenders party thereto.

" Third Amendment Effective Date " means December 11, 2017.

" Third Amendment Incremental Term Loans " has the meaning specified in the Third Amendment.

(b) The following definitions appearing in Section 1.1 of the Existing Credit Agreement are hereby amended and restated in their entirety as follows:

" Applicable Rate " means, for any day, the rate per annum set forth below opposite the applicable Level then in effect (based on the Consolidated Leverage Ratio), it being understood that the Applicable Rate for (a) Revolving Loans that are Base Rate Loans shall be the percentage set forth under the column "Revolving Loans" and "Base Rate", (b) Revolving Loans that are Eurodollar Rate Loans shall be the percentage set forth under the column "Revolving Loans" and "Eurodollar Rate & Letter of Credit Fee", (c) that portion of the Term Loan comprised of Base Rate Loans shall be the percentage set forth under the column "Term Loan" and "Base Rate", (d) that portion of the Term Loan comprised of Eurodollar Rate Loans shall be the percentage set forth under the column "Term Loan" and "Eurodollar Rate & Letter of Credit Fee", (e) the Letter of Credit Fee shall be the percentage set forth under the column "Eurodollar Rate & Letter of Credit Fee", and (f) the commitment fee shall be the percentage set forth under the column "Commitment Fee":

Applicable Rate				
Level	**Consolidated Leverage Ratio**	**Eurodollar Rate for Revolving Loans and Term Loans & Letter of Credit Fee**	**Base Rate for Revolving Loans and Term Loans**	**Commitment Fee**
1	≥ 1.50x	2.50%	1.50%	0.45%
2	≥ 1.00x but < 1.50x	2.25%	1.25%	0.40%
3	< 1.00x	2.00%	1.00%	0.35%

Any increase or decrease in the Applicable Rate resulting from a change in the Consolidated Leverage Ratio shall become effective as of the first Business Day immediately following the date a Compliance Certificate is delivered pursuant to Section 6.02(b); provided , however , that if a Compliance Certificate is not delivered when due in accordance with such Section, then, upon the request of the Required Lenders, Pricing Level 1 shall apply, in each case as of the first Business Day after the date on which such Compliance Certificate was required to have been delivered and in each case shall remain in effect until the first Business Day following the date on which such Compliance Certificate is delivered. In addition, at all times while the Default Rate is in effect, the highest rate set forth in each column of the Applicable Rate shall apply.

Notwithstanding anything to the contrary contained in this definition, (a) the determination of the Applicable Rate for any period shall be subject to the provisions of Section 2.10 and (b) the initial Applicable Rate shall be set

forth in Level 1 until the first Business Day immediately following the date a Compliance Certificate is d elivered pursuant to Section 6.02(b) for the first fiscal quarter end to occur following the Third Amendment Effective Date to the Administrative Agent. Any adjustment in the Applicable Rate shall be applicable to all Credit Extensions then existing or su bsequently made or issued.

" Disqualified Institution " means (a) those Persons that are bona fide competitors of any Loan Party or their respective Subsidiaries (or Affiliates of any such competitors (other than Bona Fide Lending Affiliates) that are (x) reasonably identifiable as Affiliates solely on the basis of similarity of name (provided that the Administrative Agent shall have no obligation to carry out due diligence in order to identify such Affiliates) or (y) identified by the Borrowers in writing from time to time), (b) those banks, financial institutions and other Persons separately identified by Borrowers to the Administrative Agent in writing prior to November 3, 2017 (such list, the " Excluded Persons List ") (and, in each case, such specified entities' Affiliates (other than Bona Fide Lending Affiliates) that are reasonably identifiable as Affiliates solely on the basis of similarity of name (provided that the Administrative Agent shall have no obligation to carry out due diligence in order to identify such Affiliates)), (c) any Person(s) that are engaged as principals primarily in private equity, mezzanine financing or venture capital (or Affiliates of such Person(s) that are (x) reasonably identifiable as Affiliates solely on the basis of similarity of name (provided that the Administrative Agent shall have no obligation to carry out due diligence in order to identify such Affiliates) or (y) identified by the Borrowers in writing from time to time) or (d) Excluded Parties .

" ERISA " means the Employee Retirement Income Security Act of 1974, as amended, and the rules and regulations promulgated thereunder.

(c) A new clause (e) is inserted in Section 2.07 of the Existing Credit Agreement immediately following clause (d) in Section 2.07 as follows:

(e) Third Amendment Incremental Term Loans . The Borrowers shall repay to the applicable Term A Lenders the aggregate principal amount of all Third Amendment Incremental Term Loans outstanding on the following dates in the respective amounts set forth oppo site such dates (which amounts shall be reduced as a result of the application of prepayments in accordance with the order of priority set forth in Section 2.05):

Date	Amount
March 31, 2018	$1,770,000
June 30, 2018	$1,770,000
September 30, 2018	$1,770,000

Date	Amount
December 31, 2018	$1,770,000
March 31, 2019	$1,770,000
June 30, 2019	$1,770,000
September 30, 2019	$1,770,000
December 31, 2019	$1,770,000
March 31, 2020	$1,770,000
June 30, 2020	$1,770,000
Maturity Date	$102,300,000

provided , however , that the final principal repayment installment of the Third Amendment Incremental Term Loans shall be repaid on the Maturity Date for the Third Amendment Incremental Term Facility and in any event shall be in an amount equal to the aggregate principal amount of all Third Amendment Incremental Term Loans outstanding on such date.

