KADANT INC
Form 10-K
February 26, 2019

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

FORM 10-K
(mark one)
x ANNUAL REPORT PURSUANT TO SECTION 13 OR 15(D) OF THE SECURITIES EXCHANGE ACT OF 1934
For the fiscal year ended December 29, 2018
OR
¨ TRANSITION REPORT PURSUANT TO SECTION 13 OR 15(D) OF THE SECURITIES EXCHANGE ACT OF 1934
Commission file number 001-11406
KADANT INC.
(Exact name of Registrant as specified in its charter)

Delaware	52-1762325
(State or other jurisdiction of incorporation or organization)	(I.R.S. Employer Identification No.)
One Technology Park Drive	
Westford, Massachusetts	01886
(Address of principal executive offices)	(Zip Code)

Registrant's telephone number, including area code: (978) 776-2000
Securities registered pursuant to Section 12(b) of the Act:

Title of each class	Name of each exchange on which registered
Common Stock, $.01 par value	New York Stock Exchange

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 x 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 x
Indicate by check mark whether the Registrant (1) has filed all reports required to be filed by Section 13 or 15(d) of the Securities Exchange Act of 1934 during the preceding 12 months (or for such shorter period that the Registrant was required to file such reports), and (2) has been subject to such filing requirements for the past 90 days. Yes x No ¨
Indicate by check mark whether the Registrant has submitted electronically every Interactive Data File required to be submitted pursuant to Rule 405 of Regulation S-T during the preceding 12 months (or for such shorter period that the Registrant was required to submit such files). Yes x No ¨
Indicate by check mark if disclosure of delinquent filers pursuant to Item 405 of Regulation S-K is not contained herein, and will not be contained, to the best of the Registrant's knowledge, in definitive proxy or information statements incorporated by reference in Part III of this Form 10-K or any amendment to this Form 10-K. x
Indicate by check mark whether the Registrant is a large accelerated filer, an accelerated filer, a non-accelerated filer, a smaller reporting company, or an emerging growth company. See the definitions of "large accelerated filer", "accelerated filer", "smaller reporting company", and "emerging growth company" in Rule 12b-2 of the Exchange Act.

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

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

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

The aggregate market value of the voting and non-voting common equity held by nonaffiliates of the Registrant as of June 30, 2018, was approximately $1,039,763,000. For purposes of the immediately preceding sentence, the term "affiliate" consists of each director and executive officer of the Registrant.

As of February 15, 2019, the Registrant had 11,121,503 shares of common stock outstanding.

DOCUMENTS INCORPORATED BY REFERENCE

Portions of the Registrant's definitive Proxy Statement pursuant to Regulation 14A promulgated under the Securities Exchange Act of 1934, as amended, to be used in connection with the Registrant's 2019 Annual Meeting of Stockholders are incorporated by reference into Part III of this Form 10-K.

Kadant Inc.
Annual Report on Form 10-K
for the Fiscal Year Ended December 29, 2018
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PART I

Forward-Looking Statements

This Annual Report on Form 10-K and the documents that we incorporate by reference in this Report include forward-looking statements within the meaning of Section 21E of the Securities Exchange Act of 1934, as amended (Exchange Act), and Section 27A of the Securities Act of 1933, as amended. These forward-looking statements are not statements of historical fact, and may include statements regarding possible or assumed future results of operations. Forward-looking statements are subject to risks and uncertainties and are based on the beliefs and assumptions of our management, using information currently available to our management. When we use words such as "believes," "expects," "anticipates," "intends," "plans," "estimates," "seeks," "should," "likely," "will," "would," "may," "continue," "could," or similar expressions, we are making forward-looking statements.

Forward-looking statements are not guarantees of performance. They involve risks, uncertainties, and assumptions. Our future results of operations may differ materially from those expressed in the forward-looking statements. Many of the important factors that will determine these results and values are beyond our ability to control or predict. You should not put undue reliance on any forward-looking statements. We undertake no obligation to publicly update any forward-looking statement, whether as a result of new information, future events, or otherwise. For a discussion of important factors that may cause our actual results to differ materially from those suggested by the forward-looking statements, you should read carefully the section captioned "Risk Factors" in Part I, Item 1A, of this Report.

Item 1. Business

Throughout this Annual Report on Form 10-K, when we use the terms "we," "us," "our," "Registrant," and the "Company" we mean Kadant Inc., a Delaware corporation, and its consolidated subsidiaries, taken as a whole, unless the context otherwise indicates. Unless otherwise noted, references to 2018, 2017, and 2016 in this Annual Report on Form 10-K are to our fiscal years ended December 29, 2018, December 30, 2017, and December 31, 2016, respectively.

Description of Our Business

We are a leading global supplier of equipment and critical components used in process industries worldwide. In addition, we manufacture granules made from papermaking by-products. We have a diverse and large customer base, including most of the world's major paper, lumber and oriented strand board (OSB) manufacturers, and our products, technologies, and services play an integral role in enhancing process efficiency, optimizing energy utilization, and maximizing productivity in resource-intensive industries.

Our continuing operations are comprised of two reportable operating segments, Papermaking Systems and Wood Processing Systems, and a separate product line, Fiber-based Products. Through our Papermaking Systems segment, we develop, manufacture, and market a range of equipment and products for the global papermaking, paper recycling, recycling and waste management, and other process industries. Our principal products include custom-engineered stock-preparation systems and equipment for the preparation of wastepaper for conversion into recycled paper and balers and related equipment used in the processing of recyclable and waste materials; fluid-handling systems and equipment used in industrial piping systems to compensate for movement and to efficiently transfer fluid, power, and data; doctoring systems and equipment and related consumables important to the efficient operation of paper machines and other industrial processes; and filtration and cleaning systems essential for draining, purifying, and recycling process water and cleaning fabrics, belts, and rolls in various process industries.

Through our Wood Processing Systems segment, we develop, manufacture, market, and supply debarkers, stranders, chippers, logging machinery, and related equipment used in the harvesting and production of lumber and OSB. Through this segment, we also provide refurbishment and repair of pulping equipment for the pulp and paper industry.

Through our Fiber-based Products business, we manufacture and sell biodegradable, absorbent granules derived from papermaking by-products for use primarily as carriers for agricultural, home lawn and garden, and professional lawn, turf and ornamental applications, as well as for oil and grease absorption.

On January 2, 2019, we acquired Syntron Material Handling Group, LLC and certain of its affiliates (SMH) pursuant to an equity purchase agreement dated December 9, 2018, for approximately $179 million, subject to certain customary adjustments. SMH is a leading provider of material handling equipment and systems to various process industries, including mining, aggregates, food processing, packaging, and pulp and paper. This acquisition extends our current product portfolio, and we expect it will strengthen SMH's relationships in the pulp and paper markets. We are currently evaluating the segment classification of the SMH business.

Papermaking Systems Segment

Our Papermaking Systems segment has a long and well-established history of developing, manufacturing, and marketing equipment and products for the global papermaking, paper recycling, recycling and waste management, and other process industries. Some of our businesses or their predecessor companies have been in operation for more than 100 years. Our customer base includes major global paper manufacturers, and we believe we have one of the largest installed bases of equipment in the markets we serve within the pulp and paper industry. We manufacture our Papermaking Systems products in nine countries in Europe, North America, South America, and Asia.

Our Papermaking Systems segment consists of the following product lines: Stock-Preparation; Fluid-Handling; and Doctoring, Cleaning, & Filtration.

Stock-Preparation

We develop, manufacture, and market custom-engineered systems and equipment, as well as standard individual components, for baling, pulping, de-inking, screening, cleaning, and refining primarily recycled fiber for preparation for entry into the paper machine, and recausticizing and evaporation equipment and systems used in the production of virgin pulp. Our baling equipment is also used to compress a variety of other secondary materials to prepare them for transport or storage. Our principal stock-preparation products include:

- Recycling and approach flow systems: Our equipment includes pulping, screening, cleaning, and de-inking systems that blend pulp mixtures and remove contaminants, such as ink, glue, metals, and other impurities, to prepare them for entry into the paper machine during the production of recycled paper.
- Virgin pulping process equipment: Our equipment includes pulp washing, evaporator, recausticizing, and condensate treatment systems used to remove lignin, concentrate and recycle process chemicals, and remove condensate gases.
- Balers and related equipment: Our equipment includes horizontal channel balers, vertical balers, conveyors, compactors, and bale wrapping machines used in the processing of recyclable and waste materials.

Fluid-Handling

We develop, manufacture and market fluid handling systems and equipment used in industrial piping systems to compensate for movement and to efficiently transfer fluid, power, and data. Our products include: rotary joints, precision unions, steam and condensate systems, components, and controls used primarily in the dryer section of the papermaking process and during the production of corrugated packaging, metals, plastics, pharmaceuticals, energy, rubber, textiles, chemicals, and food. Expansion joints are used in industrial piping systems. Our principal fluid-handling systems and equipment include:

- Rotary joints: Our mechanical devices, used with rotating shafts, allow the transfer of pressurized fluid from a stationary source into and out of rotating machinery for heating, cooling, or the transfer of fluid power.
- Syphons: Our devices, installed inside rotating cylinders, are used to remove fluids from the rotating cylinders through rotary joints or unions located on either end of the cylinder.
- Turbulator® bars: Our steel or stainless steel axial bars, installed on the inside of cylinders, are used to induce turbulence in the condensate layer to improve the uniformity and rate of heat transfer through the cylinders.
- Expansion joints: Our rubber, metal, fabric and other materials are used to compensate for movement due to thermal expansion, vibration and other causes.
- Engineered steam and condensate systems: Our steam systems control the flow of steam from the boiler to the paper drying cylinders, collect condensed steam, and return it to the boiler to improve energy efficiency during the paper drying process. Our systems and equipment are also used to efficiently and effectively distribute steam in a wide variety of industrial processing applications.

Doctoring, Cleaning, & Filtration

We develop, manufacture, and market a wide range of doctoring, cleaning, and filtration systems and related consumables that continuously clean rolls to keep paper machines and other industrial processes running efficiently; doctor blades made of a variety of materials to perform functions including cleaning, creping, web removal, flaking, and the

application of coatings; profiling systems that control moisture, web curl, and gloss during paper converting; and systems and equipment used to continuously clean fabrics and rolls, drain water from pulp mixtures, form the sheet or web, and filter the process water for reuse. Doctoring and cleaning systems are also used in other process industries such as carbon fiber, textiles and food processing. Our principal doctoring, cleaning, and filtration products include:

- Doctor systems and holders: Our doctor systems clean papermaking rolls to maintain the efficient operation of paper machines and other equipment by placing a blade against the roll at a constant and uniform pressure. A doctor system consists of the structure supporting the blade and the blade holder.
- Profiling systems: We offer profiling systems that control moisture, web curl, and gloss during paper converting.
- Doctor blades: We manufacture doctor and scraper blades made of a variety of materials including metal, bi-metal, or synthetic materials that perform a variety of functions including cleaning, creping, web removal, flaking, and applying coatings. A typical doctor blade has a life ranging from eight hours to two months, depending on the application.
- Shower and fabric-conditioning systems: Our shower and fabric-conditioning systems assist in the removal of contaminants that collect on paper machine fabrics used to convey the paper web through the forming, pressing, and drying sections of the paper machine. A typical paper machine has between three and 12 fabrics. These fabrics can easily become contaminated with fiber, fillers, pitch, and dirt that can have a detrimental effect on paper machine performance and paper quality. Our shower and fabric-conditioning systems assist in the removal of these contaminants.
- Formation systems: We supply structures that drain, purify, and recycle process water from the pulp mixture during paper sheet and web formation.
- Water-filtration systems: We offer a variety of filtration systems and strainers that remove contaminants from process water before reuse and recover reusable fiber for recycling back into the pulp mixture.

Wood Processing Systems Segment

We develop, manufacture, and market stranders and related equipment used in the production of OSB. We also supply debarkers, stranders, chippers, logging machinery, and related equipment used in the harvesting and production of lumber and OSB. In addition, we provide refurbishment and repair of pulping equipment for the pulp and paper industry. We manufacture our wood-processing products principally in Canada, Finland and the United States. Our principal wood-processing products and services include:

- Ring and rotary debarkers: Our fixed and sliding ring debarkers utilize a rotating multi-tool to strip the bark off a non-rotating log. Our ring debarkers are used in lumber mills to remove the bark from the tree before further processing into lumber. Our rotary debarkers and related parts and consumables employ a combination of mechanical abrasion and log-to-log contact to efficiently remove bark from logs of all shapes and species.
- Stranders: Our disc and ring stranders and related parts and consumables cut batch-fed logs into strands for OSB production and are used to manage strands in real time using our patented conveying and feeding equipment.
- Chippers: Our disc, drum, and veneer chippers and related parts and consumables are high-quality, robust chipper systems for waste-wood and whole-log applications found in pulp woodrooms, chip plants, and sawmill and planer mill sites.
- Logging machinery: Our feller bunchers, log loaders, and swing yarders are used to harvest and gather timber for lumber production.
- Repair services: We also refurbish and repair pulping equipment used in the pulp and paper industry.

Fiber-based Products

We manufacture and sell biodegradable, absorbent granules derived from papermaking by-products for use primarily as carriers for agricultural, home lawn and garden, and professional lawn, turf and ornamental applications, as well as for oil and grease absorption.

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Research and Development

We develop a broad range of products for all facets of the markets we serve. We operate research and development facilities in the United States, Europe, and Canada, and focus our product innovations on process industry challenges and the need for improved fiber processing, heat transfer, roll and fabric cleaning, fluid handling, timber harvesting, wood processing, and secondary material handling. In addition to internal product development activities, our research centers allow customers to simulate their own operating conditions and applications to identify and quantify opportunities for improvement.

Our research and development expenses were $10.6 million in 2018, $9.6 million in 2017, and $7.4 million in 2016.

Raw Materials

The primary raw materials used in our Papermaking Systems segment are steel, stainless steel, ductile iron, brass, bronze, aluminum, and elastomers and in our Wood Processing Systems segment are steel and stainless steel. These raw materials are generally purchased and available through a number of suppliers.

The raw material used in the manufacture of our fiber-based granules is a by-product from the production of paper that we obtain from two paper mills. If these mills were unable or unwilling to supply us with sufficient fiber, we would be forced to find one or more alternative suppliers for this raw material.

To date, our raw materials have generally been available and we have not needed to maintain raw material inventories in excess of our current needs.

Patents, Licenses, and Trademarks

We protect our intellectual property rights by applying for and obtaining patents when appropriate. We also rely on technical know-how, trade secrets, and trademarks to maintain our competitive position. We also enter into license agreements with others to grant and/or receive rights to patents and know-how. No particular patent, or related group of patents, is so important that its expiration or loss would significantly affect our operations.

Papermaking Systems Segment

We have numerous U.S. and foreign patents, including foreign counterparts to our U.S. patents, expiring on various dates ranging from 2019 to 2039. From time to time, we enter into licenses with other companies for products that serve the pulp, papermaking, converting, and paper recycling industries.

Wood Processing Systems Segment

We have numerous U.S. and foreign patents, including foreign counterparts to our U.S. patents, expiring on various dates ranging from 2020 to 2030, related to wood processing and debarking equipment.

Fiber-based Products

We currently hold several U.S. patents, expiring on various dates ranging from 2021 to 2034, related to various aspects of the processing of fiber-based granules and the use of these materials in the agricultural, professional turf, home lawn and garden, general absorption, oil and grease absorption, and catbox filler markets.

SMH

Our newly acquired subsidiary, SMH, holds several U.S. and foreign patents, including foreign counterparts to its U.S. patents, expiring on various dates ranging from 2019 to 2026, related to various aspects of conveyor belt systems and conveying apparatus. SMH also licenses one of its two significant product brand names, Link-Belt®, from a third party pursuant to a trademark license agreement. More than half of SMH's revenues in 2018 were generated by sales of conveying equipment sold under the Link-Belt® name. Under the terms of the license agreement, SMH has a worldwide, exclusive, royalty-free, perpetual license to use the Link-Belt® trademark in connection with such

products.

Seasonal Influences

Papermaking Systems Segment
There are no material seasonal influences on this segment's sales of products and services.

Wood Processing Systems Segment

Our Wood Processing Systems segment is subject to seasonal variations, with demand for many of our products tending to be greater during the building and timber harvesting season, which generally occurs in the second and third quarters in North America.

Fiber-based Products

Our Fiber-based Products business experiences fluctuations in sales, usually in the third quarter, when sales decline due to the seasonality of the agricultural and home lawn and garden markets.

SMH

SMH, our newly acquired subsidiary, may experience minor seasonal fluctuations in sales, with demand for its products tending to be greater in the second and third quarters due to the impact of weather and favorable outdoor working conditions at certain of its customers.

Working Capital Requirements

There are no special inventory requirements or credit terms extended to customers that would have a material adverse effect on our working capital.

Dependency on a Single Customer

No single customer accounted for 10% or more of our consolidated revenues in any of the past three years. In addition, within our Papermaking Systems segment, no customer accounted for more than 10% of segment revenue. As a percentage of revenues, the three largest customers in our Wood Processing Systems segment accounted for 24% in 2018, 32% in 2017, and 48% in 2016. Approximately 63% in 2018, 65% in 2017, and 60% in 2016, of our consolidated revenues were to customers outside the United States, principally in Europe, Asia and Canada.

Backlog

Our backlog of firm orders for the Papermaking Systems segment was $126.7 million at year-end 2018 and $116.3 million at year-end 2017. Our backlog of firm orders for the Wood Processing Systems segment was $45.4 million at year-end 2018 and $27.6 million at year-end 2017. The total consolidated backlog of firm orders was $173.0 million at year-end 2018 and $145.3 million at year-end 2017. We anticipate that substantially all the backlog at year-end 2018 will be shipped or completed during 2019. Some of these orders can be canceled by the customer upon payment of a cancellation fee.

Sales and Marketing

We market and sell our engineered products, services, and systems to process industries using a combination of a direct sales force and independent sales agents and distributors depending on the market and product being sold. Technical service personnel, product specialists, and independent sales agents and distributors are utilized in certain markets and with certain product lines. Our application expertise is complimented by a consultative selling approach to ensure we meet the needs of our customers.

Competition

We are a leading supplier of systems and equipment in each of our product lines within our Papermaking Systems segment and there are several global and numerous local competitors in each market. In our Wood Processing Systems segment, we compete with one primary global competitor in the OSB market for stranding equipment, a limited number of competitors in forest products for our debarkers, and several global and local competitors for our other products. Because of the diversity of our products, we face many different types of competitors and competition.

We compete primarily on the basis of technical expertise, product innovation, and product performance. We believe the reputation that we have established for high-performance, high-reliability products supported by our in-depth process knowledge and application expertise provides us with a competitive advantage. In addition, a significant portion of our business is generated from our worldwide customer base. To maintain this base, we have emphasized our global presence, local support, and a problem-solving relationship with our customers. Our success primarily depends on the following factors:

- Technical expertise and process knowledge;
- Product innovation;
- Product quality, reliability, and performance;
- Operating efficiency of our products;
- Customer service and support;
- Relative price of our products; and
- Total cost of ownership of our products.

As a result of our acquisition of SMH, we are entering into new markets, including mining and aggregates, and further into the food processing, industrial processing and packaging markets, which will introduce numerous new global and local competitors.

Environmental Protection Regulations

We believe that our compliance with federal, state, and local environmental protection regulations will not have a material adverse effect on our capital expenditures, earnings, or competitive position.

Employees

At year-end 2018, we had approximately 2,500 employees worldwide. Subsequent to year-end 2018, we added 250 employees as a result of the acquisition of SMH.

Available Information

We file annual, quarterly, and current reports, proxy statements, and other documents with the Securities and Exchange Commission (SEC) under the Exchange Act. The SEC maintains a website that contains reports, proxy and information statements, and other information regarding issuers, including us, that are filed electronically with the SEC. The public can obtain any documents that we file with the SEC at www.sec.gov. In addition, we make available free of charge through our website at www.kadant.com our Annual Reports on Form 10-K, Quarterly Reports on Form 10-Q, Current Reports on Form 8-K, and, if applicable, amendments to these Reports filed with or furnished pursuant to Section 13(a) or 15(d) of the Exchange Act as soon as reasonably practicable after we electronically file these materials with, or furnish them to, the SEC. We are not including the information contained on our website as part of this Report nor are we incorporating the information on our website into this Report by reference.

Executive Officers of the Registrant

The following table summarizes certain information concerning our executive officers as of February 15, 2019:

Name	Age	Present Title (Fiscal Year First Became Executive Officer)
Jonathan W. Painter	60	President and Chief Executive Officer (1997)
Eric T. Langevin	56	Executive Vice President and Co-Chief Operating Officer (2006)
Jeffrey L. Powell	60	Executive Vice President and Co-Chief Operating Officer (2009)
Michael J. McKenney	57	Executive Vice President and Chief Financial Officer (2002)
Stacy D. Krause	42	Vice President, General Counsel, and Secretary (2018)
Deborah S. Selwood	50	Vice President and Chief Accounting Officer (2015)

Mr. Painter has been our chief executive officer and a director since January 2010 and our president since September 1, 2009. He served as chief operating officer from September 2009 to January 2010. Between 1997 and September 2009, Mr. Painter served as an executive vice president and from March 2007 through September 2009 had supervisory responsibility for our Stock-Preparation and Fiber-based Products businesses. He served as president of our Composite Building Products business from 2001 until its sale in 2005. He also served as our treasurer and the

treasurer of Thermo Electron Corporation (Thermo Electron) from 1994 until 1997. Prior to 1994, Mr. Painter held various managerial positions with us and Thermo Electron.

Mr. Langevin has been an executive vice president and a co-chief operating officer since March 2018. From January 2010 to March 2018, he was an executive vice president and our chief operating officer. Prior to January 2010, Mr. Langevin had been our senior vice president since March 2007 and had supervisory responsibility for our Fluid-Handling and Doctoring,

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Cleaning, & Filtration businesses. He served as vice president, with responsibility for our Doctoring, Cleaning, & Filtration business, from 2006 to 2007. From 2001 to 2006, Mr. Langevin was president of Kadant Web Systems Inc. (now our Kadant Solutions division) and before that served as its senior vice president and vice president of operations. Prior to 2001, Mr. Langevin managed several product groups and departments within Kadant Web Systems after joining us in 1986 as a product development engineer.

Mr. Powell has been an executive vice president and a co-chief operating officer since March 2018. From March 2013 to March 2018, he was an executive vice president and had supervisory responsibility for our Stock-Preparation, Wood Processing, and Fiber-based Products businesses. From September 2009 to March 2013, he was a senior vice president. From January 2008 to September 2009, Mr. Powell was vice president, new ventures, with principal responsibility for acquisition-related activities. Prior to joining us, Mr. Powell was the chairman and chief executive officer of Castion Corporation from April 2003 through December 2007.

Mr. McKenney has been an executive vice president and our chief financial officer since March 2018. From June 2015 to March 2018, he was a senior vice president and our chief financial officer. He served as our vice president, finance and chief accounting officer from 2002 to 2015 and as corporate controller from 1997 to 2007. Mr. McKenney was controller of Kadant AES, our division acquired from Albany International Inc., from 1993 to 1997. Prior to 1993, Mr. McKenney held various financial positions at Albany International.

Ms. Krause has been a vice president and our general counsel and secretary since July 2018. She served as our deputy general counsel from December 2017 to July 2018. Prior to joining us, Ms. Krause was head of commerce cloud commercial legal of salesforce.com, inc. from 2016 to 2017. She previously served as an assistant general counsel of Demandware, Inc. from 2014 to 2016, and assistant general counsel of Entegris, Inc. from 2011 to 2014. Prior to 2011, Ms. Krause was a lawyer in the corporate transactional department of Wilmer Cutler Pickering Hale and Dorr LLP.

Ms. Selwood has been a vice president and our chief accounting officer since June 2015. She served as our corporate controller from 2007 to 2015 and as assistant controller from 2004 to 2007. Prior to 2004, Ms. Selwood held various financial positions at Arthur Andersen LLP and Genuity Inc.

On February 13, 2019, our board of directors adopted a succession plan (Succession Plan), pursuant to which Mr. Powell was appointed president effective April 1, 2019 and chief executive officer effective July 1, 2019, succeeding Mr. Painter in each role. As part of the Succession Plan, Mr. Painter will become executive chairman of the board of directors effective July 1, 2019. Mr. Langevin will become executive vice president, chief operating officer effective April 1, 2019. Pursuant to the Succession Plan, each of Peter J. Flynn and Michael Colwell were appointed as vice presidents of the Company effective July 1, 2019. Mr. Flynn and Mr. Colwell, who will become executive officers of the Company, will each have supervisory responsibility for parts of the Company’s material processing group, which Mr. Powell oversees in his current role as executive vice president, co-chief operating officer. On July 1, 2019, Mr. Langevin will also assume responsibility for supervising the Company’s recently acquired material handling business. For more information on the Succession Plan, see our Current Report on Form 8-K, filed with the Securities and Exchange Commission on February 13, 2019.