(d) Section 2.15(a) of the Existing Credit Agreement is hereby amended and restated in its entirety as follows:

(a) Request for Increase . The Borrowers may by written notice to the Administrative Agent on not more than four (4) occasions after the Second Amendment Effective Date elect to request (x) prior to the Maturity Date for the Revolving Credit Facility, an increase to the existing Revolving Credit Commitments (each, an " Incremental Revolving Credit Commitment ") and/or (y) prior to the Maturity Date for the Term A Loans, the establishment of one (1) or more new term loan commitments for an additional Class of term loans or as an increase to an existing Class of Term Loans (each, an " Incremental Term Commitment "), by an aggregate amount after the Third Amendment Effective Date not in excess of $50,000,000; provided that no more than $25,000,000 of such amount may be Incremental Revolving Credit Commitments. Each Incremental Commitment shall be in a minimum amount of $5,000,000. At the time of sending such notice, the Borrowers (in consultation with the Administrative Agent) shall specify the time period within which each Lender is requested to respond (which shall in no event be less than ten (10) Business Days from the date of delivery of such notice to the Lenders or such shorter period as the Borrowers and the Administrative Agent may agree).

(e) Section 6.01 of the Existing Credit Agreement is hereby amended by inserting the following at the end thereof:

The obligations in Sections 6.01(a) , (b) and (c) above may be satisfied by furnishing the applicable financial statements of Parent and its Subsidiaries, so long as, in each case, such information is accompanied by unaudited consolidating information, in form and substance reasonably acceptable to

the Administrative Agent, that explains in reasonable detail the differences between the information relating to Parent and its consolidated Subsidiaries, on the one hand, and the informatio n relating to the Holdings and its consolidated Subsidiaries on a standalone basis, on the other hand. In addition, to the extent that, (x) for any four fiscal quarter period ending as of the last day of (i) any fiscal year for which financial statements are required to be delivered pursuant to Section 6.01(a) or (ii) any fiscal quarter for which financial statements are required to be delivered pursuant to Section 6.01(b), any direct or indirect parent of Holdings that is a Subsidiary of Parent directly g enerates in excess of 10% of the sales of Parent and its Subsidiaries on a consolidated basis or (y) as of the last day of (i) any fiscal year for which financial statements are required to be delivered pursuant to Section 6.01(a) or (ii) any fiscal quarte r for which financial statements are required to be delivered pursuant to Section 6.01(b), any direct or indirect parent of Holdings that is a Subsidiary of Parent directly holds in excess of 10% of the total assets of Parent and its Subsidiaries on a con solidated basis, the foregoing reports shall also be accompanied by unaudited consolidating information, in form and substance reasonably acceptable to the Administrative Agent, that presents, in reasonable detail, the consolidating results of such parent company.

(f) Section 7.03(g)(iv) of the Existing Credit Agreement is hereby amended and restated in its entirety as follows:

(iv) (A) immediately before and immediately after giving *pro forma* effect to any such purchase or other acquisition, no Default shall have occurred and be continuing and (B) immediately after giving effect to such purchase or other acquisition, (x) the Loan Parties and their Subsidiaries shall be in *pro forma* compliance with the lesser of (1) a Consolidated Leverage Ratio of 2.25 to 1.00 and (2) the covenant set forth in Section 7.11(a) and (y) Loan Parties and their Subsidiaries shall be in *pro forma* compliance with the covenants set forth in Section 7.11(b) , each such compliance to be determined on the basis of the financial information most recently delivered to the Administrative Agent and the Lenders pursuant to Section 6.01(a) or (b) as though such purchase or other acquisition had been consummated as of the first day of the fiscal period covered thereby; provided that the aggregate amount of such Investments by Loan Parties in assets that will not (or will not become) owned by a Loan Party or in Equity Interests of Persons that will not become Loan Parties shall not exceed, for all such Investments made after the Third Amendment Effective Date, $10,000,000 plus any portion of Cumulative Amount used to make such acquisition; and

(g) Section 7.03(g)(v) of the Existing Credit Agreement is hereby amended by deleting the reference to "this clause (vi)" therein and replacing it with "this Section 7.03(g)."

(h) A new Section 9.13 is hereby inserted immediately following Section 9.12 of the Existing Credit Agreement as follows:

9.13 ERISA Matters.

(a) Each Lender (x) represents and warrants, as of the Third Amendment Effective Date, to, and (y) covenants, from the Third Amendment Effective Date to the date such Person ceases being a Lender party hereto, that at least one of the following is and will be true:

(i) such Lender is not using "plan assets" (within the meaning of 29 CFR § 2510.3-101, as modified by Section 3(42) of ERISA) of one or more Benefit Plans in connection with the Loans, the Letters of Credit or the Commitments,

(ii) the transaction exemption set forth in one or more PTEs, such as PTE 84-14 (a class exemption for certain transactions determined by independent qualified professional asset managers), PTE 95-60 (a class exemption for certain transactions involving insurance company general accounts), PTE 90-1 (a class exemption for certain transactions involving insurance company pooled separate accounts), PTE 91-38 (a class exemption for certain transactions involving bank collective investment funds) or PTE 96-23 (a class exemption for certain transactions determined by in-house asset managers), is applicable, and the conditions of such exemption have been satisfied, with respect to such Lender's entrance into, participation in, administration of and performance of the Loans, the Letters of Credit, the Commitments and this Agreement, or

(iii) (A) such Lender is an investment fund managed by a "Qualified Professional Asset Manager" (within the meaning of Part VI of PTE 84-14), (B) such Qualified Professional Asset Manager made the investment decision on behalf of such Lender to enter into, participate in, administer and perform the Loans, the Letters of Credit, the Commitments and this Agreement, (C) the entrance into, participation in, administration of and performance of the Loans, the Letters of Credit, the Commitments and this Agreement satisfies the requirements of sub-sections (b) through (g) of Part I of PTE 84-14 and (D) to the best knowledge of such Lender, the requirements of subsection (a) of Part I of PTE 84-14 are satisfied with respect to such Lender's entrance into, participation in, administration of and performance of the Loans, the Letters of Credit, the Commitments and this Agreement.

(b) In addition, unless sub-clause (i) in the immediately preceding clause (a) is true with respect to a Lender or such Lender has not provided another representation, warranty and covenant as provided in sub-clause (iv) in the

immediately preceding clause (a), such Lender further (x) represents and warrants, as of the date such Person became a Lender party hereto, to, and (y) covenants, from the date such Person became a Lender party hereto to the date such Person ceases being a Lender party hereto, for the benefit of, the Administrative Agent and its respective Affiliates, and not, for the avoidance of doubt, to or for the benefit of the Borrower or any other Loan Party, that:

(i) none of the Administrative Agent or any of its respective Affiliates is a fiduciary with respect to the assets of such Lender (including in connection with the reservation or exercise of any rights by the Administrative Agent under this Agreement, any Loan Document or any documents related to hereto or thereto),

(ii) the Person making the investment decision on behalf of such Lender with respect to the entrance into, participation in, administration of and performance of the Loans, the Letters of Credit, the Commitments and this Agreement is independent (within the meaning of 29 CFR § 2510.3-21) and is a bank, an insurance carrier, an investment adviser, a broker-dealer or other person that holds, or has under management or control, total assets of at least $50 million, in each case as described in 29 CFR § 2510.3-21(c)(1)(i)(A)-(E),

(iii) the Person making the investment decision on behalf of such Lender with respect to the entrance into, participation in, administration of and performance of the Loans, the Letters of Credit, the Commitments and this Agreement is capable of evaluating investment risks independently, both in general and with regard to particular transactions and investment strategies (including in respect of the Obligations),

(iv) the Person making the investment decision on behalf of such Lender with respect to the entrance into, participation in, administration of and performance of the Loans, the Letters of Credit, the Commitments and this Agreement is a fiduciary under ERISA or the Code, or both, with respect to the Loans, the Letters of Credit, the Commitments and this Agreement and is responsible for exercising independent judgment in evaluating the transactions hereunder, and

(v) no fee or other compensation is being paid directly to the Administrative Agent or any of its respective Affiliates for investment advice (as opposed to other services) in connection with the Loans, the Letters of Credit, the Commitments or this Agreement.

(c) The Administrative Agent hereby informs the Lenders that each such Person is not undertaking to provide impartial investment advice, or to

give advice in a fiduciary capacity, in connection with the transactions contemplated hereby, and that such Person has a financial interest in the transactions contemplated hereby in t hat such Person or an Affiliate thereof (i) may receive interest or other payments with respect to the Loans, the Letters of Credit, the Commitments and this Agreement, (ii) may recognize a gain if it extended the Loans, the Letters of Credit or the Commit ments for an amount less than the amount being paid for an interest in the Loans, the Letters of Credit or the Commitments by such Lender or (iii) may receive fees or other payments in connection with the transactions contemplated hereby, the Loan Document s or otherwise, including structuring fees, commitment fees, arrangement fees, facility fees, upfront fees, underwriting fees, ticking fees, agency fees, administrative agent or collateral agent fees, utilization fees, minimum usage fees, letter of credit fees, fronting fees, deal-away or alternate transaction fees, amendment fees, processing fees, term out premiums, banker's acceptance fees, breakage or other early termination fees or fees similar to the foregoing.

(i) Clause (viii) in Section 11.06(b) of the Existing Credit Agreement is hereby amended in its entirety as follows:

(viii) Any Assignment and Assumption entered into in connection with an assignment of Term Loans must specify whether or not the Term Loan to be assigned is a 2017 Incremental Term Loan or a Third Amendment Incremental Term Loan.

(j) Section 11.06(d) of the Existing Credit Agreement is hereby amended by deleting the reference to "Section 10.08" therein and replacing it with "Section 11.08."