Item 1A. Risk Factors

Our business, results of operations and financial condition, and an investment in our securities, are subject to a number of risks. The risks and uncertainties described below are those that we have identified as material, but are not the only risks and uncertainties we face. Our business is also subject to general risks and uncertainties that affect many other companies, including overall economic and industry conditions. Additional risks and uncertainties not currently known to us or that we currently believe are not material also may impair our business, consolidated financial condition and results of operations.

Adverse changes in global and local economic conditions may negatively affect our industry, business and results of operations.

We sell products worldwide to global process industries and a significant portion of our revenue is from customers based in North America, Europe and China. Uncertainties in global and regional economic outlooks have negatively affected, and may in the future negatively affect, demand for our customers' products and, as a consequence, our products and services, especially our capital equipment systems and products, and our operating results. Also, uncertainty regarding economic conditions has caused, and may in the future cause, liquidity and credit issues for many businesses, including our customers in the pulp and paper industry as well as other process industries, and may result in their inability to fund projects, capacity expansion plans, and to some extent, routine operations and capital expenditures. These conditions have resulted, and may in the future result, in a number of structural changes in process industries, including decreased spending, mill closures, consolidations, and bankruptcies, all of which negatively affect our business, revenue, and profitability. Financial and economic turmoil affecting the worldwide economy or the banking system and financial markets, in particular due to political or economic developments, could cause the expectations for our business to differ materially in the future.

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Revenues from the sale of large capital equipment and systems projects are often difficult to predict accurately, especially in periods of economic uncertainty, and large capital equipment projects require significant investment requiring our customers to secure financing, which may be difficult.

We manufacture capital equipment and systems used in process industries, including the wood processing and paper industries. Approximately 41% of our revenue in 2018 was from the sale of capital equipment to be used in process industries. Our acquisition of SMH further expands our capacity to manufacture and sell capital equipment. The demand for capital equipment is variable and depends on a number of factors, including consumer demand for end products, existing manufacturing capacity, the level of capital spending by our customers and economic conditions. As a consequence, our bookings and revenues for capital projects tend to be variable and difficult to predict. It is especially difficult to accurately forecast our operating results during periods of economic uncertainty. Our customers curtail their capital and operating spending during periods of economic uncertainty and are cautious about resuming spending as market conditions improve. Levels of consumer spending on non-durable goods, demand for food and beverage packaging, and demand for new housing and remodeling are all factors that affect paper and wood processing companies' demand for our products, and reductions in these demand levels can negatively impact our business. As companies in our customers' industries consolidate operations in response to market weakness, they frequently reduce capacity, increase downtime, defer maintenance and upgrades, and postpone or even cancel capacity additions or expansion projects. Capacity growth and investment can be uneven and the larger paper producers have delayed, and may in the future delay, additional new capacity start-ups in reaction to softer market conditions. In general, as significant capacity additions come online and the economic growth rate slows, paper producers have deferred and could in the future defer further investments or the delivery of previously-ordered equipment until the market absorbs the new production.

Large capital equipment projects require a significant investment and may require our customers to secure financing from external sources. Our financial performance will be negatively impacted if there are delays in customers securing financing or our customers become unable to secure such financing due to any number of factors, including a tightening of monetary policy or regime-based sanctions such as those imposed on Russia, and more recently, on China. Financing delays of our customers can cause us to delay booking pending orders as well as the shipment of some orders. The inability of our customers to obtain credit may affect our ability to recognize revenue and income, particularly on large capital equipment orders from new customers for which we may require letters of credit. We may also be unable to issue letters of credit to our customers, which are required in some cases to guarantee performance, during periods of economic uncertainty. This has negatively affected our bookings and revenues in the past, particularly in China, and may negatively affect our operating results in the future.

Our global operations subject us to various risks that may adversely affect our results of operations.

We are a leading global supplier of equipment and critical components used in process industries worldwide. We sell our products globally, including sales to customers in China, South America, Russia and India, and operate multiple manufacturing operations worldwide, including operations in Canada, China, Europe, Mexico, and Brazil. International revenues and operations are subject to a number of risks which vary by geographic region, including the following:

- agreements may be difficult to enforce and receivables difficult to collect through a foreign country's legal system;
- foreign customers may have longer payment cycles;
- foreign countries may impose additional withholding taxes or otherwise tax our foreign income, impose tariffs, adopt other restrictions on foreign trade, impose currency restrictions or enact other protectionist or anti-trade measures;
- environmental and other regulations can adversely impact our ability to operate our facilities;
- disruption from climate change, natural disaster, including earthquakes and/or tornadoes, fires, war, terrorist activity, and other force majeure events beyond our control;
- worsening economic conditions may result in worker unrest, labor actions, and potential work stoppages;
- political unrest may disrupt commercial activities of ours or our customers;

- it may be difficult to repatriate funds, due to unfavorable domestic and foreign tax consequences or other restrictions or limitations imposed by foreign governments; and
- the protection of intellectual property in foreign countries may be more difficult to enforce.

Operating globally subjects us to changes in government regulations and policies in multiple jurisdictions around the world, including those related to tariffs and trade barriers, taxation, exchange controls and political risks. Changes in government policies, political unrest, economic sanctions, trade embargoes, or other adverse trade regulations can negatively impact our business. For example, we operate businesses in Mexico and Canada, and we benefit from the North American Free Trade Agreement (NAFTA), which is proposed to be revised by the United States-Mexico-Canada Agreement (USMCA). If the

United States were to withdraw from or materially modify NAFTA or the successor USMCA or to impose significant tariffs or taxes on goods imported into the United States, the cost of our products could significantly increase or no longer be priced competitively, which in turn could have a material adverse effect on our business and results of operations. The USMCA does not contain an agreement on certain existing tariffs. The United States, Canada, and Mexico must each still ratify the USMCA in their respective legal systems before it becomes effective. In the United States, Congress will be required to pass implementing legislation, the timing of which is uncertain. In addition, the Office of the United States Trade Representative, or USTR, released a list of Chinese products valued at approximately $50 billion, including pulp and paper machinery equipment, that is subject to an additional 25% duty in accordance with President Trump’s Presidential Memorandum of March 22, 2018 directing action pursuant to Section 301 of the Trade Act of 1974. The U.S. Customs and Border Protection began to collect the additional duties on products covered by the tariffs on July 6, 2018. In addition, the USTR issued a new list of an additional $200 billion in Chinese products that will be subject to an additional 10% duty, which the U.S. Customs and Border Protection began to collect on September 24, 2018, and which increased to 25% on January 1, 2019. While we are working to assess and mitigate the impact of the existing and other proposed tariffs through pricing and sourcing strategies, we cannot be certain how our customers and competitors will react to the actions we take. The tariffs could negatively affect our ability to compete against competitors who do not manufacture in China and/or are not subject to the tariffs.

In 2018, our sales to Russia were $17.7 million, or 3%, of our revenue. In August 2017 and April 2018, the United States imposed new trade sanctions against certain persons in Russia, in addition to those previously imposed in 2014. In response, Russia may impose trade sanctions that could affect U.S.-owned businesses. The imposition of trade sanctions may make it generally more difficult to do business in Russia and cause delays or prevent shipment of products or services performed by our personnel, or to receive payment for products or services. Such restrictions could have a material adverse impact on our business and operating results going forward.

We operate significant manufacturing facilities in and derive significant revenue from China. Changes in the policies of the Chinese government, devaluation of the Chinese currency, restrictions on the expatriation of cash, political unrest, unstable economic conditions, or other developments in China or in U.S.-China relations that are adverse to trade, including enactment of protectionist legislation or trade or currency restrictions, could negatively impact our business and operating results. Policies of the Chinese government to target slower economic growth may negatively affect our business in China if customers are unable to expand capacity or obtain financing for expansion or improvement projects. Policies of the Chinese government to advance internal political priorities may potentially negatively affect our business in any number of ways that we may not foresee. For example, China has imposed a ban on mixed waste paper imports and reported that all recovered paper imports have been and are limited to a 0.5% contaminant level after March 1, 2018, which is well below the level that suppliers consider feasible. In addition, the Chinese government has announced that it may ban all recovered paper imports by 2020. According to Fastmarkets RISI, the Chinese government's actions have led to a severe shortage of recovered paper in China, which has forced mills to incur additional downtime. Chinese containerboard producers have been looking to build capacity for fiber in Southeast Asia, with the intent to ship pulp back to China for further processing. These policies could have a significant influence on the price, nature and availability of the type of paper imported into China, could have a negative effect on the operating capacity of our customers in China, and may affect the demand for our products and our operating results in the future, both in China and in the surrounding region.

Our sales of capital equipment in China tend to be more variable and are subject to a number of uncertainties.

Our bookings and revenues from China have tended to be more variable than in other geographic regions. The Chinese pulp and paper industry has experienced periods of significant capacity expansion to meet demand followed by periods of reduced activity while overcapacity is absorbed. These cycles result in periods of significant bookings activity for our capital products and increased revenues followed by a significant decrease in bookings or potential delays in shipments and order placements by our customers as they attempt to balance supply and demand.

Orders from customers in China, particularly for large stock-preparation systems that have been tailored to a customer's specific requirements, have credit risks higher than we generally incur elsewhere, and some orders are subject to the receipt of financing approvals from the Chinese government or can be impacted by the availability of credit and more restrictive monetary policies. We generally do not record bookings for signed contracts from customers in China for large stock-preparation systems until we receive the down payments for such contracts. The timing of the receipt of these orders and the down payments are uncertain and there is no assurance that we will be able to recognize revenue on these contracts. We may experience a loss if a contract is canceled prior to the receipt of a down payment if we have commenced engineering or other work associated with the contract. We typically have inventory awaiting shipment to customers and could incur a loss if contracts are canceled and we cannot re-sell the equipment. In addition, we may experience a loss if the contract is canceled, or the customer does not fulfill its obligations under the contract, prior to the receipt of a letter of credit or final payments covering the remaining balance of the contract, which could represent 80% or more of the total order. As a result of these factors, our revenues recognized in China have varied, and will in the future vary, greatly from period to period and be difficult to predict.

In addition, please also see “Risk Factors - Our global operations subject us to various risks that may adversely affect our results of operations” for discussion of how policies of the Chinese government may potentially negatively affect our business in any number of ways, including some of which we may not foresee.

We manufacture equipment used in the production of forest products, including lumber and OSB, and our financial performance may be adversely affected by decreased levels of residential construction activity.

We manufacture debarkers, stranders and related equipment used in the production of lumber and OSB, an engineered wood panel product used primarily in home construction. Our customers produce these products principally for new residential construction, home repair and remodeling activities. As such, the operating results for our Wood Processing Systems segment correlate to a significant degree to the level of this residential construction activity, primarily in North America and, to a lesser extent, in Europe. Residential construction activity is influenced by a number of factors, including the supply of and demand for new and existing homes, new housing starts, unemployment rates, interest rate levels, availability of mortgage financing, mortgage foreclosure rates, availability of construction labor and suitable land, seasonal and unusual weather conditions, general economic conditions and consumer confidence. A significant increase in long-term interest rates, changes in tax policy of the deductibility of mortgages, tightened lending standards, high unemployment rates and other factors that reduce the level of residential construction activity could have a material adverse effect on our financial performance.

The OSB market is highly concentrated and the market for building products is highly competitive. The loss of a significant customer or our customers' reductions in capital spending or OSB production could have a material adverse effect on our financial performance.

The OSB market is highly concentrated and there are a limited number of OSB manufacturers. As a percentage of our Wood Processing Systems segment revenues, the two largest OSB customers accounted for 14% in 2018, 29% in 2017, and 48% in 2016. The loss of one or more of these OSB customers to a competitor could adversely affect our revenues and profitability. In addition, the market for building products is highly competitive. Products that compete with OSB include other wood panel products and substitutes for wood building products, such as nonfiber-based alternatives. For example, plastic, wood/plastic or composite materials may be used by builders as alternatives to OSB products. Changes in component prices, such as energy, chemicals, wood-based fibers, and nonfiber alternatives can change the competitive position of OSB relative to other available alternatives and could increase substitution. Our customers' OSB production can be adversely affected by lower-cost producers of other wood panel products and substitutes for wood building products. Lower demand for OSB products or a decline in the profitability of one or more of our customers could result in a reduction in spending on capital equipment or the shutdown or closure of an OSB mill, which could have a material adverse effect on our financial performance.

The development and increasing use of digital media has had, and will continue to have, an adverse impact on our Papermaking Systems segment.

Developments in digital media have adversely affected demand for newsprint and for printing and writing grades of paper, particularly in North America and Europe, a trend which is expected to continue. Approximately 11% of our revenue in 2018 was from customers producing newsprint and printing and writing grades of paper. Significant declines in the production of printing and writing paper grades have also led to a drop in the construction of recycled tissue mills, as those mills use printing and writing grades of waste paper as their fiber source. The increased use of digital media has had, and will continue to have, an adverse effect on demand for our products in those markets.

Our results of operations may be adversely affected by currency fluctuations.

As a multinational corporation, we are exposed to fluctuations in currency exchange rates that impact our business in many ways. We are exposed to both translation as well as transaction risk associated with transactions denominated in currencies that differ from our subsidiaries' functional currencies. Although most of our subsidiaries' costs are denominated in the same currency as their revenues, changes in the relative values of currencies occur from time to time and can adversely affect our operating results. Some of the foreign currency translation risk is mitigated when foreign subsidiaries have revenue and expenses in the same foreign currency. Further, certain foreign subsidiaries may

hold U.S. dollar assets or liabilities which, as the U.S. dollar strengthens versus the applicable functional currencies, will result in currency transaction gains on assets or losses on liabilities. While some foreign currency transaction risks can be hedged using derivatives or other financial instruments, or may be insurable, such attempts to mitigate these risks may be costly and may not always be successful.

When we translate the local currency results of our foreign subsidiaries into U.S. dollars during a period in which the U.S. dollar is strengthening, our financial results will reflect decreases due to foreign currency translation. In addition, our consolidated financial results are adversely affected when foreign governments devalue their currencies. Our major foreign currency translation exposures involve the currencies in Europe, China, Brazil, Canada and Mexico. For example, China's central bank devalued the renminbi to boost the Chinese economy in 2016, which had a negative translation impact on our consolidated revenues and will continue to have a negative translation impact if this recurs. The overall favorable or

unfavorable effect of foreign currency translation on our financial results will vary by quarter. We do not enter into derivatives or other financial instruments to hedge this type of foreign currency translation risk.

The business of our subsidiary, SMH, can be materially impacted by cyclical economic conditions affecting the global mining industry.

Changes in economic conditions affecting the global mining industry can occur abruptly and unpredictably, which may have significant effects on the sales of original equipment by our new subsidiary, SMH. Cyclicality for original equipment sales is driven primarily by price volatility of the commodities that are mined using SMH's equipment, including coal, salt, aggregates, potash, copper, iron ore and trona, or their substitutes, as well as product life cycles, competitive pressures and other economic factors affecting the mining industry, such as company consolidation, increased regulation and competition affecting demand for commodities, as well as the broader economy, including changes in government monetary or fiscal policies and from market expectations with respect to such policies. Falling commodity prices have in the past and may in the future lead to reduced capital expenditures by SMH's customers, reductions in the production levels of existing mines, a contraction in the number of existing mines and the closure of less efficient mines. Reduced capital expenditures and decreased mining activity by SMH's customers are likely to lead to a decrease in demand for new mining equipment, and may result in a decrease in demand for parts as SMH's customers are likely to reduce utilization of equipment, reduce inventories, redistribute parts from closed mines and delay rebuilds and other maintenance during industry downturns. In addition to declining orders for SMH's products, adverse economic conditions for SMH's customers may make it more difficult for SMH to collect accounts receivable in a timely manner, or at all, which may adversely affect Kadant's working capital. As a result of this cyclicality in the global mining industry, SMH may experience significant fluctuations in its business, results of operations and financial condition, and we expect SMH's business to continue to be subject to these fluctuations in the future.

A sizable portion of SMH's business is dependent on continued demand for coal, which is subject to economic and environmental risks.

Approximately 19% and 10% of SMH's 2018 revenues came from its thermal and metallurgical coal-mining customers, respectively. Many of these customers supply coal for the generation of electricity and/or steel production. Demand for electricity and steel is affected by the global level of economic activity and economic growth. The pursuit of the most cost-effective form of electricity generation continues to take place throughout the world and coal-fired electricity generation faces intense price competition from other fuel sources, particularly natural gas. In addition, coal combustion typically generates significant greenhouse gas emissions and governmental and private sector goals and mandates to reduce greenhouse gas emissions may increasingly affect the mix of electricity generation sources. Further developments in connection with legislation, regulations, international agreements or other limits on greenhouse gas emissions and other environmental impacts or costs from coal combustion, both in the United States and in other countries, could diminish demand for coal as a fuel for electricity generation. If lower greenhouse gas emitting forms of electricity generation, such as nuclear, solar, natural gas or wind power, become more prevalent or cost effective, or diminished economic activity reduces demand for electricity and steel, demand for coal will decline. Reduced demand for coal could result in reduced demand for SMH's mining equipment and could adversely affect our overall business, financial condition and results of operations.

Price increases and shortages in raw materials and components and dependency upon certain suppliers for such raw materials and components could adversely impact our operating results.

We use a variety of raw materials, including a significant amount of stainless steel, carbon steel, commodities and critical components to manufacture our products. Increases in the prices of such raw materials, commodities and critical components could adversely affect our operating results if we were unable to fully offset the effect of these increased costs through price increases, productivity improvements, or cost reduction programs.

Some of our businesses depend on limited suppliers to provide critical components used in the manufacture of our products. If we could not obtain sufficient supplies of these components or these sources of supply ceased to be available to us, we could experience shortages in critical components or be unable to meet our commitments to

customers. Alternative sources of supply could be more expensive or, in some cases, not available. We believe our sources of raw materials, commodities and critical components will generally be sufficient for our needs in the foreseeable future. However, our operating results could be negatively impacted if supply is insufficient for our operations.

Implementing our acquisition strategy involves risks, and our failure to successfully implement this strategy could have a material adverse effect on our business.

We expect that a significant driver of our growth over the next several years will be the acquisition of technologies and businesses that complement or augment our existing products and services or may involve entry into a new process industry, such as our January 2019 acquisition of SMH. We continue to actively pursue additional acquisition opportunities, some of which may be material to our business and financial performance, and involve significant cash expenditures and the incurrence

of significant debt. Although we have been successful with this strategy in the past, we may not be able to grow our business in the future through acquisitions for a number of reasons, including:

- difficulties identifying and executing acquisitions;
- competition with other prospective buyers resulting in our inability to complete an acquisition or in our paying a substantial premium over the fair value of the net assets of the acquired business;
- access to and availability of capital;
- inability to obtain regulatory approvals, including antitrust approvals;
- difficulty in integrating operations, technologies, products and the key employees of the acquired business;
- inability to maintain existing customers of the acquired business or to sell the products and services of the acquired business to our existing customers;
- inability to retain key management of the acquired business;
- diversion of management's attention from other business concerns;
- inability to improve the revenues and profitability or realize the cost savings and synergies expected of the acquisition;
- assumption of significant liabilities, some of which may be unknown at the time of acquisition;
- potential future impairment of the value of goodwill and intangible assets acquired; and
- identification of internal control deficiencies of the acquired business.

We are required to record transaction and acquisition-related costs in the period incurred. Once completed, acquisitions may involve significant integration costs. These acquisition-related costs could be significant in a reporting period and have an adverse effect on our results of operations.

Any acquisition we complete may be made at a substantial premium over the fair value of the net identifiable assets of the acquired business. We are required to assess the realizability of goodwill and indefinite-lived intangible assets annually, and whenever events or changes in circumstances indicate that goodwill and intangible assets, including definite-lived intangible assets, may be impaired. These events or circumstances would generally include operating losses or a significant decline in earnings associated with the acquired business or assets, and our ability to realize the value of goodwill and intangible assets will depend on the future cash flows of these businesses. We may incur impairment charges to write down the value of our goodwill and acquired intangible assets in the future if the assets are not deemed recoverable, which could have a material adverse effect on our operating results.

Failure of our information systems or breaches of data security and cybertheft could impact our business.

We operate a geographically dispersed business and rely on the electronic storage and transmission of proprietary and confidential information, including technical and financial information, among our operations, customers and suppliers. In addition, for some of our operations, we rely on information systems controlled by third parties. Despite our security measures and internal controls, our information technology and infrastructure may be vulnerable to attacks by hackers or cyberthieves or breaches due to employee error, malfeasance or other disruptions, such as business email compromises and other cyber-related fraud. As part of our ongoing effort to upgrade our current information systems, we are implementing enterprise resource planning software to manage certain of our business operations. As we implement and add functionality, problems could arise that we have not foreseen. System failures, network disruptions, and breaches of data security could limit our ability to conduct business as usual, including our ability to communicate and transact business with our customers and suppliers; result in the loss or misuse of this information, including credit card numbers or other personal information, the loss of business or customers, or damage to our brand or reputation; or interrupt or delay reporting of our financial results. Such system failures or unauthorized access could be caused by external theft or attack, misconduct by our employees, suppliers, or competitors, or natural disasters. In addition, the cost and operational consequences of implementing further data protection measures, such as to comply with local privacy laws such as the European Union's General Data Protection Regulation, could be significant.

We are required to comply with a wide variety of laws and regulations, and are subject to regulation by various federal, state and foreign agencies.

We are subject to various local, state, federal, foreign and transnational laws and regulations, particularly those relating to environmental protection, the importation and exportation of products, tariffs and trade barriers, taxation, exchange controls, current good manufacturing practices, data protection, health and safety and our business practices in the U.S. and abroad, such as anti-corruption and anti-competition laws, and, in the future, any changes to such laws and regulations could adversely affect us. Any noncompliance by us with applicable laws and regulations or the failure to maintain, renew or obtain necessary permits and licenses could result in criminal, civil and administrative penalties and could have an adverse effect on our results of operations.

It may be difficult for us to implement our strategies for improving internal growth.

Some of the markets in which we compete are mature and have relatively low growth rates. We pursue a number of strategies to improve our internal growth, including:

- strengthening our presence in selected geographic markets, including emerging markets and existing markets where we see opportunities;
- focusing on parts and consumables sales;
- using low-cost manufacturing bases, such as China and Mexico;
- allocating research and development funding to products with higher growth prospects;
- developing new applications for our technologies;
- combining sales and marketing operations in appropriate markets to compete more effectively;
- finding new markets for our products and expanding into different verticals or process industries; and
- continuing to develop cross-selling opportunities for our products and services to take advantage of our depth of product offerings.

We may not be able to successfully implement these strategies, and these strategies may not result in the expected growth of our business.

We are subject to intense competition in all our markets.

We believe that the principal competitive factors affecting the markets for our products include technical expertise and process knowledge, product innovation, product quality, and price. Our competitors include a number of large multinational corporations that may have substantially greater financial, marketing, and other resources than we do. As a result, they may be able to adapt more quickly to new or emerging technologies, such as smart technology, and changes in customer requirements, or to devote greater resources to the promotion and sale of their services and products. Competitors' technologies may prove to be superior to ours. Our current products, those under development, and our ability to develop new technologies may not be sufficient to enable us to compete effectively. Competition, especially in China, has increased as new companies enter the market and existing competitors expand their product lines and manufacturing operations.

Adverse changes to the soundness of our suppliers and customers could affect our business and results of operations.

All our businesses are exposed to risk associated with the creditworthiness of our key suppliers and customers, including pulp and paper manufacturers, forest products and other industrial customers, many of which may be adversely affected by volatile conditions in the financial markets, worldwide economic downturns, variability in infrastructure spending levels, and difficult economic conditions. These conditions could result in financial instability, bankruptcy, or other adverse effects at any of our suppliers or customers. The consequences of such adverse effects could include the interruption of production at the facilities of our suppliers, the reduction, delay or cancellation of customer orders, delays in or the inability of customers to obtain financing to purchase our products or pay amounts due, and bankruptcy of customers or other creditors. Any adverse changes to the soundness of our suppliers or customers may adversely affect our cash flows, profitability, or financial condition.

Changes in our tax provision or exposure to additional income tax liabilities could affect our profitability.

We derive a significant portion of our revenue and earnings from our international operations, and are subject to income and other taxes in the United States and numerous foreign jurisdictions. Changes in U.S. and foreign income tax laws and regulations, or their interpretation, could result in higher or lower income tax rates assessed or changes in the taxability of certain revenues or the deductibility of certain expenses, thereby affecting our income tax expense and profitability. A number of factors may cause our effective tax rate to fluctuate, including: changes in tax rates in various jurisdictions; unanticipated changes in the amount of profit in jurisdictions in which the statutory tax rates may be higher or lower than the U.S. tax rate; the resolution of issues arising from tax audits with various tax authorities; changes in the valuation of our deferred tax assets and liabilities; adjustments to income taxes upon finalization of various tax returns; increases in expenses not deductible for tax purposes, including impairments of goodwill in connection with acquisitions; changes in available tax credits or our ability to utilize foreign tax credits;

and changes in tax laws or the interpretation of such tax laws. Any of these factors could cause us to experience an effective tax rate significantly different from that of prior periods or current expectations, which could have an adverse effect on our results of operations or cash flows.

On December 22, 2017, the Tax Cuts and Jobs Act of 2017 (2017 Tax Act) was enacted in the U.S. that significantly revises the Internal Revenue Code. The 2017 Tax Act reduced the U.S. federal corporate tax rate from 35% to 21% starting in 2018 and transitioned from a worldwide tax system to a territorial tax system imposing a one-time tax on all foreign unremitted earnings at reduced rates. The 2017 Tax Act introduced many new provisions that become effective in 2018, including but not limited to, Global Intangible Low-Taxed Income (GILTI), Base Erosion Anti-Abuse Tax (BEAT), Foreign Derived Intangible

Income (FDII) deduction, limitation of the tax deduction for net interest expense to 30% of adjusted taxable income, immediate deductions for certain new fixed asset additions instead of depreciating assets over time and changed deductions for executive compensation. The impact of the 2017 Tax Act remains subject to developing interpretations of the relevant provisions in the regulations promulgated by the U.S. Treasury Department, as well as the conformity and application of these regulations in various states. We continue to assess the impact of the new provisions on the tax provision already included in our financial statements and guidance and we may need to make adjustments as the application of the law becomes clearer, which could adversely affect our business and financial condition.

If we are unable to successfully manage our manufacturing operations, our ability to deliver products to our customers could be disrupted and our business, financial condition and results of operations could be adversely affected.

Equipment and operating systems necessary for our manufacturing businesses may break down, perform poorly, or fail. Any such disruption could cause losses in efficiencies, delays in shipments of our products and the loss of sales and customers, and insurance proceeds may not adequately compensate us for our losses.

In order to enhance the efficiency and cost effectiveness of our manufacturing operations, and to better serve customers located in various countries, as we have in the past, we may in the future move several product lines from one of our plants to another and consolidate manufacturing operations in certain of our plants. Even if we successfully move our manufacturing processes, there is no assurance that the cost savings and efficiencies we anticipate will be achieved.

Changes in zoning laws in China may require us to relocate certain of our manufacturing facilities. For example, we received a request by local Chinese authorities to relocate one of our facilities, and have begun negotiating with the Chinese government regarding the relocation of such facility. A relocation may increase our costs and could have a material impact on our manufacturing operations.

In addition, our manufacture of certain products is concentrated in specific geographic locations. As a result of such concentration, we may be disproportionately exposed to the impact of any disruptions (including natural disasters), regulations or delays that impact those geographic locations, which may negatively impact our ability to manufacture products produced in those locations and have an adverse effect on our business results.

We may be required to reorganize our operations in response to changing conditions in the worldwide economy and the industries we serve, and such actions may require significant expenditures and may not be successful.

We have undertaken various restructuring measures in the past in response to changing market conditions in the countries in which we operate and we may engage in additional cost reduction programs in the future. The costs of these programs may be significant and we may not recoup the costs of these programs. In connection with any future plant closures, delays or failures in the transition of production from existing facilities to our other facilities in other geographic regions could also adversely affect our results of operations. In addition, it is difficult to accurately forecast our financial performance in periods of economic uncertainty in a region or globally, and the efforts we have made or may make to align our cost structure may not be sufficient or able to keep pace with rapidly changing business conditions. Our profitability may decline if our restructuring efforts do not sufficiently reduce our future costs and position us to maintain or increase our sales.

Economic conditions and regulatory changes caused by the United Kingdom's exit from the European Union could adversely affect our business.

The approval in June 2016 by voters in the United Kingdom (U.K.) to exit from the European Union (E.U.), referred to as Brexit, and the continuing negotiations relating to Brexit in 2019, has caused, and may from time to time cause:

- volatility in the global stock markets;
- currency exchange rate fluctuations;
- effects on cross border trade and labor; and
- political and regulatory uncertainty in the U.K. and across Europe generally.

The global economic uncertainty that may occur at various periods throughout the lengthy withdrawal process may cause our customers to closely monitor their costs and reduce their spending budgets. All of these events, should they

occur, could adversely affect our business, financial condition, operating results, and cash flows. Our revenues to customers in the U.K. represented approximately 3% of total revenues in 2018.

Our debt may adversely affect our cash flow and may restrict our investment opportunities.

We have borrowed amounts under our five-year, unsecured multi-currency revolving credit facility (Credit Agreement) and under other agreements to fund our operations and our acquisition strategy. As a result of the acquisitions of our forest products business in 2017 and the SMH acquisition completed in January 2019, we increased our U.S. and foreign-denominated borrowings under the Credit Agreement. While we increased our borrowing capacity under the Credit Agreement in December 2018 in connection with the SMH acquisition, our remaining borrowing capacity is limited. Our borrowing capacity under the Credit Agreement may further decrease as a result of the impact that foreign exchange rate fluctuations could have on our foreign-denominated borrowings.

In 2018, under the Credit Agreement, we increased our borrowing capacity from $300.0 million to $400.0 million and increased our uncommitted unsecured incremental borrowing facility from $100.0 million to $150.0 million. In addition, we borrowed $21.0 million, pursuant to a promissory note secured by real estate and related personal property of certain of our domestic subsidiaries (Real Estate Loan). In 2018, we also issued $10.0 million in senior notes under our Multi-Currency Note Purchase and Private Shelf Agreement with PGIM, Inc., an affiliate of Prudential (Note Purchase Agreement). We may also in the future obtain additional long-term debt and working capital lines of credit to meet future financing needs, which would have the effect of increasing our total leverage. Our indebtedness could have negative consequences, including:

- increasing our vulnerability to adverse economic and industry conditions;
- limiting our ability to obtain additional financing;
- limiting our ability to pay dividends on or to repurchase our capital stock;
- limiting our ability to complete a merger or an acquisition or acquire new products and technologies through acquisitions or licensing agreements; and
- limiting our flexibility in planning for, or reacting to, changes in our business and the industries in which we compete.

Our existing indebtedness bears interest at fixed and floating rates, and as a result, our interest payment obligations on our indebtedness will fluctuate if interest rates increase or decrease. From time to time, we hedge a portion of our variable rate interest payment obligations through interest rate swap agreements. The counterparty to the swap agreements could demand an early termination of the swap agreements if we were to be in default under the Credit Agreement, or any agreement that amends or replaces the Credit Agreement in which the counterparty is a member, and we were unable to cure the default. If our swap agreements were to be terminated prior to the applicable scheduled maturity date and if we were required to pay cash for the value of the swap, we could incur a loss, which could adversely affect our financial results.

In addition, the 2017 Tax Act places certain limitations on the deductibility of interest expense as a percentage of adjusted taxable income. If interest rates or the level of our debt increase, to the extent that the associated interest expense exceeds the limitation established by the 2017 Tax Act, the amount of interest expense that we would not be able to deduct for income tax purposes, if significant, could adversely affect our financial results and cash flows.

Our ability to satisfy our obligations and to reduce our total debt depends on our future operating performance and on economic, financial, competitive, and other factors beyond our control. Our business may not generate sufficient cash flows to meet these obligations or to successfully execute our business strategy. If we were unable to service our debt and fund our business, we could be forced to reduce or delay capital expenditures or research and development expenditures, seek additional financing or equity capital, restructure or refinance our debt, curtail or eliminate our cash dividend to stockholders, or sell assets.

Restrictions in our Credit Agreement and Note Purchase Agreement may limit our activities.

Our Credit Agreement and the Note Purchase Agreement contain, and future debt instruments to which we may become subject may contain, restrictive covenants that limit our ability to engage in activities that could otherwise benefit us, including restrictions on our ability (including the ability of our subsidiaries) to:

- incur additional indebtedness;

- pay dividends on, redeem, or repurchase our capital stock;
- make investments;
- create liens;
- sell assets;
- enter into transactions with affiliates; and
- consolidate, merge, or transfer all or substantially all of our assets and the assets of our subsidiaries.

We are also required to meet specified financial covenants under the terms of our Credit Agreement and the Note Purchase Agreement. Our ability to comply with these financial restrictions and covenants is dependent on our future

performance, which is subject to prevailing economic conditions and other factors, including factors that are beyond our control such as currency exchange rates, interest rates, changes in technology, and changes in the level of competition. Our failure to comply with any of these restrictions or covenants may result in an event of default under our Credit Agreement, the Note Purchase Agreement, our swap agreements with notional amounts of $10.0 million and $15.0 million, entered into in 2015 and 2018, respectively, and other loan and note obligations, which could permit acceleration of the debt under those instruments and require us to repay the debt before its scheduled due date. If an event of default were to occur, we might not have sufficient funds available to make the payments required under our indebtedness. In addition, our inability to borrow funds under our Credit Agreement would have significant consequences for our business, including reducing funds available for acquisitions and other investments in our business; and impacting our ability to pay dividends and meet other financial obligations.

Furthermore, our Credit Agreement requires that any amounts borrowed under the facility be repaid by the maturity date in 2023. If we are unable to roll over the amounts borrowed into a new credit facility and we do not have sufficient cash to repay our borrowings, we may default under the Credit Agreement. We may need to repatriate cash from our overseas operations, which may not be possible, to fund the repayment and we would be required to pay taxes on the repatriated amounts. Such repatriation would have an adverse effect on our effective tax rate and cash flows.

Our future success is substantially dependent on the continued service of our senior management and other key employees and effective succession planning.

Our future success is substantially dependent on the continued service of our senior management and other key employees. The loss of the services or retirement of our senior management or other key employees could make it more difficult to successfully operate our business and achieve our business goals. We also may be unable to attract qualified personnel or retain existing management, product development, sales, operational and other support personnel that are critical to our success, which could result in harm to key customer relationships, loss of key information, expertise, or know-how, and unanticipated recruitment and training costs. In addition, effective succession planning is also a key factor for our future success. On February 13, 2019 our board of directors adopted the Succession Plan, pursuant to which Jeffrey L. Powell was appointed to succeed Jonathan W. Painter as president effective April 1, 2019 and as chief executive officer effective July 1, 2019. Mr. Painter, our current president and chief executive officer, will become executive chairman of the board of directors effective July 1, 2019. Our failure to enable the effective transfer of knowledge and facilitate smooth transitions with regard to key management employees, including in connection with the Succession Plan, could adversely affect our long-term strategic planning and execution and negatively affect our business, financial condition, operating results, and prospects. If we fail to enable the effective transfer of knowledge and facilitate smooth transitions for key personnel, the operating results and future growth for our business could be adversely affected, and the morale and productivity of the workforce could be disrupted.

Our inability to protect our intellectual property or defend ourselves against the intellectual property claims of others could have a material adverse effect on our business. In addition, litigation to enforce our intellectual property and contractual rights or defend ourselves could result in significant litigation or licensing expense.

We seek patent and trade secret protection for significant new technologies, products, and processes because of the length of time and expense associated with bringing new products through the development process and into the marketplace. We own numerous U.S. and foreign patents and we intend to file additional applications, as appropriate, for patents covering our products. Patents may not be issued for any pending or future patent applications owned by or licensed to us, and the claims allowed under any issued patents may not be sufficiently broad to protect our technology. Any issued patents owned by or licensed to us may be challenged, invalidated, or circumvented, and the rights under these patents may not provide us with competitive advantages. In addition, competitors may design around our technology, copy our technology or develop competing technologies. Intellectual property rights may also be unavailable or limited in some foreign countries, which could make it easier for competitors to capture increased

market share. In addition, as our patents expire, we rely on trade secrets and proprietary know-how to protect our products. We cannot be sure the steps we have taken, or will take in the future, will be adequate to deter misappropriation of our proprietary information and intellectual property. Of particular concern are developing countries, such as China, where the laws, courts, and administrative agencies may not protect our intellectual property rights as fully as in the United States or Europe.

We seek to protect trade secrets and proprietary know-how, in part, through confidentiality and non-competition agreements with our collaborators, employees, and consultants. These agreements may be breached, we may not have adequate remedies for any breach, and our trade secrets may otherwise become known or be independently developed by our competitors, or our competitors may otherwise gain access to our intellectual property.

We could incur substantial costs to defend ourselves in suits brought against us, including for alleged infringement of third-party rights, or in suits in which we may assert our intellectual property or contractual rights against others. An unfavorable outcome of any such litigation could have a material adverse effect on our business and results of operations.

Our newly-acquired subsidiary, SMH, holds several U.S. and foreign patents, including foreign counterparts to its U.S. patents, and licenses the trademarked brand name of one of its significant products, Link-Belt®, from a third party. If the third-

party were to terminate that license agreement, we would lose the right to use the Link-Belt® trademark in the marketplace and cease to benefit from any of its associated goodwill.

Our share price fluctuates and experiences price and volume volatility.

Stock markets in general and our common stock in particular experience significant price and volume volatility from time to time. The market price and trading volume of our common stock may continue to be subject to significant fluctuations due not only to general stock market conditions but also to a change in sentiment in the market regarding our operations, business prospects, or future funding. Given the nature of the markets in which we participate and the volatility of orders, we may not be able to reliably predict future revenues and profitability, and unexpected changes may cause us to adjust our operations. A large proportion of our costs are fixed, due in part to our significant selling, research and development, and manufacturing costs. Thus, small declines in revenues could disproportionately affect our operating results. Other factors that could affect our share price and quarterly operating results include:

- changes in the assumptions used for revenue recognized over time;
- fluctuations in revenues due to customer-initiated delays in product shipments;
- failure of a customer to comply with an order's contractual obligations or inability of a customer to provide financial assurances of performance;
- adverse changes in demand for and market acceptance of our products;
- failure of our products to pass contractually agreed upon acceptance tests, which could delay or prohibit recognition of revenues under applicable accounting guidelines;
- competitive pressures resulting in lower sales prices for our products;
- adverse changes in the process industries we serve;
- delays or problems in our introduction of new products;
- delays or problems in the manufacture of our products;
- our competitors' announcements of new products, services, or technological innovations;
- contractual liabilities incurred by us related to guarantees of our product performance;
- increased costs of raw materials or supplies, including the cost of energy;
- changes in the timing of product orders;
- changes in the estimates and assumptions that affect the reported amounts of assets, liabilities, revenues, or expenses;
- the impact of acquisition accounting, including the treatment of acquisition and restructuring costs as period costs;
- fluctuations in our outstanding indebtedness and associated interest expense;
- fluctuations in our effective tax rate;
- the operating and share price performance of companies that investors consider to be comparable to us; and
- changes in global financial markets and global economies and general market conditions.

Adverse changes to the soundness of financial institutions could affect us.

We have relationships with many financial institutions, including lenders under our credit facilities and insurance underwriters, and from time to time we execute transactions with counterparties in the financial industry, such as our interest rate swap arrangements and other hedging transactions. In addition, our subsidiaries in China often hold banker's acceptance drafts that are received from customers in the normal course of business. These drafts may be discounted or used to pay vendors prior to the scheduled maturity date or submitted to an acceptance bank for payment at the scheduled maturity date. These financial institutions or counterparties could be adversely affected by volatile conditions in the financial markets, economic downturns, and difficult economic conditions. These conditions could result in financial instability, bankruptcy, or other adverse effects at these financial institutions or counterparties. We may not be able to access credit facilities in the future, complete transactions as intended, or otherwise obtain the benefit of the arrangements we have entered into with such financial parties, which could adversely affect our business and results of operations.

We are subject to risks and costs associated with environmental laws and regulations.

The manufacturing of our products requires the use of hazardous materials that are subject to a broad array of environmental health and safety laws and regulations. Our failure to manage the use, transportation, emissions, discharge, storage, recycling, or disposal of hazardous materials could lead to increased costs or regulatory penalties, fines and legal liability. Our ability to expand, modify or operate our manufacturing facilities in the future may be impeded by environmental regulations, such as air quality and wastewater requirements. The Chinese government has pledged to tackle the country's hazardous smog, and authorities try to clear the skies ahead of high profile events, which prompt authorities to impose strict pollution control measures. Regulators have in the past and may in the future temporarily restrict our manufacturing in a particular geographic location as a result of pollution levels in China. Environmental laws and regulations could also require us to acquire pollution abatement or remediation equipment, modify product designs, or incur other expenses. Climate change regulation could result in increased manufacturing costs associated with air pollution control requirements, and increased or new monitoring, recordkeeping, and reporting of greenhouse gas emissions. We also see the potential for higher energy costs driven by climate change regulations. These risks could harm our business and results of operations.

Climate change may adversely impact our business.

Climate change may pose environmental risks that could harm our results of operations and affect the way we conduct business. Many of our operations are located in regions that may become increasingly vulnerable due to climate change, which may cause extreme weather conditions such as more intense hurricanes, thunderstorms, tornadoes and snow or ice storms, winds, and rainfall, as well as rising sea levels and increased volatility in seasonal temperatures. Extreme weather conditions or weather-driven natural disasters could impact our ability to maintain our operations in those areas and could affect demand for our products by our customers that are affected by weather and weather-driven events, including seasonal changes in outdoor working conditions and rainfall levels. These risks could harm our business and results of operations.

Environmental, health and mine safety laws and regulations impacting the mining industry may adversely affect demand for products manufactured by our subsidiary, SMH.

Our new subsidiary, SMH, supplies equipment to mining companies operating in major mining regions throughout the world. SMH’s customers’ operations are subject to or affected by a wide array of regulations in the jurisdictions where they operate, including those directly impacting mining activities and those indirectly affecting their businesses, such as applicable environmental and mine safety laws. New environmental and health legislation or administrative regulations relating to mining or affecting demand for mined materials or more stringent interpretations of existing laws and regulations, may require SMH’s customers to significantly change or curtail their operations. The mining industry has also encountered increased scrutiny as it relates to safety regulations, primarily due to high-profile mining accidents. New legislation or regulations relating to mine safety standards may induce customers to discontinue or limit their mining operations and may discourage companies from developing new mines or maintaining existing mines, which in turn could diminish demand for our products and services.

The high cost of compliance with such regulations and standards may discourage SMH’s customers from expanding existing mines or developing new mines and may also cause customers to limit or even discontinue their mining operations. As a result of these factors, demand for SMH’s mining equipment could be adversely affected by environmental and health regulations directly or indirectly impacting the mining industry. Any reduction in demand for SMH’s products as a result of environmental, health or mine safety regulations could have an adverse effect on SMH’s overall business, financial condition or results of operations.

Our insurance coverage may be inadequate or expensive.

We are subject to claims in the ordinary course of business. It is not always possible to prevent or detect activities giving rise to claims, and the precautions we take may not be effective in all cases. We maintain insurance policies that provide limited coverage for some, but not all, potential risks and liabilities associated with our business. We may not obtain insurance if we believe the cost of available insurance is excessive relative to the risks presented. As a

result of market conditions, premiums and deductibles for certain insurance policies can increase substantially, and in some instances, certain insurance may become unavailable or available only for reduced amounts of coverage. As a result, we may not be able to renew our existing insurance policies or procure other desirable insurance on commercially reasonable terms, if at all. In addition, certain risks generally are not fully insurable. Even where insurance coverage applies, insurers may contest their obligations to make payments. Our financial condition, results of operations and cash flows could be materially and adversely affected by losses and liabilities from uninsured or under-insured events, as well as by delays in the payment of insurance proceeds, or the failure by insurers to make payments.

Anti-takeover provisions in our charter documents and under Delaware law could prevent or delay transactions that our shareholders may favor.

Provisions of our charter and bylaws may discourage, delay, or prevent a merger or acquisition that our shareholders may consider favorable, including transactions in which shareholders might otherwise receive a premium for their shares. For example, these provisions:

- authorize the issuance of "blank check" preferred stock without any need for action by shareholders;
- provide for a classified board of directors with staggered three-year terms;
- require supermajority shareholder voting to effect various amendments to our charter and bylaws;
- eliminate the ability of our shareholders to call special meetings of shareholders;
- prohibit shareholder action by written consent; and
- establish advance notice requirements for nominations for election to our board of directors or for proposing matters that can be acted on by shareholders at shareholder meetings.

Our board of directors could adopt a shareholder rights plan in the future that could have anti-takeover effects and might discourage, delay, or prevent a merger or acquisition that our board of directors does not believe is in our best interests and those of our shareholders, including transactions in which shareholders might otherwise receive a premium for their shares.

We have not independently verified the results of third-party research or confirmed assumptions or judgments on which they may be based, and the forecasted and other forward-looking information contained therein is subject to inherent uncertainties.

We refer in this report and other documents that we file with the SEC to historical, forecasted and other forward-looking information published by sources such as Fastmarkets RISI, Forest Economic Advisors, the U.S. Census Bureau, and various market news agencies that we believe to be reliable. However, we have not independently verified this information, and with respect to the forecasted and forward-looking information, have not independently confirmed the assumptions and judgments upon which such information is based. Forecasted and other forward-looking information is necessarily based on assumptions regarding future occurrences, events, conditions and circumstances and subjective judgments relating to various matters, and is subject to inherent uncertainties. Actual results may differ materially from the results expressed or implied by, or based upon, such forecasted and forward-looking information.

Item 1B. Unresolved Staff Comments

Not applicable.

Item 2. Properties

We believe that our facilities are in good condition and are suitable and adequate for our present operations. We do not anticipate significant difficulty in obtaining lease renewals or alternative space as needed.

The location and general character of our principal properties as of year-end 2018 are as follows:

Papermaking Systems Segment

We own approximately 1,944,000 square feet and lease approximately 448,000 square feet, under leases expiring on various dates ranging from 2019 to 2028, of manufacturing, engineering, and office space. In addition, in China, we lease the land associated with our buildings under long-term leases, which expire on dates ranging from 2049 to 2061. Our principal engineering and manufacturing facilities are located in Vitry-le-Francois, France; Jining, China; Valinhos, Brazil; Three Rivers, Michigan, United States; Lebanon, Ohio, United States; Anderson, South Carolina, United States; Georgsmarienhutte, Germany; Auburn, Massachusetts, United States; Weesp, The Netherlands; Alfreton, England; Wuxi, China; Guadalajara, Mexico; Bury, England and Huskvarna, Sweden.

Wood Processing Systems Segment

We own approximately 225,000 square feet and lease approximately 101,000 square feet, under leases expiring on various dates ranging from 2019 to 2023, of manufacturing, engineering, and office space. In addition, in Sidney, British Columbia, Canada, we lease the land associated with our building under a long-term lease, which expires in 2032. Our principal engineering and manufacturing facilities are located in Sidney, British Columbia, Canada; Lohja, Finland; Surrey, British Columbia, Canada; and Pell City, Alabama, United States.

Fiber-based Products

We own approximately 31,000 square feet of manufacturing and office space located in Green Bay, Wisconsin, United States. We also lease approximately 58,000 square feet of manufacturing space located in Green Bay, Wisconsin, United States on a tenant-at-will basis.

Corporate

We lease approximately 15,000 square feet in Westford, Massachusetts, United States, for our corporate headquarters under a lease expiring in 2023.

SMH

Subsequent to year-end 2018 as a result of our acquisition of SMH, we acquired leased properties of approximately 394,000 square feet, under leases expiring on various dates ranging from 2019 to 2034. SMH's principal manufacturing and office space are located in Saltillo, Mississippi, United States and Changshu, China.

Item 3. Legal Proceedings

Not applicable.

Item 4. Mine Safety Disclosures

Not applicable.

PART II

Item 5. Market for Registrant's Common Equity, Related Stockholder Matters, and Issuer Purchases of Equity Securities

Market Price of Common Stock

Our common stock trades on the New York Stock Exchange under the symbol "KAI". The closing market price on the New York Stock Exchange for our common stock on February 15, 2019 was $88.66 per share.