(k) A new Section 11.23 is hereby added to the Existing Credit Agreement as follows:

11.23 California Judicial Reference . Notwithstanding anything to the contrary contained in this Agreement, if any action or proceeding is filed in a court of the State of California by or against any party hereto in connection with any of the transactions contemplated by this Agreement or any other Loan Document, (a) the court shall, and is hereby directed to, make a general reference pursuant to California Code of Civil Procedure Section 638 to a referee (who shall be a single active or retired judge) to hear and determine all of the issues in such action or proceeding (whether of fact or of law) and to report a statement of decision, provided that at the option of any party to such proceeding, any such issues pertaining to a "provisional remedy" as defined in California Code of Civil Procedure Section 1281.8 shall be heard and determined by the court, and (b) without limiting the generality of Section 11.04, the Borrowers shall be solely responsible to pay all fees and expenses of any referee appointed in such action or proceeding.

(l) Exhibit E (Form of Assignment and Assumption) to the Existing Credit Agreement is hereby amended and restated in its entirety as the new Exhibit E attached hereto as Annex I .

3. Incremental Commitments

(a) Pursuant to Section 2.15 of the Credit Agreement and subject to the terms and conditions set forth herein, each Lender severally agrees to make an Incremental Term Loan to the Borrower on the Effective Date in the amount set forth opposite its name on Exhibit A hereto under the heading "Incremental Term Commitment" (such loans being the " Third Amendment Incremental Term Loans ").

(b) Subject to Section 3(e) below, the procedure for making such Third Amendment Incremental Term Loans shall be as set forth in Section 2.02 of the Credit Agreement, the terms of which section are incorporated herein *mutatis mutandis* .

(c) The Third Amendment Incremental Term Loans made pursuant to this Section 3 shall be treated as an increase in the existing Class of Term A Loans and the terms and provisions of such Third Amendment Incremental Term Loans shall be identical to those of the Term A Loans; provided that, pursuant to Section 2.15(g)(iii) of the Credit Agreement, the amortization of the Third Amendment Incremental Term Loans shall be as set forth in Section 2.07(e) of the Credit Agreement (and not as set forth in Section 2.07(a) of the Existing Credit Agreement).

(d) The Third Amendment Incremental Term Loans made pursuant to Section 3(a)(i) hereof shall constitute a "Term Loan" for all purposes of the Credit Agreement from and after the Third Amendment Effective Date and rank *pari passu* in all respects with all other Term Loans, regardless of when made.

(e) No amount of any Third Amendment Incremental Term Loans made pursuant to Section 3(a) hereof that is repaid or prepaid by the Borrowers may be reborrowed.

(f) For the avoidance of doubt, the Third Amendment Incremental Term Loans made pursuant to Section 3(a)(i) hereof shall not reduce the Incremental Commitment availability set forth in Section 2.15(a) of the Credit Agreement (as amended pursuant to this Amendment).

4. [Reserved]

5. Conditions to Effectiveness . Upon the satisfaction (or waiver) of each of the following conditions, this Amendment shall be deemed effective as of the date hereof (the " Effective Date "):

(a) receipt by the Administrative Agent of counterparts of this Amendment executed and delivered by the Administrative Agent, the Borrowers and the Lenders;

(b) to the extent invoiced at leas t three (3) Business Days prior to the Effective Date, payment by the Borrowers of all expenses to be paid to the Administrative Agent and Lenders in connection with the Credit Agreement, this Amendment and the other Loan Documents (including legal fees) a nd the deliverables described in this Section 5 ;

(c) receipt by each Lender requesting the same at least three (3) Business Days prior to the Effective Date, of a Term Loan Note executed and delivered by the Borrowers, reflecting the increased Term Loan principal amount of such Lender resulting herefrom;

(d) receipt by the Administrative Agent of such written resolutions, minutes of meetings, certificates of resolutions or other action, incumbency certificates and/or other certificates of Responsible Officers of ea ch Loan Party and Target as the Administrative Agent may require (i) approving the entry into this Agreement and the other Loan Documents to which such Loan Party or Target is a party or is to be a party and (ii) evidencing the identity, authority and capa city of each Responsible Officer thereof authorized to act as a Responsible Officer in connection with this Agreement and the other Loan Documents to which such Loan Party or Target is a party or is to be a party; provided that the Administrative Agent and Lenders party hereto hereby agree to waive any such deliverables of each Loan Party that is not a U.S. Loan Party;

(e) to the extent applicable in the relevant jurisdiction, receipt by the Administrative Agent of such documents and certifications as the Administrative Agent may reasonably require to evidence that each Loan Party and Target is duly incorporated, organized or formed, is validly existing, in good standing and qualified to engage in business in each jurisdiction where its ownership, lease or operation of properties or the conduct of its business requires such qualification; provided that the Administrative Agent and Lenders party hereto hereby agree to waive any such deliverables of each Loan Party that is not a U.S. Loan Party;

(f) receipt by the Administrative Agent of a favorable opinion of (i) Kirkland & Ellis LLP, counsel to the Loan Parties, (ii) Fredrikson & Byron, P.A., special Minnesota counsel to Talon and (iii) Foley & Lardner LLP, special Florida counsel to Talon (FL), in each case, addressed to the Administrative Agent and each Lender, as to such matters concerning the Loan Parties and the Loan Documents as the Required Lenders may reasonably request;

(g) receipt by the Administrative Agent of a duly executed and delivered certificate of a Responsible Officer of the Borrowers, certifying that, before and after giving effect to borrowing of the Incremental Term Loans pursuant to Section 3 hereof and the use of proceeds thereof, each of the following are satisfied (for purposes of the following subclauses of this clause (g), terms used but not otherwise defined herein or in the Credit Agreement shall have such meanings assigned to them in that certain Commitment Letter (the " Commitment Letter ") dated November 3, 2017, among Holdings, Merrill Lynch, Pierce, Fenner & Smith Incorporated, SunTrust Robinson Humphrey, Inc., SG Americas Securities, LLC, Bank of America, N.A., SunTrust Bank and Societe Generale):

(i) the conditions set forth in Section 7.03(g) of the Credit Agreement have been satisfied with respect to the Acquisition such that the

Acquisition is a Permitted Acquisition ; provided, that the Administrative Agent and the Lenders hereby agree that certifications to be delivered pursuant to Section 7.03(g)(v) may be delivered substantially simultaneou sly with the consummation of the Permitted Acquisition ;

(ii) the Specified Acquisition Agreement Representations are true and correct to the extent required by the Certain Funds Provision and the Specified Representations are true and correct in all material respects (except in the case of any Specified Acquisition Agreement Representation or Specified Representation which expressly relates to a given date or period, such representation and warranty is true and correct to the extent required as of the respective date or for the respective period, as the case may be); provided that to the extent that any of the Specified Representations are qualified by or subject to a "material adverse effect ", "material adverse change" or similar term or qualification, the definition thereof shall be a Material Adverse Effect (as defined in the Acquisition Agreement) for purposes of any such representations and warranties made or deemed made on, or as of, the Third Amendment Effective Date (or any date prior thereto);

(iii) substantially concurrently with the Third Amendment Effective Date, the Acquisition will be consummated, in all material respects, in accordance with the terms of the Acquisition Agreement, as amended or otherwise modified, but without giving effect to any amendments, waivers, consents or other modifications thereto by the Borrowers that are materially adverse to the interests of the Commitment Parties (in their capacities as such) without the consent of the Commitment Parties, such consent not to be unreasonably withheld, delayed or conditioned (it being understood that (a) any modification, amendment, consent or waiver to or under the definition of Material Adverse Effect in the Acquisition Agreement shall be deemed to be material and adverse to the interests of the Commitment Parties, (b) any decrease in the purchase price shall not be materially adverse to the interests of the Commitment Parties so long as the amount of such reduction is applied to reduce the principal amount of the Incremental Loans, (c) any increase in the purchase price shall not be materially adverse to the Commitment Parties if funded with equity and (d) other than as set forth in clause (a) above, the granting of any consent under the Acquisition Agreement that is not materially adverse to the interests of the Commitment Parties shall not otherwise constitute an amendment or waiver);

(iv) since November 3, 2017, there has not occurred a Material Adverse Effect (as defined in the Acquisition Agreement); and

(v) no Event of Default under Section 8.01(a), Section 8.01(f) or Section 8.01(g) of the Existing Credit Agreement exists or is continuing.

(h) receipt by the Administrative Agent of a Request for Credit Extension in accordance with the requirements of the Credit Agreement;

(i) on the Third Amendment Effective Date, after giving effect thereto, including the borrowing of the Third Amendment Incremental Term Loans, all Indebtedness of the Targets outstanding as of immediately prior to such date and set forth on Schedule 3.1(j) of the Acquisition Agreement (as defined in the Commitment Letter) shall be repaid or terminated;

(j) the Administrative Agent shall have received a joinder agreement duly executed and delivered by the Targets substantially in the form attached hereto as Exhibit B ; *provided, however* , that this condition shall be subject in all respects to the Certain Funds Provision (as defined in the Commitment Letter);

(k) the Administrative Agent and the Lenders shall have received fees in such amounts in accordance with the terms of that certain Third Amendment Fee Letter dated as of November 3, 2017 among the Borrowers, the Administrative Agent and the Lenders;

(l) receipt by the Administrative Agent of a certificate of the chief financial officer (or other officer with reasonably equivalent responsibilities) of Ichor Systems, Inc. in the form delivered on July 27, 2017 in connection with the Second Amendment, certifying that the Loan Parties and their Subsidiaries, taken as a whole, after giving effect to the Transactions (as defined in the Commitment Letter), are Solvent;

(m) receipt by the Administrative Agent of unaudited consolidated balance sheets and related statements of income and cash flows of the Targets for each fiscal month ended after August 31, 2017 and at least thirty (30) days prior to the Third Amendment Effective Date; and

(n) receipt by the Administrative Agent, no later than three (3) Business Days in advance of the Third Amendment Effective Date, all documentation and other information required by regul atory authorities under applicable "know your customer" and anti-money laundering rules and regulations, including, without limitation, the PATRIOT Act, that has been reasonably requested by the Commitment Parties at least ten (10) days in advance of the Third Amendment Effective Date; provided, that the Administrative Agent shall have received a signed flow of funds with respect to the payment of the proceeds of the Third Amendment Incremental Term Loans no later than one (1) Business Day in advance of the Third Amendment Effective Date.