Holders of Common Stock

As of February 15, 2019, we had approximately 2,502 holders of record of our common stock. This does not include holdings in street or nominee name.

Issuer Purchases of Equity Securities

We did not repurchase any shares of our common stock during the fourth quarter of 2018.

Performance Graph

This performance graph compares the cumulative, five-year total shareholder return assuming an investment of $100 (and the reinvestment of dividends) in our common stock, the Russell 3000 Stock Index, and the Dow Jones U.S. Industrial Machinery TSM Index. Our common stock trades on the New York Stock Exchange under the ticker symbol "KAI." Because our fiscal year ends on a Saturday, the graph values are calculated using the last trading day prior to the end of our fiscal year.

	12/28/2013	1/3/2015	1/2/2016	12/31/2016	12/30/2017	12/29/2018
Kadant Inc.	100.00	105.51	102.59	157.10	260.69	212.56
Russell 3000	100.00	112.56	113.10	127.50	154.44	146.34
Dow Jones U.S. Industrial Machinery TSM	100.00	98.83	86.39	117.18	155.49	131.14

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Item 6. Selected Financial Data

The following selected financial data should be read in conjunction with "Management's Discussion and Analysis of Financial Condition and Results of Operations," our consolidated financial statements and related notes, and other financial data included elsewhere in this Annual Report on Form 10-K. The consolidated statements of income data for the fiscal years 2018, 2017 and 2016 and the consolidated balance sheet data at fiscal year-end 2018 and 2017 are derived from our audited consolidated financial statements appearing elsewhere in this Annual Report on Form 10-K. The consolidated statements of income data for fiscal years 2015 and 2014 and the consolidated balance sheet data at fiscal year-end 2016, 2015 and 2014 are derived from our audited consolidated financial statements that are not included in this Annual Report on Form 10-K.

(In thousands, except per share amounts)	December 29, 2018	December 30, 2017	December 31, 2016	January 2, 2016	January 3, 2015
Statement of Income Data (a)					
Revenues (b)	$633,786	$ 515,033	$ 414,126	$390,107	$402,127
Operating Income (c)	88,598	61,625	46,642	50,119	42,086
Amounts Attributable to Kadant:					
Income from Continuing Operations (d)	60,413	31,092	32,074	34,315	28,682
Income (Loss) from Discontinued Operation	—	—	3	74	(23)
Net Income (d)	$60,413	$ 31,092	$ 32,077	$34,389	$28,659
Earnings per Share for Continuing Operations:					
Basic	$5.45	$ 2.83	$ 2.95	$3.16	$2.61
Diluted	$5.30	$ 2.75	$ 2.88	$3.09	$2.56
Earnings per Share:					
Basic	$5.45	$ 2.83	$ 2.95	$3.16	$2.61
Diluted	$5.30	$ 2.75	$ 2.88	$3.10	$2.56
Cash Dividends Declared per Common Share	$0.88	$ 0.84	$ 0.76	$0.68	$0.60
Balance Sheet Data					
Working Capital (e)	$123,772	$ 133,793	$ 118,437	$108,492	$96,504
Total Assets	725,749	761,094	470,691	415,498	413,747
Long-Term Obligations (f)	174,153	241,384	65,768	26,000	25,250
Stockholders' Equity	374,571	332,504	284,279	267,945	265,459

(a) Fiscal years 2018, 2017, 2016 and 2015 each contained 52 weeks and fiscal year 2014 contained 53 weeks.

(b) Includes incremental revenues of $64.6 million in 2018, $69.4 million in 2017, and $40.8 million in 2016 primarily from our acquisitions of the forest products business of NII FPG Company (NII FPG) and Unaflex, LLC (Unaflex) in 2017, and PAALGROUP (PAAL) in 2016.

(c) Fiscal years 2017 and 2016 have been restated to conform to the current period presentation as a result of the adoption of Accounting Standards Update (ASU) No. 2017-07. Fiscal years 2015 and 2014 were not restated as the amounts were not material.

(d) Includes a discrete tax benefit of $3.3 million in 2018 primarily related to the reversal of tax reserves associated with uncertain tax positions and the 2017 Tax Act, including amounts associated with the repatriation of foreign earnings. The discrete tax expense of $10.3 million in 2017 primarily related to the 2017 Tax Act.

(e) Includes net current deferred tax assets of $9.5 million in 2014. We adopted ASU No. 2015-07 for year-end 2015, which required that deferred tax assets and liabilities be classified as non-current. Prior periods were not restated as the amounts were not material.

(f) Includes additional borrowings related to the acquisitions of NII FPG and Unaflex in 2017 and PAAL in 2016.

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

The following discussion of our financial condition and results of operations should be read together with the financial statements and the related notes set forth in Item 8. "Financial Statements and Supplementary Data." The following discussion also contains forward-looking statements that involve a number of risks and uncertainties. See Part I, "Forward-Looking Statements" for a discussion of the forward-looking statements contained below and Part I, Item 1A. "Risk Factors" for a discussion of certain risks that could cause our actual results to differ materially from the results anticipated in such forward-looking statements.

Overview

Company Overview

We are a leading global supplier of equipment and critical components used in process industries worldwide. In addition, we manufacture granules made from papermaking by-products. We have a diverse and large customer base, including most of the world's major paper, lumber and oriented strand board (OSB) manufacturers, and our products, technologies, and services play an integral role in enhancing process efficiency, optimizing energy utilization, and maximizing productivity in resource-intensive industries.

Our operations are comprised of two reportable operating segments, Papermaking Systems and Wood Processing Systems, and a separate product line, Fiber-based Products. Through our Papermaking Systems segment, we develop, manufacture, and market a range of equipment and products for the global papermaking, paper recycling, recycling and waste management, and other process industries. Our principal products include custom-engineered stock-preparation systems and equipment for the preparation of wastepaper for conversion into recycled paper and balers and related equipment used in the processing of recyclable and waste materials; fluid-handling systems and equipment used in industrial piping systems to compensate for movement and to efficiently transfer fluids, power, and data; doctoring systems and equipment and related consumables important to the efficient operation of paper machines and other industrial processes; and filtration and cleaning systems essential for draining, purifying, and recycling process water and cleaning fabrics, belts, and rolls in various process industries.

Through our Wood Processing Systems segment, we develop, manufacture, and market and supply debarkers, stranders, chippers, logging machinery, and related equipment used in the harvesting and production of lumber and OSB. Through this segment, we also provide refurbishment and repair of pulping equipment for the pulp and paper industry.

Through our Fiber-based Products business, we manufacture and sell biodegradable, absorbent granules derived from papermaking by-products for use primarily as carriers for agricultural, home lawn and garden, and professional lawn, turf and ornamental applications, as well as for oil and grease absorption.

Acquisitions

We expect that a significant driver of our growth over the next several years will be the acquisition of technologies and businesses that complement or augment our existing products and services or may involve entry into a new process industry. We continue to actively pursue additional acquisition opportunities. Certain of our recent acquisitions are described below.

2019 Acquisition

On January 2, 2019, we acquired Syntron Material Handling Group, LLC and certain of its affiliates (SMH) pursuant to an equity purchase agreement dated December 9, 2018, for approximately $179 million, subject to certain customary adjustments. SMH is a leading provider of material handling equipment and systems to various process industries, including mining, aggregates, food processing, packaging, and pulp and paper. This acquisition extends our current product portfolio, and we expect it will strengthen SMH's relationships in the pulp and paper markets.

Revenues for SMH were $89.4 million for the twelve months ended October 31, 2018. We are currently evaluating our segment classification of the SMH business.

2017 Acquisitions

On August 14, 2017, we acquired certain assets of Unaflex, LLC (Unaflex) for $31.3 million in cash, subject to a post-closing adjustment. We anticipate paying additional consideration of $0.4 million to the sellers in 2019. Unaflex is a leading manufacturer of expansion joints and related products for process industries. This acquisition complemented our existing Fluid-Handling product line within our Papermaking Systems segment.

On July 5, 2017, we acquired the forest products business of NII FPG Company (NII FPG) pursuant to a Stock and Asset Purchase Agreement dated May 24, 2017, for $170.8 million, net of cash acquired. NII FPG is a global leader in the design and manufacture of equipment used by sawmills, veneer mills, and other manufacturers in the forest products industry. NII FPG also designs and manufactures logging equipment used in harvesting timber from forest plantations. This acquisition extended our presence deeper into the forest products industry and has complemented our existing Wood Processing Systems segment.

2016 Acquisition

On April 4, 2016, we acquired all the outstanding shares of RT Holding GmbH, the parent corporation of a group of companies known as the PAALGROUP (PAAL), for approximately 49.7 million euros, net of cash acquired, or approximately $56.6 million. We paid additional consideration of $0.2 million to the sellers in 2017. PAAL, which has operations in Germany, the United Kingdom, France and Spain, manufactures balers and related equipment used in the processing of recyclable and waste materials. This acquisition, which is included in our Papermaking Systems segment's Stock-Preparation product line, broadened our product portfolio and extended our presence deeper into recycling and waste management.

International Sales

Approximately 63% in 2018 and 65% in 2017 of our sales were to customers outside the United States, mainly in Europe, Asia and Canada. We generally seek to charge our customers in the same currency in which our operating costs are incurred. However, our financial performance and competitive position can be affected by currency exchange rate fluctuations affecting the relationship between the U.S. dollar and foreign currencies. We seek to reduce our exposure to currency fluctuations through the use of forward currency exchange contracts. We may enter into forward contracts to hedge certain firm purchase and sale commitments denominated in currencies other than our subsidiaries' functional currencies. We currently do not use derivative instruments to hedge our exposure to exchange rate fluctuations created by the translation into the U.S. dollar of our foreign subsidiaries' results that are in functional currencies other than the U.S. dollar.

Application of Critical Accounting Policies and Estimates

Management's discussion and analysis of financial condition and results of operations is based upon our consolidated financial statements, which have been prepared in accordance with accounting principles generally accepted in the United States (GAAP). The preparation of these consolidated financial statements requires us to make estimates and assumptions that affect the reported amounts of assets and liabilities, disclosure of contingent assets and liabilities at the date of our consolidated financial statements, and the reported amounts of revenues and expenses during the reporting period. Our actual results may differ from these estimates under different assumptions or conditions.
Critical accounting policies are defined as those that entail significant judgments and uncertainties, and could potentially result in materially different results under different assumptions and conditions. We believe that our most critical accounting policies upon which our financial position depends, and which involve the most complex or subjective decisions or assessments, are those described below. For a discussion on the application of these and other accounting policies, see Note 1 to the consolidated financial statements.

Revenue Recognition. We recognize revenue in accordance with Accounting Standards Codification (ASC) Topic 606,
Revenue from Contracts with Customers, as performance obligations are satisfied. In 2018, 91% of our revenue was recognized at a point in time for each performance obligation under the contract when the customer obtained control of the goods or service. The majority of our parts and consumables products and capital products with minimal customization are accounted for at a point in time. The remaining 9% of our revenue in 2018 was recognized on an over time basis based on an input method that compares the costs incurred to date to the total expected costs required to satisfy the performance obligation. Contracts are accounted for on an over time basis when they include products which have no alternative use and an enforceable right to payment over time. The majority of the contracts recognized on an over time basis are for large capital projects within our Stock-Preparation product line and, to a lesser extent, our Fluid-Handling and Doctoring, Cleaning, & Filtration product lines. These projects are highly customized for the customer and, as a result, would include a significant cost to rework in the event of cancellation.

The transaction price is typically based on the amount billed to the customer and includes estimated variable consideration where applicable. Such variable consideration relates to certain performance guarantees and rights to

return the product. We estimate variable consideration as the most likely amount to which we expect to be entitled based on the terms of the contracts with customers and historical experience, where relevant. For contracts with multiple performance obligations, the transaction price is allocated to each performance obligation based on the relative stand-alone selling price.

Our contracts covering the sale of our products include warranty provisions that provide assurance to our customers that the products will comply with agreed-upon specifications. We negotiate the terms regarding warranty coverage and length of warranty depending on the products and applications.

Income Taxes. The 2017 Tax Act was signed into law on December 22, 2017 and its provisions are generally effective for tax years beginning January 1, 2018. The most significant impacts of the 2017 Tax Act to us include a decrease in the federal corporate income tax rate from 35% to 21% and a one-time mandatory transition tax on deemed repatriation of previously tax-deferred and unremitted foreign earnings. On December 22, 2017, the SEC staff issued SAB 118 to provide guidance on accounting for the 2017 Tax Act’s impact. In accordance with SAB 118, we recorded a provisional net income tax expense of $7.5 million, including the impact of state taxes, in the fourth quarter of 2017, which consisted of a provisional amount of the one-time mandatory transition tax of $10.3 million, offset in part by a provisional net tax benefit of $2.8 million for the remeasurement of our deferred income tax assets and liabilities at the 21% federal corporate income tax rate. During

2018, we completed our accounting for the 2017 Tax Act under the SAB 118 guidance and recorded a net reduction of $0.1 million to the 2017 provisional amount related to the one-time mandatory transition tax.

While the 2017 Tax Act provides for a territorial tax system, beginning in 2018, it includes two new U.S. tax base erosion provisions, GILTI and BEAT. We have elected to account for the GILTI tax in the period in which it is incurred and, therefore, have not provided the deferred income tax impact of GILTI in our consolidated financial statements. In addition, we do not expect to be subject to the minimum tax pursuant to the BEAT provisions.

We operate in numerous countries under many legal forms and, as a result, are subject to the jurisdiction of numerous domestic and non-U.S. tax authorities, as well as to tax agreements and treaties among these governments. Determination of taxable income in any jurisdiction requires the interpretation of the related tax laws and regulations and the use of estimates and assumptions regarding significant future events, such as the amount, timing and character of deductions, permissible revenue recognition methods under the tax law and the sources and character of income and available tax credits. Changes in tax laws, regulations, agreements and treaties, currency-exchange restrictions or our level of operations or profitability in each taxing jurisdiction could have an impact upon the amount of current and deferred tax balances and our results of operations.

We estimate the degree to which our deferred tax assets on deductible temporary differences and tax loss or credit carryforwards will result in an income tax benefit based on the expected profitability by tax jurisdiction, and we provide a valuation allowance for these deferred tax assets if it is more likely than not that they will not be realized in the future. If it were to become more likely than not that these deferred tax assets would be realized, we would reverse the related valuation allowance. Our tax valuation allowance was $9.9 million at year-end 2018. Should our actual future taxable income by tax jurisdiction vary from our estimates, additional valuation allowances or reversals thereof may be necessary. When assessing the need for a valuation allowance in a tax jurisdiction, we evaluate the weight of all available evidence to determine whether it is more likely than not that some portion or all of the deferred income tax assets will not be realized. As part of this evaluation, we consider our cumulative three-year history of earnings before income taxes, taxable income in prior carryback years, future reversals of existing taxable temporary differences, prudent and feasible tax planning strategies, and expected future results of operations. At year-end 2018, we continued to maintain a valuation allowance in the United States against certain of our state operating loss carryforwards due to the uncertainty of future profitability in these state jurisdictions in the United States. At year-end 2018, we maintained valuation allowances in certain foreign jurisdictions because of the uncertainty of future profitability. In the ordinary course of business there is inherent uncertainty in quantifying our income tax positions. It is our policy to provide for uncertain tax positions and the related interest and penalties based upon our assessment of whether a tax benefit is more likely than not to be sustained upon examination by tax authorities. At year-end 2018, we believe that we have appropriately accounted for any liability for unrecognized tax benefits. To the extent we prevail in matters for which a liability for an unrecognized tax benefit is established or are required to pay amounts in excess of the liability, our effective tax rate in a given financial statement period may be affected.

We intend to repatriate the distributable reserves of select foreign subsidiaries back to the United States, and during 2018, we recorded $0.8 million of net tax expense associated with these foreign earnings that we plan to repatriate in 2019. Except for these select foreign subsidiaries, we intend to reinvest indefinitely the earnings of our international subsidiaries in order to support the current and future capital needs of their operations, including the repayment of our foreign debt.

Valuation of Goodwill and Intangible Assets. We evaluate the recoverability of goodwill and indefinite-lived intangible assets as of the end of each fiscal year, or more frequently if events or changes in circumstances, such as a significant decline in sales, earnings, or cash flows, or material adverse changes in the business climate, indicate that the carrying value of an asset might be impaired.

At year-end 2018, we performed a quantitative impairment analysis (Step 1) on our goodwill and indefinite-lived intangible assets and determined that the assets were not impaired.

Intangible assets subject to amortization are evaluated for impairment if events or changes in circumstances indicate that the carrying value of an asset might be impaired. No indicators of impairment were identified in 2018.

We use assumptions and estimates in determining the fair value of assets acquired and liabilities assumed in a business combination. The determination of the fair value of intangible assets, which represent a significant portion of the purchase price in many of our acquisitions, requires the use of significant judgment regarding the fair value; and whether such intangibles are amortizable or non-amortizable and, if amortizable, the period and the method by which the intangible asset will be amortized. We estimate the fair value of acquisition-related intangible assets principally based on projections of cash flows that will arise from identifiable intangible assets of acquired businesses. The projected cash flows are discounted to determine the present value of the assets at the date of acquisition. Our judgments and assumptions regarding the determination of the fair value of an intangible asset or goodwill associated with an acquired business could change as future events impact such fair values. A prolonged economic downturn, weakness in demand for our products, especially capital equipment products, or contraction in capital spending by customers, including paper companies, lumber mills, sawmills or OSB manufacturers in our key markets could negatively affect the revenue and profitability assumptions used in our assessment of goodwill and intangible assets, which could result in impairment charges. Any future impairment loss could have a material adverse effect on our long-term assets and operating expenses in the period in which an impairment is determined to exist.

Inventories. We value our inventory at the lower of the actual cost (on a first-in, first-out; or weighted average basis) or net realizable value and include materials, labor, and manufacturing overhead. We regularly review inventory quantities on

hand and compare these amounts to historical and forecasted usage of and demand for each particular product or product line. We record a charge to cost of revenues for excess and obsolete inventory to reduce the carrying value of the inventories to net realizable value. Inventory write-downs have historically been within our expectations and the provisions established. A significant decrease in demand for our products could result in an increase in the amount of excess inventory quantities on hand, resulting in a charge for the write-down of that inventory in that period. In addition, our estimates of future product usage or demand may prove to be inaccurate, resulting in an understated or overstated provision for excess and obsolete inventory. Therefore, although we make every effort to ensure the accuracy of our forecasts of future product usage and demand, any significant unanticipated changes in demand or technological developments could have a significant impact on the value of our inventory and our reported operating results.

Pension and Other Post-Retirement Benefits. Through year-end 2018, we sponsored a noncontributory defined benefit retirement plan for eligible employees at one of our U.S. divisions and our corporate office (Retirement Plan). Our unfunded benefit obligation related to the Retirement Plan was $1.0 million, the unrecognized actuarial loss was $3.2 million, and the fair value of plan assets was $28.7 million at year-end 2018. In addition, we also maintained a restoration plan for certain executive officers (Restoration Plan), which fully supplemented benefits lost under the Retirement Plan as a consequence of applicable Internal Revenue Service limits and restored benefits for the limitation of years of service under the Retirement Plan. The unfunded benefit obligation related to the Restoration Plan was $2.4 million at year-end 2018. In October 2018, our board of directors and its compensation committee approved amendments to freeze and terminate the Retirement Plan and the Restoration Plan effective as of year-end 2018. As a result, we incurred a curtailment loss in the fourth quarter of 2018 of $1.4 million in connection with such terminations. Procedures for plan settlement will be initiated once the plan termination satisfies certain regulatory requirements, which is expected to occur in late 2019 or early 2020. At the settlement date, we will recognize a loss based on the difference between the unrecognized actuarial loss, unfunded benefit obligation, and any additional cash required to be paid. We expect to settle the unfunded benefit obligation under the Restoration Plan in 2020.

Several of our U.S. and non-U.S. subsidiaries also sponsor defined benefit pension and other post-retirement benefit plans with an aggregate unfunded benefit obligation of $4.2 million and a fair value of plan assets of $0.8 million at year-end 2018. The cost and obligations of these arrangements are calculated using many assumptions to estimate the benefits that the employee earns while working, the amount of which cannot be completely determined until the benefit payments cease. Assumptions are determined based on Company data and appropriate market indicators in consultation with third-party actuaries, and are evaluated each year as of the plans' measurement dates. Should any of these assumptions change, they would have an effect on net periodic benefit costs and the unfunded benefit obligation.

Industry and Business Outlook

Our products are primarily sold in global process industries and used to produce packaging, OSB, lumber, and tissue, among other products. For 2018, major markets for our products were as follows:

Packaging

Approximately 37% of our revenue was from the sale of products that support packaging grades. Consumption of packaging, which is primarily comprised of containerboard and boxboard, is driven by many factors, including regional economic conditions, consumer spending on non-durable goods, usage levels of e-commerce, demand for food and beverage packaging, and greater urbanization in developing regions. The growth of e-commerce is expected to continue to increase demand for packaging grades used to make boxes. Since we have extended our expertise in fluid handling to the corrugating market in which boxes are produced, this business is starting to experience growth in this market. For balers and related equipment, demand is generally driven by rising standards of living and population growth, shortage and costs of landfilling, increasing recycling rates, and environmental regulation.

Wood Processing

Approximately 24% of our revenue was from sales to manufacturers in the wood processing industries, including lumber mills, engineered wood panel producers, and sawmills, that use debarkers, stranders, and related equipment to prepare logs to be converted into OSB or lumber, and use harvesting equipment to cut, gather, and remove timber from forest plantations. Demand for OSB and lumber is primarily tied to new home construction and home remodeling in all markets we serve. In addition, OSB is used in industrial applications such as crates, bed liners for shipping containers, and furniture. The majority of OSB and lumber demand is in North America, as houses built in North America are more often constructed of wood compared to those in other parts of the world.

Tissue and Other Paper

Approximately 12% of our revenue was from the sale of products that support tissue and other paper grades. Consumption of tissue is fairly stable and in the developed world tends to grow with the population. For both packaging and tissue, growth rates in the developing world are expected to increase as per capita consumption of paper products increases with rising standards of living.

Printing, Writing and Newsprint

Approximately 11% of our revenue was related to products used to produce printing and writing paper grades as well as newsprint, the demand for which has been negatively affected by the development and increased use of digital media. We expect the decline in the use of printing and writing and newsprint paper grades to continue due to the use of digital media.

Other

Our remaining revenue was from sales to other process industries, which tend to grow in line with the overall economy. These industries include metals, food and beverage, chemical, petrochemical, and energy, among others.

Bookings

Our bookings increased 29% to $670 million in 2018 compared with $521 million in 2017. Bookings in the 2018 period included a $78 million, or 15%, increase resulting from our acquisitions and a $6 million, or 1%, increase from the favorable effect of foreign currency translation. Excluding the impact of the acquisitions and the favorable effect of foreign currency translation, our bookings in 2018 increased 12% compared with 2017, primarily due to strong demand for our products in North America and China. Bookings for our capital equipment tend to be variable and are dependent on regional economic conditions and the level of capital spending by our customers, among other factors. By comparison, demand for our parts and consumables products tends to be more predictable. We believe our large installed base provides us with a relatively stable parts and consumables business that yields higher margins than our capital equipment business. Bookings for our parts and consumables products increased to $379 million in 2018, or 56% of total bookings, compared with $314 million, or 60% of total bookings, in 2017.

Bookings by geographic region are as follows:

North America

The largest and most impactful regional market for our products in 2018 was North America, and we expect this to continue in 2019. Our bookings in North America increased 39% to $325 million in 2018 compared with $234 million in 2017, including bookings of $56 million from our acquisitions and an unfavorable foreign currency translation effect of $1 million. Healthy demand for containerboard supported the relatively large amount of capacity that came online in 2018. Demand for corrugated packaging and carton board led to U.S. packaging mills operating at a 97% average rate in 2018. With packaging making up the largest portion of our revenue, in 2018 we benefited from strong demand, driven in part by e-commerce shipments and the healthy financial position of our customers. According to a Fastmarkets RISI PPI Pulp & Paper Week report, U.S. box makers report stable demand going into 2019 as linerboard prices are holding while export levels are beginning to fall. The strength of the U.S. housing market has led to continued bookings growth in our Wood Processing product line in 2018 compared with the 2017 period. We expect to see long-term strength in this market as long as home ownership among millennials continues to increase, along with higher employment and limited inventory for new housing. Notwithstanding the strength of this market in 2018, U.S. housing starts are now under some pressure, with affordability being noted by industry analysts as a major factor.