6. Effect of the Amendment; Loan Document . Except as expressly provided herein, the Credit Agreement and the other Loan Documents shall remain unmodified and in full force and effect. Except as expressly set forth herein, this Amendment shall not be deemed (a) to be a waiver of, or consent to, a modification or amendment of, any other term or condition of the Credit

Agreement or any other Loan Document, (b) to prejudice any other right or rights which Administrative Agent or the Lenders may now have or may have in the future under or in connection with the Credit Agreement or the other Loan Documents or any of the instruments or agreements referred to therein, as the same may be amended, restated, supplemented or otherwise mod ified from time to time, (c) to be a commitment or any other undertaking or expression of any willingness to engage in any further discussion with Obligors or any other Person with respect to any waiver, amendment, modification or any other change to the C redit Agreement or the Loan Documents or any rights or remedies arising in favor of the Lenders or Administrative Agent, or any of them, under or with respect to any such documents or (d) to be a waiver of, or consent to or a modification or amendment of, any other term or condition of any other agreement by and among Obligors, on the one hand, and Administrative Agent or any other Lender, on the other hand. References in the Credit Agreement to "this Agreement" (and indirect references such as "hereunder" , "hereby", "herein", and "hereof") and in any Loan Document to the Credit Agreement shall be deemed to be references to the Credit Agreement as modified hereby. This Amendment is a Loan Document, and, together with the other Loan Documents, incorporates all negotiations of the parties hereto with respect to the subject matter hereof and is the final expression and agreement of the parties hereto with respect to the subject matter hereof.

7. Reaffirmation . Each Loan Party as debtor or guarantor hereby (i) ratifies and reaffirms all of its payment and performance obligations, contingent or otherwise, under each of the Loan Documents to which it is a party, (ii) to the extent such Loan Party guaranteed the Obligations under or with respect to the Loan Documents, ratifies and reaffirms such guarantee and (iii) to the extent such Loan Party has granted a security interest in any Collateral in support of the Obligations under or with respect to the Loan Documents, ratifies and reaffirms such grant of Collateral.

8. Cost and Expenses . The Borrowers hereby affirm their obligations under Section 11.04 of the Credit Agreement to reimburse the Administrative Agent for all reasonable out-of-pocket expenses incurred by the Administrative Agent in connection with the preparation, negotiation, execution and delivery of this Amendment, including but not limited to the reasonable fees, charges and disbursements of attorneys for the Administrative Agent with respect thereto.

9. Counterparts . This Amendment may be executed in two or more counterparts, each of which shall constitute an original, but all of which when taken together shall constitute one instrument. Delivery of an executed counterpart of this Amendment by facsimile or PDF shall be effective as delivery of an original counterpart.

10. Headings . The headings and captions of this Amendment are for the purposes of reference only and shall not affect the construction of, or be taken into consideration in interpreting, this Amendment.

11. Release and Waiver . The Borrowers each do hereby release the Administrative Agent and each of the Lenders and each of their officers, directors, employees, agents, attorneys, personal representatives, successors, predecessors and assigns from all manner of actions, cause and causes of action, suits, deaths, sums of money, accounts, reckonings, bonds, bills, specialties,

covenants, controversies, agreements, promises, variances, trespasses, damages, judgments, executions, claims and demands, whatsoever, in law or in equity, and particularly, without limiting the generality of the foregoing, in connection with the Loan Documents and any agreements, documents and instruments relating to the Loan Documents and the administration of the Loan Documents, all indebtedness, obligatio ns and liabilities of the Borrowers to the Administrative Agent or any Lender and any agreements, documents and instruments relating to the Loan Documents (collectively, the " Claims "), which the Borrowers now have against the Administrative Agent or any Le nder or ever had, or which might be asserted by their heirs, executors, administrators, representatives, agents, successors, or assigns based on any Claims which exist on or at any time prior to the date of this Amendment. The Borrowers expressly acknowle dge and agree that they have been advised by counsel in connection with this Amendment and that they each understand that this Section 11 constitutes a general release of the Administrative Agent and the Lenders and that they each intend to be fully and le gally bound by the same. The Borrowers further expressly acknowledge and agree that this general release shall have full force and effect notwithstanding the occurrence of a breach of the terms of this Amendment or an Event of Default or Default under the Credit Agreement.

12. Further Assurances . Each Borrower agrees to execute and deliver in form and substance reasonably satisfactory to the Lenders such further documents, instruments, amendments, financing statements and to take such further action, as may be necessary from time to time to perfect and maintain the liens and security interests created by the Loan Documents, as amended hereby.

13. APPLICABLE LAW . THIS AGREEMENT AND ANY CLAIMS, CONTROVERSY, DISPUTE OR CAUSE OF ACTION (WHETHER IN CONTRACT OR TORT OR OTHERWISE) BASED UPON, ARISING OUT OF OR RELATING TO THIS AGREEMENT AND THE TRANSACTIONS CONTEMPLATED HEREBY AND THEREBY SHALL BE GOVERNED BY, AND CONSTRUED IN ACCORDANCE WITH, THE LAW OF THE STATE OF NEW YORK.