Europe

European packaging producers are operating in a favorable environment with low fiber costs and stable demand and prices. While the European economy continued to show strength, some areas, such as Germany and Italy, were weaker while others, such as Eastern Europe and Russia, were stronger. Our bookings in Europe increased 21% to $185 million in 2018 compared with $153 million in 2017, including a $16 million increase from our acquisitions and a favorable foreign currency translation effect of $5 million.

Asia

Our bookings in Asia increased 15% to $107 million in 2018 compared with $93 million in 2017, including bookings from our acquisitions of $1 million and a favorable foreign currency translation effect of $3 million. While the trade issues between China and the United States are ongoing, uncertainty in future demand for packaging in the region, as well as fiber shortages due to waste paper import restrictions have impacted new capacity additions. Furthermore, the capacity buildout in Southeast Asia experienced during 2018 has recently slowed, as there is uncertainty regarding the willingness of these countries to accept the imported waste paper for processing. Although project activity in China's paper industry has slowed, there continues to be strong interest in OSB projects in China. OSB is a relatively new product in China, and due to its cost advantages, it is well-positioned to displace plywood used in furniture, crates, and sub-flooring. We are currently seeing healthy project activity for new OSB capacity, which may offset some of the weakness in demand from linerboard manufacturers.

Rest of World
Our bookings in the rest of the world increased 30% to $53 million in 2018 compared with $41 million in 2017, including bookings from our acquisitions of $6 million and an unfavorable foreign currency translation effect of $2 million, primarily due to a large stock-preparation order from a customer in Argentina. Geopolitical conditions in South America, particularly in Brazil, continue to create economic issues, leading to uncertainty and a constrained capital investment environment.

Guidance Issued on February 13, 2019
We expect to achieve full-year diluted earnings per share (EPS) of $4.75 to $4.90 on revenue of $700 million to $710 million in 2019. The 2019 guidance includes pre-tax acquisition costs of $0.9 million, or $0.07 per diluted share, pre-tax amortization expense associated with acquired profit in inventory of $4.1 million, or $0.29 per diluted share, and pre-tax amortization expense associated with acquired backlog of $1.2 million, or $0.09 per diluted share. The 2019 guidance includes a negative effect from foreign currency translation, which lowers revenue expectations by $16 million and diluted EPS by $0.21.
For the first quarter of 2019, we expect to achieve diluted EPS of $0.77 to $0.83 on revenue of $160 million to $165 million. The first quarter of 2019 guidance includes pre-tax acquisition costs of $0.9 million, or $0.07 per diluted share, pre-tax amortization expense associated with acquired profit in inventory of $2.8 million, or $0.20 per diluted share, and pre-tax amortization expense associated with acquired backlog of $1.0 million, or $0.07 per diluted share.

Results of Operations

2018 Compared to 2017

Revenues
The following table presents changes in revenues by segment and product line between 2018 and 2017, and the changes in revenues by segment and product line between 2018 and 2017 excluding the effect of currency translation and acquisitions. Currency translation is calculated by converting 2018 revenues in local currency into U.S. dollars at 2017 exchange rates and then comparing this result to actual revenues in 2018. The presentation of the changes in revenues excluding the effect of currency translation and acquisitions is a non-GAAP measure. We believe this non-GAAP measure helps investors gain an understanding of our underlying operations consistent with how management measures and forecasts its performance, especially when comparing such results to prior periods. This non-GAAP measure should not be considered superior to or a substitute for the corresponding GAAP measures.

(In thousands)	December 29, 2018	December 30, 2017	Increase	Currency Translation	Acquisitions	(Non-GAAP) Adjusted Increase
Stock-Preparation	$ 221,933	$ 193,838	$28,095	$ 4,207	$ —	$ 23,888
Fluid-Handling	131,830	104,136	27,694	638	12,247	14,809
Doctoring, Cleaning, & Filtration	116,136	109,631	6,505	(99)	—	6,604
Papermaking Systems	469,899	407,605	62,294	4,746	12,247	45,301
Wood Processing Systems	151,366	95,053	56,313	(2,130)	52,310	6,133
Fiber-based Products	12,521	12,375	146	—	—	146
	$ 633,786	$ 515,033	$118,753	$ 2,616	$ 64,557	$ 51,580

Papermaking Systems Segment
Revenues from our Papermaking Systems segment increased $62.3 million, or 15%, to $469.9 million in 2018 from $407.6 million in 2017, including $12.2 million from the inclusion of revenue from acquisitions and a $4.7 million

increase from the favorable effect of foreign currency translation. Excluding acquisitions and the favorable effect of foreign currency translation, revenues increased $45.3 million, or 11%, as explained in the product line discussions below.

Revenues from our Stock-Preparation product line in 2018 increased $28.1 million, or 14%, compared to 2017, including $4.2 million from the favorable effect of foreign currency translation. Excluding the favorable effect of foreign currency translation, revenues increased $23.9 million, or 12%, compared to 2017, primarily due to increased demand for our capital equipment at our Chinese and North American operations.

Revenues from our Fluid-Handling product line in 2018 increased $27.7 million, or 27%, compared to 2017, due to the inclusion of $12.2 million in revenues from acquisitions, principally Unaflex, and a $0.6 million increase from the favorable effect of foreign currency translation. Excluding acquisitions and the favorable effect of foreign currency translation, revenues increased $14.8 million, or 14%, primarily due to increased demand for our capital equipment at our North American

operations, and to a lesser extent, a full third quarter of revenues in 2018 related to our acquisition of Unaflex, and increased demand for our parts and consumables products.
Revenues from our Doctoring, Cleaning, & Filtration product line in 2018 increased $6.5 million, or 6%, compared to 2017, including a $0.1 million decrease from the unfavorable effect of foreign currency translation, primarily due to increased worldwide demand for our parts and consumables products, and to a lesser extent, increased demand for our capital equipment at our Chinese operation.

Wood Processing Systems Segment

Revenues from our Wood Processing Systems segment increased $56.3 million to $151.4 million in 2018 from $95.1 million in 2017, principally due to the inclusion of $52.3 million in revenues from an acquisition, offset in part by a $2.1 million unfavorable effect of foreign currency translation. Excluding the acquisition and the unfavorable effect of foreign currency translation, revenues increased $6.1 million, or 6%, primarily due to increased overall demand at our North American operations, including growth in sales to our Chinese OSB customers.

Fiber-based Products

Revenues from our Fiber-based Products business were essentially flat at $12.5 million in 2018 as compared with $12.4 million in 2017.

Gross Profit Margin

Gross profit margins for 2018 and 2017 were as follows:

	December 29, 2018		December 30, 2017	
Papermaking Systems	44.9	%	46.7	%
Wood Processing Systems	40.3	%	36.3	%
Fiber-based Products	50.8	%	51.2	%
	43.9	%	44.9	%

Papermaking Systems Segment

The gross profit margin in our Papermaking Systems segment decreased to 44.9% in 2018 from 46.7% in 2017. This decrease was primarily due to a decrease in the proportion of higher-margin parts and consumables revenues, and to a lesser extent, the inclusion for a full year of businesses acquired in 2017.

Wood Processing Systems Segment

The gross profit margin in our Wood Processing Systems segment increased to 40.3% in 2018 from 36.3% in 2017 primarily due to the amortization in 2017 of $5.0 million of acquired profit in inventory related to the acquisition of our forest products business, offset in part by the inclusion of a full year of lower gross profit margins in 2018 from our timber harvesting product line acquired in 2017 as part of the forest products business.

Fiber-based Products

The gross profit margin in our Fiber-based Products business was relatively flat at 50.8% in 2018 as compared with 51.2% in 2017.

Selling, General and Administrative Expenses

Selling, general and administrative (SG&A) expenses for 2018 and 2017 were as follows:

(In thousands)	December 29, 2018	December 30, 2017	Increase
Papermaking Systems	$ 117,680	$ 109,402	$ 8,278

Wood Processing Systems	27,534	23,093	4,441
Corporate and Other	32,200	27,261	4,939
	$ 177,414	$ 159,756	$17,658

SG&A expenses as a percentage of revenues decreased to 28% in 2018 from 31% in 2017 due to the inclusion of $5.2 million of incremental acquisition-related costs in the 2017 period, as well as improved operating leverage as a result of our

2017 acquisitions, which have a relatively lower percentage of SG&A expenses as a percentage of revenues compared with our existing product lines. The additional revenue from the 2017 acquisitions also helped to leverage our corporate SG&A expense. SG&A expenses increased $17.7 million, or 11%, to $177.4 million in 2018 from $159.8 million in 2017 primarily due to the inclusion of $14.1 million of incremental SG&A expenses from our acquisitions and a $1.2 million unfavorable effect from foreign currency translation.

Papermaking Systems Segment
SG&A expenses increased $8.3 million to $117.7 million in 2018 from $109.4 million in 2017 primarily due to the inclusion of $4.6 million of incremental SG&A expenses in 2018 from 2017 acquisitions and a $1.6 million unfavorable effect from foreign currency translation. Also contributing to the increase in 2018 were incremental SG&A expenses of $0.9 million related to facility consolidation costs.

Wood Processing Systems Segment
SG&A expenses increased $4.4 million to $27.5 million in 2018 from $23.1 million in 2017 primarily due to the inclusion of $10.4 million of incremental SG&A expenses in 2018 from a 2017 acquisition, offset in part by $6.0 million of incremental acquisition-related costs in 2017 and a $0.4 million favorable effect from foreign currency translation.

Corporate and Other
SG&A expenses increased $4.9 million to $32.2 million in 2018 from $27.3 million in 2017 primarily due to increased compensation expense and $1.3 million of acquisition costs related to the acquisition of SMH completed in 2019.

Research and Development Expenses
Research and development expenses, which represented 2% of revenues in both periods, increased $1.0 million to $10.6 million in 2018 from $9.6 million in 2017 largely due to the inclusion of research and development expenses from acquisitions.

Restructuring Costs and Other Income
Restructuring costs in 2018 of $1.7 million related to the integration of our U.S. and Swedish papermaking stock-preparation product lines in our Papermaking Systems segment into a newly-constructed manufacturing facility in the United States to achieve economies of scale and greater efficiencies, including $1.3 million of costs for the relocation of machinery and equipment and administrative offices and $0.4 million primarily associated with employee retention costs and abandonment of excess facility and other closure costs. Restructuring costs in 2017 of $0.2 million were associated with severance costs for the reduction of employees in the United States and Sweden related to the restructuring described above.

Interest Expense
Interest expense increased $3.5 million to $7.0 million in 2018 from $3.5 million in 2017 primarily due to interest expense on additional borrowings for acquisitions completed in the second half of 2017, and to a lesser extent, higher interest rates in 2018 compared with 2017. We expect interest expense to increase significantly in 2019 as a result of the $180.0 million borrowed in early January 2019 to fund our SMH acquisition.

Other Expense, Net
Other expense, net consists of the expense related to the non-service component of our pensions and other post-retirement plans. The 2018 period includes a curtailment loss of $1.4 million related to the freeze and termination

of our Retirement and Restoration plans. The termination of the Retirement and Restoration Plans is expected to result in a reduction in average annual net periodic benefit costs of approximately $1.6 million once the plan settlements are complete.

Provision for Income Taxes

Our provision for income taxes was $18.5 million in 2018 and $26.1 million in 2017, and represented 23% and 45% of pre-tax income, respectively. The effective tax rate of 23% in 2018 was higher than our statutory rate of 21% primarily due to the distribution of our worldwide earnings and tax expense associated with the GILTI provisions of the 2017 Tax Act (see Note 5, Income Taxes, to the consolidated financial statements included in this Annual Report on Form 10-K). This incremental tax expense was offset in part by a decrease in tax related to the reversal of tax reserves associated with uncertain tax positions and the net excess income tax benefits from stock-based compensation arrangements. The effective tax rate of 45% in 2017 was higher than our statutory rate of 35% primarily due to tax expense associated with the enactment of the 2017 Tax Act, foreign income and withholding taxes on foreign earnings not permanently reinvested, and tax expenses associated with unrecognized

tax benefits and non-deductible expenses. This incremental tax expense was offset in part by tax benefits resulting from the distribution of our worldwide earnings.

Net Income

Net income increased $29.4 million, or 93%, to $61.0 million in 2018 from $31.6 million in 2017 due to an increase of $27.0 million in operating income and a decrease in provision for income taxes of $7.6 million, offset in part by an increase in interest expense of $3.5 million and a non-operating curtailment loss of $1.4 million (see discussions above for further details).

Recent Accounting Pronouncements

See Note 1, under the heading "Recent Accounting Pronouncements," to our consolidated financial statements included in this Annual Report on Form 10-K for more information on recently implemented and issued accounting standards.

2017 Compared to 2016

Revenues

The following table presents changes in revenues by segment and product line between 2017 and 2016, and the changes in revenues by segment and product line between 2017 and 2016 excluding the effect of currency translation and acquisitions. Currency translation is calculated by converting 2017 revenues in local currency into U.S. dollars at 2016 exchange rates and then comparing this result to actual revenues in 2017. The presentation of the changes in revenues excluding the effect of currency translation and acquisitions is a non-GAAP measure. We believe this non-GAAP measure helps investors gain an understanding of our underlying operations consistent with how management measures and forecasts its performance, especially when comparing such results to prior periods. This non-GAAP measure should not be considered superior to or a substitute for the corresponding GAAP measures.

(In thousands)	December 30, 2017	December 31, 2016	Increase	Currency Translation	Acquisitions	(Non-GAAP) Adjusted Increase
Stock-Preparation	$193,838	$171,378	$22,460	$ 1,829	$ 13,311	$ 7,320
Doctoring, Cleaning, & Filtration	109,631	105,938	3,693	20	—	3,673
Fluid-Handling	104,136	89,145	14,991	1,044	7,731	6,216
Papermaking Systems	407,605	366,461	41,144	2,893	21,042	17,209
Wood Processing Systems	95,053	36,850	58,203	954	48,363	8,886
Fiber-based Products	12,375	10,815	1,560	—	—	1,560
	$515,033	$414,126	$100,907	$ 3,847	$ 69,405	$ 27,655

Papermaking Systems Segment

Revenues from our Papermaking Systems segment increased $41.1 million, or 11%, to $407.6 million in 2017 from $366.5 million in 2016, including $21.0 million from the inclusion of revenue from acquisitions and a $2.9 million increase from the favorable effect of foreign currency translation. Excluding acquisitions and the favorable effect of foreign currency translation, revenues increased $17.2 million, or 5%, as explained in the product line discussions below.

Revenues from our Stock-Preparation product line in 2017 increased $22.5 million, or 13%, compared to 2016, due to the inclusion of $13.3 million of revenues in the first quarter of 2017 from an acquisition, and $1.8 million from the favorable effect of foreign currency translation. Excluding the incremental revenues from the acquisition and the favorable effect of foreign currency translation, revenues increased $7.3 million, or 4%, compared to 2016, primarily due to increased demand for our products at our Chinese operations, offset in part by decreased demand for our

products at our North American operations.
Revenues from our Doctoring, Cleaning, & Filtration product line in 2017 increased $3.7 million, or 3%, compared to 2016 primarily due to increased demand for our parts and consumables products.
Revenues from our Fluid-Handling product line in 2017 increased $15.0 million, or 17%, compared to 2016, due to the inclusion of $7.7 million in revenues from acquisitions, principally Unaflex, and a $1.0 million increase from the favorable effect of foreign currency translation. Excluding acquisitions and the favorable effect of foreign currency translation, revenues increased $6.2 million, or 7%, largely due to increased demand for our parts and consumables products primarily at our North American and European operations, and to a lesser extent, increased demand for our capital equipment at our European operations.

Wood Processing Systems Segment
Revenues from our Wood Processing Systems segment increased $58.2 million to $95.1 million in 2017 from $36.9 million in 2016, principally due to the inclusion of $48.4 million in revenues from an acquisition, and $1.0 million from the favorable effect of foreign currency translation. Excluding the acquisition and the favorable effect of foreign currency translation, revenues increased $8.9 million, or 24%, primarily related to increased demand for our products due to continued strength in the U.S. housing industry.
Fiber-based Products
Revenues from our Fiber-based Products business increased $1.6 million, or 14%, to $12.4 million in 2017 from $10.8 million in 2016, primarily due to increased demand for our biodegradable granular products.

Gross Profit Margin
Gross profit margins for 2017 and 2016 were as follows:

	December 30, 2017		December 31, 2016	
Papermaking Systems	46.7	%	45.9	%
Wood Processing Systems	36.3	%	41.0	%
Fiber-based Products	51.2	%	46.4	%
	44.9	%	45.5	%

Papermaking Systems Segment
The gross profit margin in our Papermaking Systems segment increased to 46.7% in 2017 from 45.9% in 2016. This increase was due to higher margins on our parts and consumables products.

Wood Processing Systems Segment
The gross profit margin in our Wood Processing Systems segment decreased to 36.3% in 2017 from 41.0% in 2016 due to the amortization of $5.0 million of acquired profit in inventory related to an acquisition, which lowered gross profit margin by over 520 basis points.

Fiber-based Products
The gross profit margin in our Fiber-based Products business increased to 51.2% in 2017 from 46.4% in 2016 due to the combined effects of increased revenues in 2017 and increased manufacturing efficiency related to higher production volumes.

Selling, General and Administrative Expenses
SG&A expenses for 2017 and 2016 were as follows:

(In thousands)	December 30, 2017	December 31, 2016	Increase
Papermaking Systems	$109,402	$103,984	$5,418
Wood Processing Systems	23,093	6,265	16,828
Corporate and Other	27,261	24,585	2,676
	$159,756	$134,834	$24,922

SG&A expenses as a percentage of revenues decreased to 31% in 2017 from 33% in 2016 due to improved operating leverage as a result of our 2017 acquisitions. SG&A expenses increased $24.9 million, or 18%, to $159.8 million in

2017 from $134.8 million in 2016 primarily due to the inclusion of $16.9 million in SG&A expenses from our acquisitions and $3.5 million of incremental acquisition transaction costs.

Papermaking Systems Segment
SG&A expenses increased $5.4 million to $109.4 million in 2017 from $104.0 million in 2016 primarily due to $5.2 million of incremental SG&A expenses from acquisitions.

Wood Processing Systems Segment
SG&A expenses increased $16.8 million to $23.1 million in 2017 from $6.3 million in 2016 primarily due to $11.7 million from the inclusion of SG&A expenses from an acquisition and $4.8 million of acquisition transaction costs.

Corporate and Other
SG&A expenses increased $2.7 million to $27.3 million in 2017 from $24.6 million in 2016 primarily due to an increase of $2.6 million in incentive compensation expense resulting from improved operating results.

Research and Development Expenses
Research and development expenses, which represented 2% of revenues in both periods, increased $2.2 million to $9.6 million in 2017 from $7.4 million in 2016 largely due to the inclusion of research and development expenditures in businesses acquired during 2017.

Restructuring Costs and Other Income
Restructuring costs in 2017 of $0.2 million were associated with severance costs for the reduction of employees in the United States and Sweden. In 2017, we constructed a 160,000 square foot manufacturing facility in the United States, and in 2018, integrated our U.S. and Swedish stock-preparation product lines in our Papermaking Systems segment into that facility.
Other income in 2016 included a pre-tax gain of $0.3 million related to the sale of real estate in Sweden for cash proceeds of $0.4 million.

Interest Expense
Interest expense increased $2.2 million to $3.5 million in 2017 from $1.3 million in 2016 primarily due to interest expense on additional borrowings for acquisitions completed in the second half of 2017.

Other Expense, Net
Other expense, net consists of the expense related to the non-service component of our pensions and other post-retirement benefit plans.

Provision for Income Taxes
Our provision for income taxes was $26.1 million in 2017 and $12.1 million in 2016, and represented 45% and 27% of pre-tax income. The effective tax rate of 45% in 2017 was higher than our statutory rate of 35% primarily due to tax expense associated with the enactment of the 2017 Tax Act, foreign income and withholding taxes on foreign earnings not permanently reinvested, and tax expenses associated with unrecognized tax benefits and non-deductible expenses. This incremental tax expense was offset in part by tax benefits resulting from the distribution of our worldwide earnings. The effective tax rate of 27% in 2016 was lower than our statutory tax rate of 35% primarily due to the distribution of our worldwide earnings and a favorable adjustment for the net excess income tax benefits from stock-based compensation arrangements, offset in part by tax expense associated with an increase in nondeductible expenses.

Net Income
Net income decreased $0.9 million, or 3%, to $31.6 million in 2017 compared to $32.5 million in 2016 primarily due to increases of $14.0 million in our provision for income taxes and $2.3 million in our interest expense that were mostly offset by a $15.0 million increase in our operating income (see discussions above for further details).

Liquidity and Capital Resources

Consolidated working capital was $123.8 million at year-end 2018 and $133.8 million at year-end 2017. Included in working capital were cash and cash equivalents of $45.8 million at year-end 2018 and $75.4 million at year-end 2017. At year-end 2018, $45.5 million of cash and cash equivalents was held by our foreign subsidiaries.

Cash Flows

2018

Our operating activities provided cash of $63.0 million in 2018 primarily due to cash generated by our operating subsidiaries from product sales, which is largely represented within operating cash flows in net income, excluding non-cash charges for depreciation and amortization and stock-based compensation. Aside from cash generated from items which

impacted net income, operating cash flows were also impacted by changes in working capital due to the timing of cash receipts and payments. Our strong bookings performance in the first half of 2018 resulted in a large number of capital projects either in progress or completed and shipped in the second half of the year, which led to a net cash outflow of $13.6 million related to increases in accounts receivable and inventory, as well as an $11.4 million increase in unbilled revenues that will be collected in 2019. We had a decrease of $11.9 million in other current liabilities primarily from a decrease in accrued income taxes as a result of tax payments, and to a lesser extent, a decrease in customer deposits.

Our investing activities used cash of $16.4 million in 2018 primarily related to purchases of property, plant, and equipment, including $6.4 million to complete the construction of a manufacturing facility in the United States.

Our financing activities used cash of $74.2 million in 2018. We used cash of $109.6 million for principal payments on our outstanding debt obligations, $9.6 million for cash dividends paid to stockholders, and $3.9 million for tax withholding payments related to stock-based compensation. These uses of cash were partially offset by proceeds received from borrowings of $21.0 million under our Real Estate Loan, $19.1 million under our Credit Agreement, and $10.0 million from the issuance of our senior notes issued pursuant to the Note Purchase Agreement.

2017

Our operating activities provided cash of $65.2 million in 2017 primarily due to cash generated by our operating subsidiaries from product sales, which is largely represented within operating cash flows in net income, excluding non-cash charges for depreciation and amortization and stock-based compensation. Aside from cash generated from items which impacted net income, operating cash flows were also impacted by changes in working capital due to the timing of cash receipts and payments. We had an increase in accounts receivable of $10.9 million in 2017 due to increased project activity. We also had an increase in other current liabilities of $16.1 million largely related to cash received from customer deposits and advanced billings.

Our investing activities used cash of $221.9 million in 2017 primarily related to $204.7 million for acquisitions, net of cash acquired, and $17.3 million for purchases of property, plant, and equipment.

Our financing activities provided cash of $150.5 million in 2017. We borrowed $232.0 million under our Credit Agreement, including $70.7 million of Canadian dollar-denominated and $61.8 million of euro-denominated borrowings. These borrowings were partially offset by $67.7 million of principal payments on our outstanding debt obligations, $9.0 million of cash dividends paid to stockholders, and $2.2 million of tax withholding payments related to stock-based compensation.

2016

Our operating activities provided cash of $51.0 million in 2016 primarily due to cash generated by our operating subsidiaries from product sales, which is largely represented within operating cash flows in net income, excluding non-cash charges for depreciation and amortization and stock-based compensation. Aside from cash generated from items which impacted net income, operating cash flows were also impacted by changes in working capital due to the timing of cash receipts and payments. We had a $5.2 million decrease in accounts payable primarily due to reduced project activity in our Stock-Preparation product line and a $4.1 million decrease in other current liabilities primarily related to decreases in accrued income taxes and advanced billings. We had decreases of $4.4 million in unbilled revenues and accounts receivable and $3.6 million in inventory primarily related to reduced project activity in our Stock-Preparation product line in 2016.

Our investing activities used cash of $62.0 million in 2016 that primarily related to $56.6 million for an acquisition, net of cash acquired, and $5.8 million for purchases of property, plant, and equipment.