[signature pages follow]

The parties hereto have caused this Amendment to be executed by their duly authorized officers, all as of the day and year first above written.

BORROWERS :

ICHOR HOLDINGS, LLC.
ICHOR SYSTEMS, INC.
PRECISION FLOW TECHNOLOGIES, INC.
AJAX-UNITED PATTERNS & MOLDS, INC.
CAL-WELD, INC.
TALON INNOVATIONS CORPORATION
TALON INNOVATIONS (FL) CORPORATION

By: /s/ Maurice Carson
Name: Maurice Carson
Title: President

GUARANTORS :

ICICLE ACQUISITION HOLDING B.V.

By: /s/ Maurice Carson
Name: Maurice Carson
Title: Director A

By: /s/ Arnaud van der Werf
Name: Arnaud van der Werf
Title: Director B

ICHOR SYSTEMS SINGAPORE PTE. LTD.

By: /s/ Maurice Carson
Name: Maurice Carson
Title: Director

BANK OF AMERICA, N.A. , as
Administrative Agent

By: /s/ Christine Trotter
Name: Christine Trotter
Title: Assistant Vice President

BANK OF AMERICA, N.A. , as a Lender,
L/C Issuer and Swing Line Lender

By: /s/ Frank Byrne
Name: Frank Byrne
Title: Sr. Vice President

SUNTRUST BANK, as a Lender

By: /s/ Michael Kim
Name: Michael Kim
Title: Vice President

SOCIETE GENERALE, as a Lender

By: /s/ Richard O. Knowlton
Name: Richard O. Knowlton
Title: Managing Director

EXHIBIT A

INCREMENTAL COMMITMENTS

Lender	Incremental Term Commitment
Bank of America, N.A.	$40,000,000
SunTrust Bank	$40,000,000
Societe Generale	$40,000,000
Total	$120,000,000

EXHIBIT B

FORM OF JOINDER AGREEMENT

See attached.

Exhibit 21.1

Name of Subsidiary	Jurisdiction of Incorporation, Organization, or Formation
Ichor Holdings, Ltd.	Scotland
FP-Ichor, Ltd.	Cayman Islands
Icicle Acquisition Holding Co-op	Netherlands
Icicle Acquisition Holding, B.V.	Netherlands
Ichor Holdings, LLC	Delaware
Ichor Systems Singapore, PTE Ltd.	Singapore
Ichor Systems Ltd.	Scotland
Precision Flow Technologies, Inc.	New York
Ajax-United Patterns & Molds, Inc.	California
Ichor Systems, Inc.	Delaware
Ichor Systems Malaysia Sdn Bhd	Malaysia
Cal-Weld, Inc.	California
Talon Innovations Corporations	Minnesota
Talon Innovations (FL) Corporation	Florida

Exhibit 23.1

Consent of Independent Registered Public Accounting Firm

The Board of Directors
Ichor Holdings, Ltd.:

We consent to the incorporation by reference in the registration statements (No. 333-215984 and No. 333-219846) on Form S-8 of Ichor Holdings, Ltd. and subsidiaries (the Company) of our report dated March 13, 2018, with respect to the consolidated balance sheets of Ichor Holdings, Ltd. and subsidiaries as of December 29, 2017 and December 30, 2016, and the related consolidated statements of operations, shareholders' equity, and cash flows for each of the years in the three-year period ended December 29, 2017, and the related notes (collectively, the consolidated financial statements), which report appears in the December 29, 2017 annual report on Form 10-K of the Company.

/s/ KPMG LLP

Portland, Oregon

March 13, 2018

Exhibit 31.1

CEO CERTIFICATION PURSUANT TO SECTION 302 OF THE SARBANES-OXLEY ACT OF 2002

I, Thomas M. Rohrs, certify that:

1. I have reviewed this annual report on Form 10-K of Ichor Holdings, Ltd.;

2. Based on my knowledge, this report does not contain any untrue statement of a material fact or omit to state a material fact necessary to make the statements made, in light of the circumstances under which such statements were made, not misleading with respect to the period covered by this report;

3. Based on my knowledge, the financial statements, and other financial information included in this report, fairly present in all material respects the financial condition, results of operations and cash flows of the registrant as of, and for, the periods presented in this report;

4. The registrant's other certifying officer and I are responsible for establishing and maintaining disclosure controls and procedures (as defined in Exchange Act Rules 13a-15(e) and 15d-15(e)) and internal control over financial reporting (as defined in Exchange Act Rules 13a-15(f) and 15d-15(f)) for the registrant and have:

   (a) Designed such disclosure controls and procedures, or caused such disclosure controls and procedures to be designed under our supervision, to ensure that material information relating to the registrant, including its consolidated subsidiaries, is made known to us by others within those entities, particularly during the period in which this report is being prepared;

   (b) Designed such internal control over financial reporting, or caused such internal control over financial reporting to be designed under our supervision, to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with generally accepted accounting principles;

   (c) Evaluated the effectiveness of the registrant's disclosure controls and procedures and presented in this report our conclusions about the effectiveness of the disclosure controls and procedures, as of the end of the period covered by this report based on such evaluation; and

   (d) Disclosed in this report any change in the registrant's internal control over financial reporting that occurred during the registrant's most recent fiscal quarter (the registrant's fourth fiscal quarter in the case of an annual report) that has materially affected, or is reasonably likely to materially affect, the registrant's internal control over financial reporting; and

5. The registrant's other certifying officer and I have disclosed, based on our most recent evaluation of internal control over financial reporting, to the registrant's auditors and the audit committee of the registrant's board of directors (or persons performing the equivalent functions):

   (a) All significant deficiencies and material weaknesses in the design or operation of internal control over financial reporting which are reasonably likely to adversely affect the registrant's ability to record, process, summarize and report financial information; and

   (b) Any fraud, whether or not material, that involves management or other employees who have a significant role in the registrant's internal control over financial reporting.

Date: March 13, 2018

By: /s/ Thomas M. Rohrs
Thomas M. Rohrs
Chief Executive Officer

Exhibit 31.2

CFO CERTIFICATION PURSUANT TO SECTION 302 OF THE SARBANES-OXLEY ACT OF 2002

I, Jeffrey S. Andreson, certify that:

1. I have reviewed this annual report on Form 10-K of Ichor Holdings, Ltd.;

2. Based on my knowledge, this report does not contain any untrue statement of a material fact or omit to state a material fact necessary to make the statements made, in light of the circumstances under which such statements were made, not misleading with respect to the period covered by this report;

3. Based on my knowledge, the financial statements, and other financial information included in this report, fairly present in all material respects the financial condition, results of operations and cash flows of the registrant as of, and for, the periods presented in this report;

4. The registrant's other certifying officer and I are responsible for establishing and maintaining disclosure controls and procedures (as defined in Exchange Act Rules 13a-15(e) and 15d-15(e)) and internal control over financial reporting (as defined in Exchange Act Rules 13a-15(f) and 15d-15(f)) for the registrant and have:

   (a) Designed such disclosure controls and procedures, or caused such disclosure controls and procedures to be designed under our supervision, to ensure that material information relating to the registrant, including its consolidated subsidiaries, is made known to us by others within those entities, particularly during the period in which this report is being prepared;

   (b) Designed such internal control over financial reporting, or caused such internal control over financial reporting to be designed under our supervision, to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with generally accepted accounting principles;

   (c) Evaluated the effectiveness of the registrant's disclosure controls and procedures and presented in this report our conclusions about the effectiveness of the disclosure controls and procedures, as of the end of the period covered by this report based on such evaluation; and

   (d) Disclosed in this report any change in the registrant's internal control over financial reporting that occurred during the registrant's most recent fiscal quarter (the registrant's fourth fiscal quarter in the case of an annual report) that has materially affected, or is reasonably likely to materially affect, the registrant's internal control over financial reporting; and

5. The registrant's other certifying officer and I have disclosed, based on our most recent evaluation of internal control over financial reporting, to the registrant's auditors and the audit committee of the registrant's board of directors (or persons performing the equivalent functions):

   (a) All significant deficiencies and material weaknesses in the design or operation of internal control over financial reporting which are reasonably likely to adversely affect the registrant's ability to record, process, summarize and report financial information; and

   (b) Any fraud, whether or not material, that involves management or other employees who have a significant role in the registrant's internal control over financial reporting.

Date: March 13, 2018

By: /s/ Jeffrey S. Andreson
Jeffrey S. Andreson
Chief Financial Officer

Exhibit 32.1

CERTIFICATION PURSUANT TO SECTION 906 OF THE SARBANES-OXLEY ACT OF 2002

In connection with the Annual Report of Ichor Holdings, Ltd. (the "Company") on Form 10-K for the period ending December 29, 2017 as filed with the Securities and Exchange Commission on the date hereof (the "Report"), I certify, to my knowledge, pursuant to 18 U.S.C. § 1350, as adopted pursuant to § 906 of the Sarbanes-Oxley Act of 2002, that:

(1) The Report fully complies with the requirements of section 13(a) or 15(d), as applicable, of the Securities Exchange Act of 1934, as amended; and

(2) The information contained in the Report fairly presents, in all material respects, the financial condition and result of operations of the Company.

Date: March 13, 2018

By: /s/ Thomas M. Rohrs

Thomas M. Rohrs
Chief Executive Officer

Exhibit 32.2

CERTIFICATION PURSUANT TO SECTION 906 OF THE SARBANES-OXLEY ACT OF 2002

In connection with the Annual Report of Ichor Holdings, Ltd. (the "Company") on Form 10-K for the period ending December 29, 2017 as filed with the Securities and Exchange Commission on the date hereof (the "Report"), I certify, to my knowledge, pursuant to 18 U.S.C. § 1350, as adopted pursuant to § 906 of the Sarbanes-Oxley Act of 2002, that:

(1) The Report fully complies with the requirements of section 13(a) or 15(d), as applicable, of the Securities Exchange Act of 1934, as amended; and

(2) The information contained in the Report fairly presents, in all material respects, the financial condition and result of operations of the Company.

Date: March 13, 2018

By: /s/ Jeffrey S. Andreson

Jeffrey S. Andreson
Chief Financial Officer