Our financing activities provided cash of $23.5 million in 2016. We borrowed $51.0 million under our Credit Agreement, and received $2.4 million from employee stock option exercises. These sources of cash were offset in part by $18.4 million of principal payments on our outstanding debt obligations, of which $5.3 million related to the repayment of our then existing commercial real estate loan, $8.0 million of cash dividends paid to stockholders, and

$2.6 million of tax withholding payments related to stock-based compensation. In addition, we paid $1.1 million of contingent consideration related to a prior period acquisition.

Additional Liquidity and Capital Resources

On January 2, 2019, we acquired SMH for approximately $179 million, subject to certain customary adjustments. In connection with the acquisition, we borrowed $180 million under our Credit Agreement.

On May 16, 2018, our board of directors authorized the repurchase of up to $20 million of our equity securities during the period from May 16, 2018 to May 16, 2019. We have not purchased any shares of our common stock under this authorization or under the previous authorization, which expired on May 17, 2018.

We paid quarterly cash dividends totaling $9.6 million in 2018. In addition, on February 6, 2019, we paid a quarterly cash dividend totaling $2.4 million that was declared on December 4, 2018. Future declarations of dividends are subject to our board of directors' approval and may be adjusted as business needs or market conditions change. The declaration of cash dividends is subject to our compliance with the consolidated leverage ratio contained in our Credit Agreement.

As of year-end 2018, we had cash and cash equivalents of $45.8 million, of which $45.5 million was held by our foreign subsidiaries. As of year-end 2018, we had approximately $283.9 million of total unremitted foreign earnings. It is our intent to indefinitely reinvest $272.8 million of these earnings to support the current and future capital needs of our foreign operations, including debt repayments. In 2018, we recorded $0.8 million of net tax expense on the distributable reserves in certain foreign subsidiaries that we plan to repatriate in the foreseeable future. The foreign withholding taxes that would be required if we were to remit the indefinitely reinvested foreign earnings to the United States would be approximately $4.9 million.

We plan to make expenditures of approximately $12 to $14 million during 2019 for property, plant, and equipment. In the future, our liquidity position will be primarily affected by the level of cash flows from operations, cash paid to satisfy principal and interest payments on our debt obligations, capital projects, dividends, stock repurchases, or acquisitions. We believe that our existing resources, together with the cash available from our credit facilities and the cash we expect to generate from operations, will be sufficient to meet the capital requirements of our current operations for the foreseeable future.

Outstanding Debt Obligations

We have a five-year, unsecured multi-currency revolving credit facility under our Credit Agreement, which provides us with a borrowing capacity of $400 million and an uncommitted unsecured incremental borrowing facility of $150 million. Borrowings under the Credit Agreement are due on December 14, 2023. Interest on borrowings outstanding accrues and is payable quarterly in arrears calculated at interest rates as defined in the Credit Agreement. The weighted average interest rate for the outstanding balance under the Credit Agreement was 3.47% as of year-end 2018.

Our obligations under the Credit Agreement may be accelerated upon the occurrence of an event of default, which includes customary events of defaults under such financing arrangements. In addition, the Credit Agreement contains negative covenants applicable to us and certain of our subsidiaries, including financial covenants requiring us to maintain a maximum consolidated leverage ratio of 3.75 to 1.00, or for the quarter during which a material acquisition occurs and for the three fiscal quarters thereafter, 4.00 to 1.00, and limitations on making certain restricted payments (including dividends and stock repurchases).

At year-end 2018, the outstanding balance under the Credit Agreement was $141.1 million and included $41.6 million of Canadian dollar-denominated borrowings and $19.5 million of euro-denominated borrowings. We had $258.9 million of borrowing capacity available under the Credit Agreement at year-end 2018, which was calculated by translating our foreign-denominated borrowings using borrowing date foreign exchange rates.

In addition, in July 2018, we borrowed $21.0 million under a Real Estate Loan which is repayable in quarterly principal installments of $0.3 million over a ten-year period with the remaining principal balance of $10.5 million due upon maturity. Interest accrues and is payable quarterly in arrears at a fixed rate of 4.45% per annum. We are not permitted to prepay any amount in the first twelve months of the term of the Real Estate Loan. Any voluntary prepayments are subject to a 2% prepayment fee if paid in the second twelve months of the term of the Real Estate Loan, and are subject to a 1% prepayment fee if paid in the third twelve months of the term of the Real Estate Loan. Thereafter, no prepayment fee will be applied to voluntary prepayment by us.

We also entered into an uncommitted, unsecured Note Purchase Agreement. Simultaneous with the execution of the Note Purchase Agreement, we issued senior promissory notes (Initial Notes) in an aggregate principal amount of $10.0 million, with a per annum interest rate of 4.90% payable semiannually, and a maturity date of December 14, 2028. We are required to prepay a portion of the principal of the Initial Notes beginning on December 14, 2023 and each year thereafter, and may optionally prepay the principal on the Initial Notes, together with any prepayment premium, at any time (in a minimum amount of $1.0 million, or the foreign currency equivalent thereof, if applicable) in accordance with the Note Purchase Agreement. The obligations of Initial Notes may be accelerated upon an event of default as defined in the Note Purchase Agreement, which includes customary events of defaults under such

financing arrangements.
In accordance with the Note Purchase Agreement, we may also issue additional senior promissory notes (together with the Initial Notes, the Senior Promissory Notes) up to an additional $115.0 million until the earlier of December 14, 2021 or the thirtieth day after written notice to terminate the issuance and sale of additional notes pursuant to the Note Purchase Agreement. The Senior Promissory Notes will be pari passu with our indebtedness under the Credit Agreement, and any other of our senior debt, subject to certain specified exceptions, and will participate in a sharing agreement with respect to our obligations and those of our subsidiaries under the Credit Agreement. The Senior Promissory Notes are guaranteed by certain of our domestic subsidiaries pursuant to a guaranty agreement.

Sale-Leaseback Financing Arrangement
We have a sale-leaseback financing arrangement for a manufacturing facility in Germany. Under this arrangement, the quarterly lease payment includes principal, interest, and a payment to the landlord toward a secured loan receivable. The lease arrangement includes a net fixed price purchase option of $1.5 million at the end of the lease term in 2022. At year-end 2018, $4.1 million was outstanding under this capital lease obligation with an interest rate of 1.79% on the outstanding obligation.

Interest Rate Swap Agreements

We have two outstanding interest rate swap agreements. Our 2018 Swap Agreement has a $15.0 million notional value and expires on June 30, 2023 and our 2015 Swap Agreement that has a $10.0 million notional value and expires on March 27, 2020. The swap agreements hedge our exposure to movements in the three-month LIBOR rate on U.S. dollar-denominated debt and have been designated as cash flow hedges. On a quarterly basis, we receive a three-month LIBOR rate and pay a fixed rate of interest of 3.15% plus an applicable margin as defined in the Credit Agreement on the 2018 Swap Agreement and 1.50% plus an applicable margin as defined in the Credit Agreement on the 2015 Swap Agreement. The 2018 Swap Agreement is subject to a zero percent floor on the three-month LIBOR rate.

The counterparty to the swap agreements could demand an early termination of these agreements if we were to be in default under the Credit Agreement, or any agreement that amends or replaces the Credit Agreement in which the counterparty is a member, and if we were to be unable to cure the default.

Contractual Obligations and Other Commercial Commitments

The following table summarizes our known contractual obligations and commercial commitments to make future payments or other consideration pursuant to certain contracts at year-end 2018, as well as an estimate of the timing in which these obligations are expected to be satisfied. Detailed information concerning these obligations and commitments can be found in Notes 3, 5, 6 and 7 to our consolidated financial statements included in this Annual Report on Form 10-K.

	Payments Due by Period or Expiration of Commitment				
(In millions)	Less than 1 Year	1-3 Years	3-5 Years	After 5 Years	Total
Contractual Obligations and Other Commitments: (a)					
Letters of credit and bank guarantees	$15.2	$3.0	$0.1	$—	$18.3
Retirement obligations on balance sheet	1.3	3.4	0.9	2.0	7.6
Long-term debt obligations	1.1	2.1	144.9	23.5	171.6
Capital lease obligations (b)	0.5	1.0	1.1	—	2.6
Operating lease obligations	4.5	5.5	2.6	1.7	14.3
Purchase obligations	0.7	0.5	—	—	1.2
Interest (c)	7.8	15.4	14.8	3.8	41.8
Other (d)	0.4	—	0.8	1.9	3.1
Total (e)	$31.5	$30.9	$165.2	$32.9	$260.5

(a) We have purchase obligations related to the acquisition of raw material made in the ordinary course of business that may be terminated with minimal notice and are excluded from this table.
(b) This table excludes a liability of $1.5 million related to a net fixed price purchase option exercisable in 2022.
(c) Amounts assume interest rates remain unchanged from rates at year-end 2018.
(d) Consists of an acquisition purchase-price adjustment and a U.S. transition tax obligation.
(e) This table excludes a liability for unrecognized tax benefits and an accrual for the related interest and penalties totaling $14.5 million. Due to the uncertain nature of these income tax matters, we are unable to make a reasonably reliable estimate as to if and when cash settlements with the appropriate taxing authorities will occur.

Provisions in financial guarantees or commitments, debt or lease agreements, or other arrangements could trigger a requirement for an early payment, additional collateral support, amended terms, or acceleration of maturity.
We do not have special-purpose entities nor do we use off-balance-sheet financing arrangements.

Item 7A. Quantitative and Qualitative Disclosures About Market Risk

We are exposed to market risk from changes in interest rates and foreign currency exchange rates, which could affect our future results of operations and financial condition. We manage our exposure to these risks through our regular operating and financing activities. We entered into the 2018 Swap Agreement and 2015 Swap Agreement to hedge a portion of our exposure to variable rate long-term debt. Additionally, we use short-term forward contracts to manage certain exposures to foreign currencies. We enter into forward currency-exchange contracts to hedge firm purchase and sale commitments denominated in currencies other than our subsidiaries' local currencies. We do not engage in extensive foreign currency hedging activities; however, the purpose of our foreign currency hedging activities is to protect our local currency cash flows related to these commitments from fluctuations in foreign exchange rates. Our forward currency-exchange contracts hedge transactions primarily denominated in U.S. dollars, Canadian dollars, euros, and Chinese renminbi. Gains and losses arising from forward

contracts are recognized as offsets to gains and losses resulting from the transactions being hedged. We do not hold or engage in transactions involving derivative instruments for purposes other than risk management.

Interest Rates

Our cash and cash equivalents are sensitive to changes in interest rates. Interest rate changes would result in a change in interest income due to the difference between the current interest rates on cash and cash equivalents and the variable rates to which these financial instruments may adjust in the future. A 10% decrease in year-end interest rates would have resulted in an immaterial impact on net income in both 2018 and 2017.

Our borrowings under the Credit Agreement of $141.1 million at year-end 2018 bear a variable rate of interest, which adjusts quarterly. Assuming year-end borrowing levels, a 10% increase in interest rates on our variable-rate debt would have increased our annual pre-tax interest expense by approximately $0.5 million. A portion of our outstanding variable-rate debt at year-end 2018 was hedged with the 2018 Swap Agreement and the 2015 Swap Agreement and at year-end 2017 was hedged with the 2015 Swap Agreement. The fair values of these swap agreements are sensitive to changes in the three-month LIBOR forward curve. A 10% decrease in the three-month LIBOR forward curve would have increased the unrealized loss by $0.2 million at year-end 2018 and would not have had a material impact on the unrealized gains at year-end 2017.

Currency Exchange Rates

We generally view our investment in foreign subsidiaries in a functional currency other than our reporting currency as long-term. Our investment in foreign subsidiaries is sensitive to fluctuations in foreign currency exchange rates. The functional currencies of our foreign subsidiaries are principally denominated in euros, British pounds sterling, Mexican pesos, Canadian dollars, Chinese renminbi, Brazilian reals, and Swedish krona. The effect of changes in foreign exchange rates on our net investment in foreign subsidiaries is reflected in the "accumulated other comprehensive items" component of stockholders' equity. A 10% decrease in functional currencies relative to the U.S. dollar, would have resulted in a reduction in stockholders' equity of $31.5 million at year-end 2018 and $29.4 million at year-end 2017.

At year-end 2018, we had $19.5 million of euro-denominated borrowings and $41.6 million of Canadian dollar-denominated borrowings outstanding. The translation of our foreign-denominated debt impacts our borrowing capacity available under our Credit Agreement, which is calculated in U.S. dollars. A 10% movement in the euro and Canadian dollar rates against the U.S. dollar would have decreased our borrowing capacity by approximately $6.1 million at year-end 2018.

The fair value of forward currency-exchange contracts is sensitive to fluctuations in foreign currency exchange rates. The fair value of forward currency-exchange contracts is the estimated amount that we would pay or receive upon termination of the contracts, taking into account the change in foreign currency exchange rates. A 10% adverse change in year-end 2018 and year-end 2017 foreign currency exchange rates related to our contracts would have resulted in an increase in unrealized losses on forward currency-exchange contracts of $0.7 million in 2018 and $0.3 million in 2017. Since we use forward currency-exchange contracts as hedges of firm purchase and sale commitments, the unrealized gain or loss on forward currency-exchange contracts resulting from changes in foreign currency exchange rates would be offset primarily by corresponding changes in the fair value of the hedged items.

Item 8. Financial Statements and Supplementary Data

This data is submitted as a separate section to this Report and incorporated herein by reference. See Item 15, "Exhibits and Financial Statement Schedules."

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

Not applicable.

Item 9A. Controls and Procedures

Evaluation of Disclosure Controls and Procedures

Our management, under the supervision and with the participation of our Chief Executive Officer and Chief Financial Officer, evaluated the effectiveness of our disclosure controls and procedures at year-end 2018. The term "disclosure controls and procedures," as defined in Securities Exchange Act Rules 13a-15(e) and 15d-15(e), means controls and other procedures of a company that are designed to ensure that information required to be disclosed by the company in the reports that it files or submits under the Exchange Act is recorded, processed, summarized, and reported within the time periods specified in the SEC's rules and forms. Disclosure controls and procedures include, without limitation, controls and procedures designed to ensure that information required to be disclosed by a company in the reports that it files or submits under the Exchange Act is accumulated and communicated to the company's management, including its principal executive and principal financial officers, as appropriate to allow timely decisions regarding required disclosure. Management recognizes that any controls and

procedures, no matter how well designed and operated, can provide only reasonable assurance of achieving their objectives, and management necessarily applies its judgment in evaluating the cost-benefit relationship of possible controls and procedures. Based upon the evaluation of our disclosure controls and procedures at year-end 2018, our Chief Executive Officer and Chief Financial Officer concluded that at year-end 2018, our disclosure controls and procedures were effective at the reasonable assurance level.

Management's Annual Report on Internal Control over Financial Reporting

Our management is responsible for establishing and maintaining adequate internal control over financial reporting, as such term is defined in Securities Exchange Act Rules 13a-15(f) and 15d-15(f). Our management assessed the effectiveness of our internal control over financial reporting at year-end 2018. In making this assessment, our management used the criteria set forth in "Internal Control—Integrated Framework (2013)" issued by the Committee of Sponsoring Organizations of the Treadway Commission (COSO). Based on our assessment, management believes that at year-end 2018 our internal control over financial reporting was effective based on the criteria issued by COSO. Because of inherent limitations, internal control over financial reporting may not prevent or detect misstatements. Projections of any evaluation of effectiveness to future periods are subject to the risk that controls may become inadequate because of changes in conditions, or that the degree of compliance with the policies or procedures may deteriorate.

Our independent registered public accountants, KPMG LLP, have issued an audit report on our internal control over financial reporting, which is included herein on page F-2 and incorporated into this Item 9A by reference.

Changes in Internal Control over Financial Reporting

There have not been any changes in our internal control over financial reporting (as defined in Rules 13a-15(f) and 15d-15(f) under the Securities Exchange Act of 1934, as amended) during the fiscal quarter ended December 29, 2018 that have materially affected, or are reasonably likely to materially affect, our internal control over financial reporting.

Item 9B. Other Information

Not applicable.

PART III

Item 10. Directors, Executive Officers, and Corporate Governance

This information will be included under the heading "Election of Directors" in our 2019 proxy statement for our 2019 Annual Meeting of Shareholders and is incorporated in this Report by reference, except for the information concerning executive officers, which is included under the heading "Executive Officers of the Registrant" in Item 1 of Part I of this Report.

Section 16(a) Beneficial Ownership Reporting Compliance

The information required under Item 405 of Regulation S-K will be included under the heading "Stock Ownership–Section 16(a) Beneficial Ownership Reporting Compliance" in our 2019 proxy statement and is incorporated in this Report by reference.

Corporate Governance

The information required under Items 406 and 407 of Regulation S-K will be included under the heading "Corporate Governance" in our 2019 proxy statement and is incorporated in this Report by reference.

Item 11. Executive Compensation

This information will be included under the headings "Executive Compensation", "Corporate Governance - Compensation Committee Interlocks and Insider Participation", and "Compensation Discussion and Analysis" in our

2019 proxy statement and is incorporated in this Report by reference.

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Item 12. Security Ownership of Certain Beneficial Owners and Management and Related Stockholder Matters
Except for the information concerning equity compensation plans, this information will be included under the heading "Stock Ownership" in our 2019 proxy statement and is incorporated in this Report by reference.

The following table provides information about the securities authorized for issuance under our equity compensation plans at year-end 2018:

Equity Compensation Plan Information

Plan Category	Number of Securities to be Issued upon Exercise of Outstanding Options, Warrants, and Rights		Weighted-Average Exercise Price of Outstanding Options, Warrants, and Rights		Number of Securities Remaining Available for Future Issuance Under Equity Compensation Plans (Excluding Securities Reflected in the First Column)	
Equity compensation plans approved by security holders	455,269	(1)	$ 20.86	(2)	490,010	(3)
Equity compensation plans not approved by security holders	—		$ —		—	
Total	455,269	(1)	$ 20.86	(2)	490,010	(3)

(1) Consists of 299,198 shares of our common stock to be issued upon exercise of outstanding options under our Amended and Restated 2006 Equity Compensation Plan, as amended (the 2006 Plan), and 156,071 shares of our common stock issuable upon the vesting of restricted stock units and performance-based restricted stock units under the 2006 Plan.

(2) Consists of the weighted average exercise price of the 299,198 stock options outstanding on December 29, 2018. The 156,071 shares of restricted stock units and performance-based restricted stock units outstanding on December 29, 2018 had a weighted average grant date fair value of $68.57.

(3) Includes an aggregate of 38,569 shares of common stock issuable under our employees' stock purchase plan in connection with current and future offering periods under the plan.

Item 13. Certain Relationships and Related Transactions, and Director Independence
This information will be included under the heading "Corporate Governance" in our 2019 proxy statement and is incorporated in this Report by reference.

Item 14. Principal Accountant Fees and Services
This information will be included under the heading "Independent Registered Public Accounting Firm" in our 2019 proxy statement and is incorporated in this Report by reference.

PART IV

Item 15. Exhibits and Financial Statement Schedules

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

(1) Consolidated Financial Statements (see Index on Page F-1 of this Report):
Report of Independent Registered Public Accounting Firm
Consolidated Balance Sheet
Consolidated Statement of Income
Consolidated Statement of Comprehensive Income
Consolidated Statement of Cash Flows
Consolidated Statement of Stockholders' Equity
Notes to Consolidated Financial Statements

(2) All schedules are omitted because they are not applicable or not required, or because the required information is shown either in the consolidated financial statements or in the notes thereto.

(3) Exhibits filed herewith or incorporated in this Report by reference are set forth in the Exhibit Index beginning on page 41. This list of exhibits identifies each management contract or compensatory plan or arrangement required to be filed as an exhibit to this Report.

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(b) Exhibits

Exhibit Index

Exhibit Number	Description of Exhibit
2.1	Stock and Asset Purchase Agreement by and among the Registrant, Kadant Northern U.S. LLC, Kadant Canada Corp., Kadant Northern UK Co. Ltd., Kadant Johnson Europe B.V., NII FPG Company, Nicholson Intellectual Property, Inc., Cascade Natural Resources, Inc. and Northern Industrial, Inc. dated as of May 24, 2017 (filed as Exhibit 2.1 to the Registrant's Quarterly Report on Form 10-Q for the quarter ended July 1, 2017 [File No. 001-11406] and incorporated in this document by reference). (1)
2.2	Equity Purchase Agreement by and among the Registrant, LLCP PCS Alternative Syntron, LLC, Syntron Material Handling Group, LLC, PCS Alternative Corp Seller 1, LLC, PCS Alternative Corp Seller 2, LLC, and SMH Equity, LLC and Levine Leichtman Capital Partners Private Capital Solutions, L.P., dated as of December 9, 2018. (1)**
3.1	Restated Certificate of Incorporation of the Registrant (filed as Exhibit 3.1 to the Registrant's Quarterly Report on Form 10-Q for the quarter ended June 30, 2001 [File No. 001-11406] and incorporated in this document by reference).
3.2	Amended and Restated Bylaws of the Registrant effective November 20, 2014 (filed as Exhibit 3.1 to the Registrant's Form 8-K [File No. 001-11406] filed with the Commission on November 25, 2014 and incorporated in this document by reference).
10.1*	Form of Indemnification Agreement between the Registrant and its directors and officers (filed as Exhibit 10.1 to the Registrant's Quarterly Report on Form 10-Q for the quarter ended June 30, 2001 [File No. 001-11406] and incorporated in this document by reference).
10.2*	Form of Amended and Restated Executive Retention Agreement (change in control agreement) between the Company and its named executive officers, as amended and restated on December 9, 2008 (filed as Exhibit 10.3 to the Registrant's Annual Report on Form 10-K for the year ended January 3, 2009 [File No. 001-11406] and incorporated in this document by reference).
10.3*	Form of Executive Retention Agreement (change in control agreement) between the Company and its executive officers for new agreements entered into from and after November 16, 2016 (filed as Exhibit 10.3 to the Registrant's Annual Report on Form 10-K for the year ended December 31, 2016 [File No. 001-11406] and incorporated in this document by reference).
10.4*	Amended and Restated Equity Incentive Plan of the Registrant (filed as Exhibit 10.5 to the Registrant's Annual Report on Form 10-K for the year ended January 3, 2009 [File No. 001-11406] and incorporated in this document by reference).
10.5*	Amended and Restated 2006 Equity Incentive Plan of the Registrant effective as of May 17, 2017 (filed as Exhibit 10.3 to the Registrant's Quarterly Report on Form 10-Q for the quarter ended July 1, 2017 [File No. 011-11406] and incorporated in this document by reference).

10.6*	Cash Incentive Plan of the Registrant (filed as Exhibit 10.2 to the Registrant's Quarterly Report on Form 10-Q for the quarter ended July 1, 2017 [File No. 001-11406] and incorporated in this document by reference).
10.7*	Restoration Plan of the Registrant (filed as Exhibit 10.1 to the Registrant's Quarterly Report on Form 10-Q for the quarter ended April 2, 2011 [File No. 001-11406] and incorporated in this document by reference).
10.8*	Amendments to the Restoration Plan of the Registrant effective as of May 20, 2014 (filed as Exhibit 10.1 to the Registrant's Quarterly Report on Form 10-Q for the quarter ended June 28, 2014 [File No. 001-11406] and incorporated in this document by reference).
10.9*	Amendment to Terminate the Restoration Plan of the Registrant, effective as of December 29, 2018.**
10.10*	Summary of non-employee director compensation of the Registrant (filed as Exhibit 10.3 to the Registrant's Quarterly Report on Form 10-Q for the quarter ended March 31, 2018 [File No. 001-11406] and incorporated in this document by reference).

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Exhibit Index

Exhibit Number	Description of Exhibit
10.11*	Executive Transition Agreement between the Registrant and Sandra L. Lambert dated September 20, 2017 (filed as Exhibit 10.1 to the Registrant's Quarterly Report on Form 10-Q for the quarter ended September 30, 2017 [File No. 011-11406] and incorporated in this document by reference).
10.12*	Notice dated September 20, 2017 of the Termination of the Amended and Restated Executive Retention Agreement dated December 8, 2008 between the Registrant and Sandra L. Lambert (filed as Exhibit 10.2 to the Registrant's Quarterly Report on Form 10-Q for the quarter ended September 30, 2017 [File No. 011-11406] and incorporated in this document by reference).
10.13*	Notice dated September 20, 2017 of the Amendment to Certain Restricted Stock Unit Agreements granted by the Registrant to Sandra L. Lambert (filed as Exhibit 10.3 to the Registrant's Quarterly Report on Form 10-Q for the quarter ended September 30, 2017 [File No. 011-11406] and incorporated in this document by reference).
10.14*	Transition and Executive Chairman Agreement between the Registrant and Jonathan W. Painter dated February 13, 2019 **
10.15*	Form of Performance-Based Restricted Stock Unit Award Agreement between the Company and its executive officers used for restricted stock unit awards on or after March 5, 2014 (filed as Exhibit 10.1 to the Registrant's Quarterly Report on Form 10-Q for the quarter ended March 29, 2014 [File No. 001-11406] and incorporated in this document by reference).
10.16*	Form of Time-Based Restricted Stock Unit Award Agreement between the Company and its executive officers used for restricted stock unit awards on or after March 5, 2014 (filed as Exhibit 10.2 to the Registrant's Quarterly Report on Form 10-Q for the quarter ended March 29, 2014 [File No. 001-11406] and incorporated in this document by reference).
10.17*	Form of Stock Option Agreement between the Company and its executive officers used for stock option awards (filed as Exhibit 10.21 to the Registrant's Annual Report on Form 10-K for the year ended January 2, 2010 [File No. 001-11406] and incorporated in this document by reference).
10.18*	Notice of Amendment to Stock Option Agreements between the Company and its executive officers used for stock option awards (filed as Exhibit 10.2 to the Registrant's Quarterly Report on Form 10-Q for the quarter ended September 28, 2013 [File No. 001-11406] and incorporated in this document by reference).
10.19*	Form of Performance-Based Restricted Stock Unit Award Agreement between the Company and its executive officers used for restricted stock unit awards on or after March 5, 2014 (filed as Exhibit 10.1 to the Registrant's Quarterly Report on Form 10-Q for the quarter ended March 31, 2018 [File No. 011-11406] and incorporated in this document by reference).

10.20*	Form of Time-Based Restricted Stock Unit Award Agreement between the Company and its executive officers used for restricted stock unit awards on or after March 5, 2014 (filed as Exhibit 10.2 to the Registrant's Quarterly Report on Form 10-Q for the quarter ended March 31, 2018 [File No. 011-11406] and incorporated in this document by reference).
10.21*	Form of Directors Restricted Stock Unit Award Agreement between the Company and its non-employee directors used for restricted stock unit awards on or after March 5, 2014 (filed as Exhibit 10.4 to the Registrant's Quarterly Report on Form 10-Q for the quarter ended March 31, 2018 [File No. 011-11406] and incorporated in this document by reference).
10.22	Amended and Restated Credit Agreement dated as of March 1, 2017, among the Registrant, the Foreign Subsidiary Borrowers from time to time parties thereto, the several banks and other financial institutions or entities from time to time parties thereto, Citizens Bank, N.A., as Administrative Agent and Multi-currency Administrative Agent (filed as Exhibit 99.1 to the Registrant's Current Report on Form 8-K [File No. 001-11406] filed with the Commission on March 7, 2017 and incorporated in this document by reference).

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Exhibit Index

Exhibit Number	Description of Exhibit
10.23	First Amendment and Limited Consent, dated as of May 24, 2017, to the Amended and Restated Credit Agreement dated as of March 1, 2017 by and among the Registrant, the Foreign Subsidiary Borrowers from time to time parties thereto, the several banks and other financial institutions or entities from time to time parties thereto, Citizens Bank, N.A., as Administrative Agent and Multi-currency Administrative Agent (filed as Exhibit 10.1 to the Registrant's Quarterly Report on Form 10-Q for the quarter ended

July 1, 2017 [File No. 011-11406] and incorporated in this document by reference).

10.24	Limited Consent, dated as of December 9, 2018, to the Amended and Restated Credit Agreement dated as of March 1, 2017 by and among the Registrant, the Foreign Subsidiary Borrowers from time to time parties thereto, the several banks and other financial institutions or entities from time to time parties thereto, Citizens Bank, N.A., as Administrative Agent and Multi-currency Administrative Agent **
10.25	Second Amendment, dated as of December 14, 2018, to the Amended and Restated Credit Agreement dated as of March 1, 2017 by and among the Registrant,

the Foreign Subsidiary Borrowers from time to time parties thereto, the several banks and other financial institutions or entities from time to time parties thereto, Citizens Bank, N.A., as Administrative Agent and Multi-currency Administrative Agent**

10.26 Amended and Restated Guarantee Agreement dated as of March 1, 2017, among the Registrant, as Borrower, and each of the Subsidiary Guarantors, in favor of Citizens Bank, N.A., as Administrative Agent and as Multicurrency Agent for the bank and other financial institutions or entities from time to time parties to the Amended and Restated Credit Facility (filed as Exhibit 99.2 to the

Registrant's Current Report on Form 8-K [File No. 001-11406] filed with the Commission on March 7, 2017 and incorporated in this document by reference).

10.27 Guarantee Agreement dated as of March 1, 2017, by Kadant Cayman Ltd. in favor of Citizens Bank, N.A., as Administrative Agent and as Multicurrency Agent for the banks and other financial institutions or entities from time to time parties to the Amended and Restated Credit Facility (filed as Exhibit 99.3 to the Registrant's Current Report on Form 8-K [File No. 001-11406] filed with the Commission on March 7, 2017 and incorporated in this document by reference).

10.28

Multi-Currency Note Purchase and Private Shelf Agreement, dated as of December 14, 2018 among the Registrant, PGIM, Inc. and the Purchasers as defined therein. (1)**

10.29 Promissory Note in the principal amount of $21,000,000 dated July 6, 2018, executed by the Registrant, Kadant Johnson LLC, Kadant Black Clawson LLC and Verus Lebanon, LLC in favor of Citizens Bank, N.A (filed as Exhibit 99.1 to the Registrant's Current Report on Form 8-K [File No. 001-11406] filed with the Commission on July 12, 2018 and incorporated in this document by reference).

10.30 Mortgage, Security Agreement and Assignment of Leases and

	Rents dated July 6, 2018 executed by the Registrant in favor of Citizens Bank, N.A. relating to the real property and related personal property located in Auburn, Massachusetts. (filed as Exhibit 99.2 to the Registrant's Current Report on Form 8-K [File No. 001-11406] filed with the Commission on July 12, 2018 and incorporated in this document by reference).
10.31	Mortgage dated July 6, 2018 by Kadant Johnson LLC in favor of Citizens Bank, N.A. relating to the real property and related personal property located in Three Rivers, Michigan (filed as Exhibit 99.3 to the Registrant's Current Report on Form 8-K [File No. 001-11406] filed with the

Commission on July 12, 2018 and incorporated in this document by reference).

10.32 Open-End Mortgage, Security Agreement, and Assignment of Leases and Rents dated July 6, 2018 by Verus Lebanon, LLC in favor of Citizens Bank, N.A. to the real property and related personal property located in Lebanon, Ohio (filed as Exhibit 99.4 to the Registrant's Current Report on Form 8-K [File No. 001-11406] filed with the Commission on July 12, 2018 and incorporated in this document by reference).

10.33 International Swap Dealers Association, Inc. Master Agreement dated May 13, 2005 between the Registrant and Citizens Bank of Massachusetts and Swap

Confirmation dated May 18, 2005 (filed as Exhibit 10.1 to the Registrant's Quarterly Report on Form 10-Q for the quarter ended July 2, 2005 [File No. 001-11406] filed with the Commission on August 11, 2005 and incorporated in this document by reference).

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Exhibit Index

Exhibit Number	Description of Exhibit
10.34	Swap Confirmation dated January 16, 2015 between the Registrant and Citizens Bank, National Association (filed as Exhibit 10.2 to the Registrant's Quarterly Report on Form 10-Q for the quarter ended April 4, 2015 [File No. 001-11406] filed with the Commission on May 13, 2015 and incorporated in this document by reference).
10.35	Swap Confirmation dated May 16, 2018 between the Registrant and Citizens Bank, National Association (filed as Exhibit 10.1 to the Registrant's Quarterly

	Report on Form 10-Q for the quarter ended June 30, 2018 [File No. 001-11406] filed with the Commission on August 8, 2018 and incorporated in this document by reference.)
21	Subsidiaries of the Registrant.
23	Consent of KPMG LLP, Independent Registered Public Accounting Firm.
24	Power of Attorney (included on the signatures page to the Annual Report on Form 10-K).
31.1	Certification of the Principal Executive Officer of the Registrant Pursuant to Rule 13a-14(a) and Rule 15d-14(a) of the Securities Exchange Act of 1934, as amended.
31.2	Certification of the Principal Financial Officer of the Registrant

	Pursuant to Rule 13a-14(a) and Rule 15d-14(a) of the Securities Exchange Act of 1934, as amended.
32	Certification of the Chief Executive Officer and the Chief Financial Officer of the Registrant pursuant to 18 U.S.C. Section 1350, as adopted pursuant to Section 906 of the Sarbanes-Oxley Act of 2002.
101.INS	XBRL Instance Document.**
101.SCH	XBRL Taxonomy Extension Schema Document.**
101.CAL	XBRL Taxonomy Calculation Linkbase Document.**
101.LAB	XBRL Taxonomy Label Linkbase Document.**
101.PRE	XBRL Taxonomy Presentation Linkbase Document.**

101.DEF	XBRL Taxonomy Definition Linkbase Document.**

*	Management contract or compensatory plan or arrangement.
**	Submitted electronically herewith.
(1)	The schedules to this document have been omitted from this filing pursuant to Item 601(b)(2) of Regulation S-K. The Company will furnish copies of any of the schedules to the U.S. Securities and Exchange Commission upon request.

Attached as Exhibit 101 to this report are the following formatted in XBRL (Extensible Business Reporting Language): (i) Consolidated Balance Sheet as of December 29, 2018 and December 30, 2017, (ii) Consolidated Statement of Income for the fiscal years ended December 29, 2018, December 30, 2017 and December 31, 2016, (iii) Consolidated Statement of Comprehensive Income for the fiscal years ended December 29, 2018, December 30, 2017 and December 31, 2016, (iv) Consolidated Statement of Cash Flows for the fiscal years ended December 29, 2018, December 30, 2017 and December 31, 2016, (v) Consolidated Statement of Stockholders' Equity for the fiscal years ended December 29, 2018, December 30, 2017 and December 31, 2016, and (vi) Notes to Consolidated Financial Statements.

Item 16. Form 10-K Summary

Not applicable.

Signatures

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

KADANT INC.

Date: February 26, 2019 By: /s/ Jonathan W. Painter
Jonathan W. Painter
Chief Executive Officer and President

POWER OF ATTORNEY
KNOW ALL PERSONS BY THESE PRESENTS, that each person whose signature appears below constitutes and appoints Jonathan W. Painter, Michael J. McKenney and Deborah S. Selwood, jointly and severally, his or her attorney-in-fact, with the power of substitution, for him or her in any and all capacities, to sign any amendments to this Annual Report on Form 10-K and to file the same, with exhibits thereto and other documents in connection therewith, with the Securities and Exchange Commission, hereby ratifying and confirming all that each of said attorneys-in-fact, or his substitute or substitutes, may do or cause to be done by virtue hereof.
Pursuant to the requirements of the Securities Exchange Act of 1934, as amended, this Report has been signed below by the following persons on behalf of the Registrant and in the capacities indicated, on February 26, 2019.

Signature	Title
By: /s/ Jonathan W. Painter Jonathan W. Painter	Chief Executive Officer, President and Director (Principal Executive Officer)
By: /s/ Michael J. McKenney Michael J. McKenney	Executive Vice President and Chief Financial Officer (Principal Financial Officer)
By: /s/ Deborah S. Selwood Deborah S. Selwood	Vice President and Chief Accounting Officer (Principal Accounting Officer)
By: /s/ William A. Rainville William A. Rainville	Director and Chairman of the Board
By: /s/ John M. Albertine John M. Albertine	Director
By: /s/ Thomas C. Leonard Thomas C. Leonard	Director
By: /s/ Erin L Russell Erin L. Russell	Director
By: /s/ William P. Tully William P. Tully	Director

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Kadant Inc.
Annual Report on Form 10-K
Index to Consolidated Financial Statements and Schedule

The following Consolidated Financial Statements of the Registrant and its subsidiaries are required to be included in Item 8:

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Report of Independent Registered Public Accounting Firm	F-2
Consolidated Balance Sheet as of December 29, 2018 and December 30, 2017	F-4
Consolidated Statement of Income for the fiscal years ended December 29, 2018, December 30, 2017, and December 31, 2016	F-5
Consolidated Statement of Comprehensive Income for the fiscal years ended December 29, 2018, December 30, 2017, and December 31, 2016	F-6
Consolidated Statement of Cash Flows for the fiscal years ended December 29, 2018, December 30, 2017, and December 31, 2016	F-7
Consolidated Statement of Stockholders' Equity for the fiscal years ended December 29, 2018, December 30, 2017, and December 31, 2016	F-8
Notes to Consolidated Financial Statements	F-9

Report of Independent Registered Public Accounting Firm

To the Stockholders and Board of Directors
Kadant Inc.:

Opinions on the Consolidated Financial Statements and Internal Control Over Financial Reporting

We have audited the accompanying consolidated balance sheets of Kadant Inc. and subsidiaries (the Company) as of December 29, 2018 and December 30, 2017, the related consolidated statements of income, comprehensive income, cash flows, and stockholders' equity for each of the fiscal years in the three-year period ended December 29, 2018, and the related notes (collectively, the consolidated financial statements). We also have audited the Company's internal control over financial reporting as of December 29, 2018, based on criteria established in Internal Control - Integrated Framework (2013) issued by the Committee of Sponsoring Organizations of the Treadway Commission.

In our opinion, the consolidated financial statements referred to above present fairly, in all material respects, the financial position of the Company as of December 29, 2018 and December 30, 2017, and the results of its operations and its cash flows for each of the fiscal years in the three-year period ended December 29, 2018, in conformity with U.S. generally accepted accounting principles. Also in our opinion, the Company maintained, in all material respects, effective internal control over financial reporting as of December 29, 2018, based on criteria established in Internal Control - Integrated Framework (2013) issued by the Committee of Sponsoring Organizations of the Treadway Commission.

Basis for Opinions

The Company's management is responsible for these consolidated financial statements, for maintaining effective internal control over financial reporting, and for its assessment of the effectiveness of internal control over financial reporting, included in the accompanying Management's Annual Report on Internal Control over Financial Reporting. Our responsibility is to express an opinion on the Company's consolidated financial statements and an opinion on the Company's internal control over financial reporting based on our audits. We are a public accounting firm registered with the Public Company Accounting Oversight Board (United States) (PCAOB) and are required to be independent with respect to the Company in accordance with the U.S. federal securities laws and the applicable rules and regulations of the Securities and Exchange Commission and the PCAOB.

We conducted our audits in accordance with the standards of the PCAOB. Those standards require that we plan and perform the audits to obtain reasonable assurance about whether the consolidated financial statements are free of material misstatement, whether due to error or fraud, and whether effective internal control over financial reporting was maintained in all material respects.

Our audits of the consolidated financial statements included performing procedures to assess the risks of material misstatement of the consolidated financial statements, whether due to error or fraud, and performing procedures that respond to those risks. Such procedures included examining, on a test basis, evidence regarding the amounts and disclosures in the consolidated financial statements. Our audits also included evaluating the accounting principles used and significant estimates made by management, as well as evaluating the overall presentation of the consolidated financial statements. Our audit of internal control over financial reporting included obtaining an understanding of internal control over financial reporting, assessing the risk that a material weakness exists, and testing and evaluating the design and operating effectiveness of internal control based on the assessed risk. Our audits also included performing such other procedures as we considered necessary in the circumstances. We believe that our audits provide a reasonable basis for our opinions.

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Report of Independent Registered Public Accounting Firm (continued)

Definition and Limitations of Internal Control Over Financial Reporting

A company’s internal control over financial reporting is a process designed to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with generally accepted accounting principles. A company’s internal control over financial reporting includes those policies and procedures that (1) pertain to the maintenance of records that, in reasonable detail, accurately and fairly reflect the transactions and dispositions of the assets of the company; (2) provide reasonable assurance that transactions are recorded as necessary to permit preparation of financial statements in accordance with generally accepted accounting principles, and that receipts and expenditures of the company are being made only in accordance with authorizations of management and directors of the company; and (3) provide reasonable assurance regarding prevention or timely detection of unauthorized acquisition, use, or disposition of the company’s assets that could have a material effect on the financial statements.

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

/s/ KPMG LLP
We have served as the Company's auditor since 2012.
Boston, Massachusetts
February 26, 2019

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Kadant Inc. 2018 Financial Statements

Consolidated Balance Sheet

(In thousands, except share and per share amounts)	December 29, 2018	December 30, 2017
Assets		
Current Assets:		
Cash and cash equivalents	$ 45,830	$ 75,425
Restricted cash	287	1,421
Accounts receivable, less allowances of $2,897 and $2,879	92,624	89,624
Inventories	86,373	84,933
Unbilled revenues	15,741	2,374
Other current assets	11,906	12,246
Total Current Assets	252,761	266,023
Property, Plant, and Equipment, at Cost, Net	80,157	79,723
Other Assets (Note 5)	21,310	14,311
Intangible Assets, Net	113,347	133,036
Goodwill	258,174	268,001
Total Assets	$ 725,749	$ 761,094
Liabilities and Stockholders' Equity		
Current Liabilities:		
Current maturities of long-term obligations (Note 6)	$ 1,668	$ 696
Accounts payable	35,720	35,461
Accrued payroll and employee benefits	30,902	29,616
Customer deposits	26,987	30,103
Advanced billings	5,534	7,316
Other current liabilities	28,178	29,038
Total Current Liabilities	128,989	132,230
Long-Term Obligations (Note 6)	174,153	241,384
Long-Term Deferred Income Taxes (Note 5)	22,962	29,085
Other Long-Term Liabilities (Note 3)	25,074	25,891
Commitments and Contingencies (Note 7)		
Stockholders' Equity (Notes 3 and 4):		
Preferred stock, $.01 par value, 5,000,000 shares authorized; none issued	—	—
Common stock, $.01 par value, 150,000,000 shares authorized; 14,624,159 shares issued	146	146
Capital in excess of par value	104,731	103,221
Retained earnings	393,578	342,893
Treasury stock at cost, 3,514,163 and 3,613,838 shares	(86,111)	(88,554)
Accumulated other comprehensive items (Note 13)	(39,376)	(26,715)
Total Kadant Stockholders' Equity	372,968	330,991
Noncontrolling interest	1,603	1,513
Total Stockholders' Equity	374,571	332,504
Total Liabilities and Stockholders' Equity	$ 725,749	$ 761,094

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

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Kadant Inc. 2018 Financial Statements

Consolidated Statement of Income

(In thousands, except per share amounts)	December 29, 2018	December 30, 2017	December 31, 2016
Revenues (Note 11)	$ 633,786	$ 515,033	$ 414,126
Costs and Operating Expenses:			
Cost of revenues	355,505	283,886	225,587
Selling, general, and administrative expenses	177,414	159,756	134,834
Research and development expenses	10,552	9,563	7,380
Restructuring costs and other income (Note 8)	1,717	203	(317)
	545,188	453,408	367,484
Operating Income	88,598	61,625	46,642
Interest income	379	447	269
Interest expense	(7,032)	(3,547)	(1,293)
Other expense, net (Note 3)	(2,417)	(872)	(1,069)
Income from Continuing Operations Before Provision for Income Taxes	79,528	57,653	44,549
Provision for income taxes (Note 5)	18,482	26,070	12,083
Income from Continuing Operations	61,046	31,583	32,466
Income from discontinued operation (net of income tax provision of $2)	—	—	3
Net Income	61,046	31,583	32,469
Net Income Attributable to Noncontrolling Interest	(633)	(491)	(392)
Net Income Attributable to Kadant	$ 60,413	$ 31,092	$ 32,077
Amounts Attributable to Kadant			
Income from Continuing Operations	$ 60,413	$ 31,092	$ 32,074
Income from Discontinued Operation	—	—	3
Net Income Attributable to Kadant	$ 60,413	$ 31,092	$ 32,077
Earnings per Share from Continuing Operations Attributable to Kadant (Note 12)			
Basic	$ 5.45	$ 2.83	$ 2.95
Diluted	$ 5.30	$ 2.75	$ 2.88
Earnings per Share Attributable to Kadant (Note 12)			
Basic	$ 5.45	$ 2.83	$ 2.95
Diluted	$ 5.30	$ 2.75	$ 2.88
Weighted Average Shares (Note 12)			
Basic	11,086	10,991	10,869
Diluted	11,400	11,312	11,149
Cash Dividends Declared per Common Share	$ 0.88	$ 0.84	$ 0.76

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

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Kadant Inc. 2018 Financial Statements

Consolidated Statement of Comprehensive Income

(In thousands)	December 29, 2018	December 30, 2017	December 31, 2016
Comprehensive Income			
Net Income	$ 61,046	$ 31,583	$ 32,469
Other Comprehensive Items:			
Foreign currency translation adjustment	(17,381)	23,847	(13,240)
Pension and other post-retirement liability adjustments, net (net of tax of $412, $(150), and $125)	1,248	(738)	256
Effect of pension and other post-retirement plan amendments (net of tax of $351)	(1,087)	—	—
Effect of pension and other post-retirement plan curtailments (net of tax of $1,183)	3,679	—	—
Pension and other post-retirement curtailment loss (net of tax of $347)	1,078	—	—
Deferred (loss) gain on cash flow hedges (net of tax of $(93), $39, and $(67))	(276)	67	241
Other Comprehensive Items	(12,739)	23,176	(12,743)
Comprehensive Income	48,307	54,759	19,726
Comprehensive Income Attributable to Noncontrolling Interest	(555)	(745)	(314)
Comprehensive Income Attributable to Kadant	$ 47,752	$ 54,014	$ 19,412

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

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Kadant Inc. 2018 Financial Statements

Consolidated Statement of Cash Flows

(In thousands)	December 29, 2018	December 30, 2017	December 31, 2016
Operating Activities			
Net income attributable to Kadant	$ 60,413	$ 31,092	$ 32,077
Net income attributable to noncontrolling interest	633	491	392
Income from discontinued operation	—	—	(3)
Income from continuing operations	61,046	31,583	32,466
Adjustments to reconcile income from continuing operations to net cash provided by operating activities:			
Depreciation and amortization	23,568	19,375	14,326
Stock-based compensation expense	7,027	5,803	5,069
Provision for losses on accounts receivable	355	436	453
Loss (gain) on sale of property, plant, and equipment	110	42	(350)
Deferred income tax (benefit) provision	(4,240)	578	(613)
Other items, net	2,735	1,420	1,362
Contributions to U.S. pension plan	—	(1,080)	(1,080)
Changes in current assets and liabilities, net of effects of acquisitions:			
Accounts receivable	(7,016)	(10,907)	1,003
Unbilled revenues	(11,350)	1,310	3,407
Inventories	(6,577)	1,163	3,553
Other current assets	3,820	(130)	753
Accounts payable	5,419	(522)	(5,238)
Other current liabilities	(11,912)	16,093	(4,111)
Net cash provided by continuing operations	62,985	65,164	51,000
Net cash provided by discontinued operation	—	—	3
Net cash provided by operating activities	62,985	65,164	51,003
Investing Activities			
Acquisitions, net of cash acquired (Note 2)	—	(204,731)	(56,617)
Purchases of property, plant, and equipment	(16,559)	(17,281)	(5,804)
Proceeds from sale of property, plant, and equipment	195	130	428
Net cash used in continuing operations for investing activities	(16,364)	(221,882)	(61,993)
Financing Activities			
Proceeds from issuance of debt (Note 6)	50,055	232,019	51,046
Repayment of debt	(109,642)	(67,696)	(18,429)
Dividends paid	(9,644)	(9,011)	(8,038)
Tax withholding payments related to stock-based compensation	(3,886)	(2,206)	(2,572)
Payment of debt issuance costs (Note 6)	(934)	(1,257)	(27)
Dividend paid to noncontrolling interest	(465)	(882)	—
Proceeds from issuance of Company common stock	813	—	2,350
Payment of contingent consideration	—	—	(1,091)
Other financing activities	(452)	(491)	216
Net cash (used in) provided by continuing operations for financing activities	(74,155)	150,476	23,455
Exchange Rate Effect on Cash, Cash Equivalents, and Restricted Cash from Continuing Operations	(3,195)	9,519	(5,827)

Decrease in Cash from Discontinued Operation	—	—	(5)
(Decrease) Increase in Cash, Cash Equivalents, and Restricted Cash from Continuing Operations	(30,729)	3,277	6,633
Cash, Cash Equivalents, and Restricted Cash at Beginning of Year	76,846	73,569	66,936
Cash, Cash Equivalents, and Restricted Cash at End of Year	$ 46,117	$ 76,846	$ 73,569

See Note 1 - Supplemental Cash Flow Information and Recently Adopted Accounting Pronouncements, Statement of Cash Flows (Topic 230), Restricted Cash for further details.

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

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Kadant Inc. 2018 Financial Statements

Consolidated Statement of Stockholders' Equity

(In thousands, except share amounts)	Common Stock Shares	Common Stock Amount	Capital in Excess of Par Value	Retained Earnings	Treasury Stock Shares	Treasury Stock Amount	Accumulated Other Comprehensive Items	Noncontrolling Interest	Total Stockholders' Equity
Balance at January 2, 2016	14,624,159	$ 146	$ 100,536	$ 297,258	3,850,779	$ (94,359)	$ (36,972)	$ 1,336	$ 267,945
Net income	—	—	—	32,077	—	—	—	392	32,469
Dividends declared	—	—	—	(8,285)	—	—	—	—	(8,285)
Activity under stock plans	—	—	869	—	(164,247)	4,024	—	—	4,893
Other comprehensive items	—	—	—	—	—	—	(12,665)	(78)	(12,743)
Balance at December 31, 2016	14,624,159	$ 146	$ 101,405	$ 321,050	3,686,532	$ (90,335)	$ (49,637)	$ 1,650	$ 284,279
Net income	—	—	—	31,092	—	—	—	491	31,583
Dividends declared	—	—	—	(9,249)	—	—	—	—	(9,249)
Dividend paid to noncontrolling interest	—	—	—	—	—	—	—	(882)	(882)
Activity under stock plans	—	—	1,816	—	(72,694)	1,781	—	—	3,597
Other comprehensive items	—	—	—	—	—	—	22,922	254	23,176
Balance at December 30, 2017	14,624,159	$ 146	$ 103,221	$ 342,893	3,613,838	$ (88,554)	$ (26,715)	$ 1,513	$ 332,504
Net income	—	—	—	60,413	—	—	—	633	61,046
Adoption of ASU No. 2014-09 (Note 1)			—	119	—	—	—	—	119
Adoption of ASU No. 2016-16 (Note 1)			—	(75)	—	—	—	—	(75)
Dividends declared	—	—	—	(9,772)	—	—	—	—	(9,772)
Dividend paid to noncontrolling interest	—	—	—	—	—	—	—	(465)	(465)
Activity under stock plans	—	—	1,510	—	(99,675)	2,443	—	—	3,953

Other comprehensive items	—	—	—	—	—	—	(12,661)	(78)	(12,739)
Balance at December 29, 2018	14,624,159	$ 146	$ 104,731	$ 393,578	3,514,163	$ (86,111)	$ (39,376)	$ 1,603	$ 374,571

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

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Kadant Inc. 2018 Financial Statements
Notes to Consolidated Financial Statements

1. Nature of Operations and Summary of Significant Accounting Policies

Nature of Operations

Continuing Operations
Kadant Inc. was incorporated in Delaware in November 1991 and currently trades on the New York Stock Exchange under the ticker symbol "KAI."
Kadant Inc. and its subsidiaries (collectively, the Company) is a leading global supplier of equipment and critical components used in process industries worldwide. In addition, the Company manufactures granules made from papermaking by-products. The Company has a diverse and large customer base, including most of the world's major paper, lumber and oriented strand board (OSB) manufacturers, and its products, technologies, and services play an integral role in enhancing process efficiency, optimizing energy utilization, and maximizing productivity in resource-intensive industries.
The Company's continuing operations include two reportable operating segments, Papermaking Systems and Wood Processing Systems, and a separate product line, Fiber-based Products. See Note 11, Business Segment and Geographical Information, for further details.

Discontinued Operation
In 2005, the Company's Kadant Composites LLC subsidiary sold substantially all of its assets to a third party. All activity related to this business is classified in the results of the discontinued operation in the accompanying consolidated financial statements.

Noncontrolling Interest
One of the Company's foreign subsidiaries that manufactures fluid-handling products is part of a joint venture agreement with an Italian company in which each holds a 50 percent ownership interest. The agreement provides the Company's subsidiary with the option to purchase the remaining 50 percent interest in the joint venture.

Principles of Consolidation
The accompanying consolidated financial statements of the Company include the accounts of its wholly and majority-owned subsidiaries. All material intercompany accounts and transactions have been eliminated.

Fiscal Year
The Company has adopted a fiscal year ending on the Saturday nearest to December 31. References to 2018, 2017, and 2016 are for the fiscal years ended December 29, 2018, December 30, 2017, and December 31, 2016, respectively.

Financial Statement Presentation
Certain reclassifications have been made to prior periods to conform with current reporting. As a result of the adoption of the Financial Accounting Standards Board's (FASB) Accounting Standards Update (ASU) No. 2017-07, Compensation - Retirement Benefits (Topic 715), Improving the Presentation of Net Periodic Pension Cost and Net Periodic Post-retirement Benefit Cost, certain components of net benefit cost have been reclassified from operating income to non-operating expenses and included in other expense, net in the accompanying consolidated statement of income in the 2017 and 2016 periods. In addition, as a result of the adoption of the FASB's ASU No. 2016-18, Statement of Cash Flows (Topic 230), Restricted Cash, the change in restricted cash has been reclassified from financing activities and exchange rate effect on cash and included in cash, cash equivalents, and restricted cash in the

accompanying consolidated statement of cash flows in the 2017 and 2016 periods.
Effective at the beginning of fiscal 2018, the Company adopted ASU No. 2014-09, Revenue from Contracts with Customers (Topic 606) (Topic 606), using the modified retrospective method. See Recently Adopted Accounting Pronouncements in this note for further discussion. Results for fiscal 2018 are presented under Topic 606, while prior period amounts are not adjusted and are reported under the Company's prior method of reporting revenue recognition in accordance with Accounting Standards Codification (ASC), Revenue Recognition (Topic 605) (Topic 605). The impact on any financial statement line item arising from the application of Topic 606 compared to Topic 605 on the Company's results for the 2018 period is not material.

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1. Nature of Operations and Summary of Significant Accounting Policies (continued)

Use of Estimates and Critical Accounting Policies
The preparation of financial statements in conformity with U.S. generally accepted accounting principles (GAAP) requires management to make estimates and assumptions that affect the reported amounts of assets and liabilities, disclosure of contingent assets and liabilities at the date of the financial statements, and the reported amounts of revenues and expenses during the reporting period.
Critical accounting policies are defined as those that entail significant judgments and estimates, and could potentially result in materially different results under different assumptions and conditions. The Company believes that the most critical accounting policies upon which its financial position depends, and which involve the most complex or subjective decisions or assessments, concern revenue recognition, income taxes, the valuation of goodwill and intangible assets, inventories, and pension obligations. A discussion of the application of these and other accounting policies is included in Notes 1 and 3.
Although the Company makes every effort to ensure the accuracy of the estimates and assumptions used in the preparation of its consolidated financial statements or in the application of accounting policies, if business conditions were different, or if the Company were to use different estimates and assumptions, it is possible that materially different amounts could be reported in the Company's consolidated financial statements.

Revenue Recognition
Effective at the beginning of fiscal 2018, the Company adopted Topic 606, using a modified retrospective method. See Recently Adopted Accounting Pronouncements in this note for further discussion. Results for fiscal 2018 are presented under Topic 606, while prior period amounts are not adjusted and are reported in accordance with Topic 605. The impact on any financial statement line item arising from the application of Topic 606 compared to Topic 605 on the Company's results for the 2018 period is not material.
In 2018, approximately 91% of the Company’s revenue was recognized at a point in time for each performance obligation under the contract when the customer obtains control of the goods or service. The majority of the Company’s parts and consumables products and capital products with minimal customization are accounted for at a point in time. The Company has made a policy election to not treat the obligation to ship as a separate performance obligation under the contract and, as a result, the associated shipping costs are accrued when revenue is recognized. The remaining 9% of the Company’s revenue in 2018 was recognized on an over time basis based on an input method that compares the costs incurred to date to the total expected costs required to satisfy the performance obligation. Contracts are accounted for on an over time basis when they include products which have no alternative use and an enforceable right to payment over time. The majority of the contracts recognized on an over time basis are for large capital projects within the Company's Stock-Preparation product line and, to a lesser extent, its Fluid-Handling and Doctoring, Cleaning, & Filtration product lines. These projects are highly customized for the customer and, as a result, would include a significant cost to rework in the event of cancellation.
The following table presents revenue by revenue recognition method:

(In thousands)	December 29, 2018
Point in Time	$577,506
Over Time	56,280
	$633,786

The transaction price is typically based on the amount billed to the customer and includes estimated variable consideration where applicable. Such variable consideration relates to certain performance guarantees and rights to return the product. The Company estimates variable consideration as the most likely amount to which it expects to be

entitled based on the terms of the contracts with customers and historical experience, where relevant. For contracts with multiple performance obligations, the transaction price is allocated to each performance obligation based on the relative stand-alone selling price.

The Company's contracts covering the sale of its products include warranty provisions that provide assurance to its customers that the products will comply with agreed-upon specifications. The Company negotiates the terms regarding warranty coverage and length of warranty depending on the products and applications.

The Company disaggregates its revenue from contracts with customers by product line, product type and geography as this best depicts how its revenue is affected by economic factors.

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1. Nature of Operations and Summary of Significant Accounting Policies (continued)

The following table presents the disaggregation of revenues by product type and geography:

(In thousands)	December 29, 2018	December 30, 2017	December 31, 2016
Revenues by Product Type:			
Parts and Consumables	$ 374,433	$ 316,506	$ 258,171
Capital	259,353	198,527	155,955
	$ 633,786	$ 515,033	$ 414,126
Revenues by Geography:			
North America	$ 305,618	$ 238,483	$ 203,063
Europe	174,681	157,994	115,233
Asia	109,688	78,443	62,703
Rest of World	43,799	40,113	33,127
	$ 633,786	$ 515,033	$ 414,126

See Note 11, Business Segment and Geographical Information, for information on how the Company disaggregates its revenue from contracts with customers by product line.
The following tables presents contract balances from contracts with customers:

(In thousands)	December 29, 2018	December 30, 2017
Accounts receivable	$ 92,624	$ 89,624
Contract assets	$ 15,741	$ 2,374
Contract liabilities	$ 34,774	$ 38,702

Contract assets represent unbilled revenues associated with revenue recognized on contracts accounted for on an over time basis, which will be billed in future periods based on the contract terms. Contract assets increased from $2,374,000 at December 30, 2017 to $15,741,000 at December 29, 2018 due to the timing of progress payments associated with the shipment of large capital projects in the second half of 2018. Contract liabilities consist of customer deposits and advanced billings, and deferred revenue which is included in other current liabilities in the accompanying consolidated balance sheet. Contract liabilities will be recognized as revenue in future periods once the revenue recognition criteria are met. The majority of the contract liabilities relate to advanced payments on contracts accounted for at a point in time. These advance payments will be recognized as revenue when the Company's performance obligations have been satisfied, which typically occurs when the product has been shipped and control of the asset has transferred to the customer. The Company recognized revenue of $36,556,000 in 2018 that was included in the contract liabilities balance at the beginning of fiscal 2018.
Customers in China will often settle their accounts receivable with a banker's acceptance draft, in which case cash settlement will be delayed until the banker's acceptance draft matures or is settled prior to maturity. For customers outside of China, final payment for the majority of the Company's products is received in the quarter following the product shipment. Certain of the Company's contracts include a longer period before final payment is due, which is typically within one year of final shipment or transfer of control to the customer.
The Company includes in revenue amounts invoiced for shipping and handling with the corresponding costs reflected in cost of revenues. Provisions for discounts, warranties, returns and other adjustments are provided for in the period in which the related sales was recorded. Sales taxes, value-added taxes and certain excise taxes collected from customers and remitted to governmental authorities are accounted for on a net basis and therefore are excluded from revenue.

In 2017 and 2016, the Company recognized revenue under ASC 605, "Revenue Recognition," (ASC 605) when the following criteria had been met: persuasive evidence of an arrangement existed, delivery had occurred or service had been rendered, the sales price was fixed or determinable, and collectability was reasonably assured. When the terms of the sale included customer acceptance provisions, and compliance with those provisions could not be demonstrated until customer acceptance, revenue was recognized upon such acceptance.

Most of the Company's revenue in 2017 and 2016 was recognized in accordance with the accounting policies in the preceding paragraph. However, when a sale arrangement involved multiple elements, such as equipment and installation, the Company considered the guidance in ASC 605. Such transactions were evaluated to determine whether the deliverables in the arrangement represented separate units of accounting based on the following criteria: the delivered item had value to the customer on a stand-alone basis, and if the contract included a general right of return relative to the delivered item, delivery or performance of the undelivered item was considered probable and substantially under the control of the Company. Revenue was

1. Nature of Operations and Summary of Significant Accounting Policies (continued)

allocated to each unit of accounting or element based on relative selling prices and was recognized as each element was delivered or completed. The Company determined relative selling prices by using either vendor-specific objective evidence (VSOE) if that existed, or third-party evidence of selling price. When neither VSOE nor third-party evidence of selling price existed for a deliverable, the Company used its best estimate of the selling price for that deliverable. In cases in which elements could not be treated as separate units of accounting, the elements were combined into a single unit of accounting for revenue recognition purposes.
In addition in 2017 and 2016, revenues and profits on certain long-term contracts were recognized using the percentage-of-completion method or the completed-contract method of accounting pursuant to ASC 605. Revenues recorded under the percentage-of-completion method were $27,676,000 in 2017 and $23,300,000 in 2016. The percentage of completion was determined by comparing the actual costs incurred to date to an estimate of total costs to be incurred on each contract. If a loss was indicated on any contract in process, a provision was made currently for the entire estimated loss. The Company's contracts generally provided for billing of customers upon the attainment of certain milestones specified in each contract. Revenues earned on contracts in process in excess of billings are classified as unbilled revenues and amounts billed in excess of revenues earned are classified as advanced billings.
For long-term contracts that did not meet the criteria under ASC 605 to be accounted for under the percentage-of-completion method in 2017 and 2016, the Company recognized revenue using the completed-contract method. When using the completed-contract method, the Company recognized revenue when the contract was substantially complete, the product was delivered and, if applicable, the customer acceptance criteria were met. Customer deposits included $2,945,000 at year-end 2017 of advance payments, net of accumulated costs, on long-term contracts accounted for under the completed-contract method.

Accounts Receivable
Accounts receivable are recorded at the invoiced amount and do not bear interest. The Company exercises judgment in determining its allowance for doubtful accounts, which is based on its historical collection experience, current trends, credit policies, specific customer collection issues, and accounts receivable aging categories. In determining this allowance, the Company looks at historical write-offs of its receivables. The Company also looks at current trends in the credit quality of its customer base as well as changes in its credit policies. The Company performs ongoing credit evaluations of its customers and adjusts credit limits based upon payment history and each customer's current creditworthiness. The Company continuously monitors collections and payments from its customers. Account balances are charged off against the allowance when the Company believes it is probable the receivable will not be recovered. In some instances, the Company utilizes letters of credit to mitigate its credit exposure.
The changes in the allowance for doubtful accounts are as follows:

(In thousands)	December 29, 2018	December 30, 2017	December 31, 2016
Balance at Beginning of Year	$ 2,879	$ 2,395	$ 2,163
Provision charged to expense	355	436	453
Accounts written off	(165)	(159)	(128)
Currency translation	(172)	207	(93)
Balance at End of Year	$ 2,897	$ 2,879	$ 2,395

The Company's Chinese subsidiaries may receive banker's acceptance drafts from customers as payment for their trade accounts receivable. The drafts are noninterest-bearing obligations of the issuing bank and mature within six months of the origination date. The Company's subsidiaries may sell the drafts at a discount to a third-party financial institution or transfer the drafts to vendors in settlement of current accounts payable prior to the scheduled maturity

date. These drafts, which totaled $7,976,000 at year-end 2018 and $15,960,000 at year-end 2017, are included in accounts receivable in the accompanying consolidated balance sheet until the subsidiary sells the drafts to a bank and receives a discounted amount, transfers the banker's acceptance drafts in settlement of current accounts payable prior to maturity, or obtains cash payment on the scheduled maturity date.

Kadant Inc. 2018 Financial Statements
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1. Nature of Operations and Summary of Significant Accounting Policies (continued)

Warranty Obligations
The Company provides for the estimated cost of product warranties at the time of sale based on the historical occurrence rates and repair costs, as well as knowledge of any specific warranty problems that indicate projected warranty costs may vary from historical patterns. The Company typically negotiates the terms regarding warranty coverage and length of warranty depending on the products and applications. While the Company engages in extensive product quality programs and processes, the Company's warranty obligation is affected by product failure rates, repair costs, service delivery costs incurred in correcting a product failure, and supplier warranties on parts delivered to the Company. Should these factors or actual results differ from the Company's estimates, revisions to the estimated warranty liability would be required.
The changes in the carrying amount of accrued warranty costs included in other current liabilities in the accompanying consolidated balance sheet are as follows:

(In thousands)	December 29, 2018	December 30, 2017
Balance at Beginning of Year	$ 5,498	$ 3,843
Provision charged to expense	3,708	2,652
Usage	(3,140)	(2,225)
Acquisitions	—	790
Currency translation	(340)	438
Balance at End of Year	$ 5,726	$ 5,498

Income Taxes
In accordance with ASC 740, "Income Taxes," (ASC 740), the Company recognizes deferred income taxes based on the expected future tax consequences of differences between the financial statement basis and the tax basis of assets and liabilities, calculated using enacted tax rates in effect for the year in which these differences are expected to reverse. A tax valuation allowance is established, as needed, to reduce deferred tax assets to the amount expected to be realized. In the period in which it becomes more likely than not that some or all of the deferred tax assets will be realized, the valuation allowance will be adjusted.
It is the Company's policy to provide for uncertain tax positions and the related interest and penalties based upon management's assessment of whether a tax benefit is more likely than not to be sustained upon examination by tax authorities. The Company recognizes accrued interest and penalties related to unrecognized tax benefits in the provision for income taxes. At December 29, 2018, the Company believes that it has appropriately accounted for any liability for unrecognized tax benefits. To the extent the Company prevails in matters for which a liability for an unrecognized tax benefit is established, the statute of limitations expires for a tax jurisdiction year, or the Company is required to pay amounts in excess of the liability, its effective tax rate in a given financial statement period may be affected.

Earnings per Share
Basic earnings per share (EPS) is computed by dividing net income attributable to Kadant by the weighted average number of shares outstanding during the year. Diluted EPS is computed using the treasury stock method assuming the effect of all potentially dilutive securities, including stock options, restricted stock units (RSUs) and employee stock purchase plan shares.

Cash and Cash Equivalents

At year-end 2018 and year-end 2017, the Company's cash equivalents included investments in money market funds and other marketable securities, which had maturities of three months or less at the date of purchase. The carrying amounts of cash equivalents approximate their fair values due to the short-term nature of these instruments.

Restricted Cash

The Company's restricted cash serves as collateral for bank guarantees primarily associated with providing assurance to customers that the Company will fulfill certain customer obligations entered into in the normal course of business. The majority of the bank guarantees will expire over the next twelve months.

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1. Nature of Operations and Summary of Significant Accounting Policies (continued)

The following table provides a reconciliation of cash, cash equivalents, and restricted cash reported within the Company's consolidated balance sheet that are shown in aggregate in the consolidated statement of cash flows:

(In thousands)	December 29, 2018	December 30, 2017	December 31, 2016
Cash and cash equivalents	$ 45,830	$ 75,425	$ 71,487
Restricted cash	287	1,421	2,082
Total Cash, Cash Equivalents, and Restricted Cash	$ 46,117	$ 76,846	$ 73,569

Supplemental Cash Flow Information

(In thousands)	December 29, 2018	December 30, 2017	December 31, 2016
Cash Paid for Interest	$ 7,550	$ 2,624	$ 1,183
Cash Paid for Income Taxes, Net of Refunds	$ 25,654	$ 20,559	$ 15,632
Non-Cash Investing Activities:			
Estimated post-closing adjustment (a)	$ 397	$ —	$ —
Fair value of assets of acquired	$ —	$ 242,048	$ 84,969
Cash paid for acquired businesses	—	(206,950)	(58,894)
Liabilities Assumed of Acquired Businesses	$ —	$ 35,098	$ 26,075
Non-cash additions to property, plant, and equipment	$ 917	$ 4,620	$ 379
Non-Cash Financing Activities:			
Issuance of Company common stock upon vesting of RSUs	$ 4,231	$ 3,192	$ 3,463
Dividends declared but unpaid	$ 2,444	$ 2,316	$ 2,078

(a) Represents an estimated post-closing purchase price adjustment related to the 2017 acquisition of certain assets of Unaflex, LLC, which is expected to be settled in early 2019.

Inventories
Inventories are stated at the lower of cost (on a first-in, first-out; or weighted average basis) or net realizable value and include materials, labor, and manufacturing overhead. The Company regularly reviews its quantities of inventories on hand and compares these amounts to the historical and forecasted usage of and demand for each particular product or product line. The Company records a charge to cost of revenues for excess and obsolete inventory to reduce the carrying value of inventories to net realizable value.
The components of inventories are as follows:

(In thousands)	December 29, 2018	December 30, 2017
Raw Materials	$ 44,522	$ 38,952
Work in Process	15,876	18,203
Finished Goods (includes $494 and $1,883 at customer locations)	25,975	27,778
	$ 86,373	$ 84,933

Property, Plant, and Equipment

Property, plant, and equipment are stated at cost. The costs of additions and improvements are capitalized, while maintenance and repairs are charged to expense as incurred. The Company provides for depreciation and amortization primarily using the straight-line method over the estimated useful lives of the property as follows: buildings, 10 to 40 years; machinery

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1. Nature of Operations and Summary of Significant Accounting Policies (continued)

and equipment, 2 to 10 years; and leasehold improvements, the shorter of the term of the lease or the life of the asset. For construction in progress, no provision for depreciation is made until the assets are available and ready for use. Property, plant, and equipment consist of the following:

(In thousands)	December 29, 2018	December 30, 2017
Land	$ 7,614	$ 7,894
Buildings	58,866	48,094
Machinery, Equipment, and Leasehold Improvements	100,453	94,779
Construction in Progress	3,764	14,464
	170,697	165,231
Less: Accumulated Depreciation and Amortization	90,540	85,508
	$ 80,157	$ 79,723

At year-end 2017, construction in progress primarily related to the construction of a manufacturing facility in the U.S. that was completed in the first half of 2018. Following completion, the assets were transferred to building and machinery, equipment and leasehold improvements and depreciated over their estimated useful lives.
Property, plant, and equipment at year-end 2018 and year-end 2017 included assets under capital leases. The gross amount of property, plant, and equipment under capital leases was $5,674,000 at year-end 2018 and $6,038,000 at year-end 2017. Accumulated amortization associated with capital leases was $764,000 at year-end 2018 and $550,000 at year-end 2017. Depreciation and amortization expense, including amortization of assets under capital lease, was $9,386,000 in 2018, $7,418,000 in 2017, and $6,194,000 in 2016.

Intangible Assets, Net

Acquired intangible assets by major asset class are as follows:

(In thousands)	Gross	Currency Translation	Accumulated Amortization	Net
December 29, 2018				
Definite-Lived				
Customer relationships	$113,283	$ (4,520)	$ (38,160)	$70,603
Product technology	46,501	(1,677)	(23,563)	21,261
Tradenames	5,227	(390)	(1,980)	2,857
Other	13,744	(127)	(11,476)	2,141
	178,755	(6,714)	(75,179)	96,862
Indefinite-Lived				
Tradenames	16,600	(115)	—	16,485
Acquired Intangible Assets	$195,355	$ (6,829)	$ (75,179)	$113,347
December 30, 2017				
Definite-Lived				
Customer relationships	$113,301	$ (621)	$ (28,789)	$83,891
Product technology	46,501	(737)	(19,841)	25,923
Tradenames	5,227	(262)	(1,504)	3,461
Other	13,754	(35)	(10,863)	2,856

	178,783	(1,655)	(60,997)	116,131
Indefinite-Lived Tradenames	16,600	305	—	16,905
Acquired Intangible Assets	$195,383	$ (1,350)	$ (60,997)	$133,036

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Kadant Inc. 2018 Financial Statements
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1. Nature of Operations and Summary of Significant Accounting Policies (continued)

Intangible assets are initially recorded at fair value at the date of acquisition. Definite-lived intangible assets are stated net of accumulated amortization and currency translation in the accompanying consolidated balance sheet. The Company amortizes definite-lived intangible assets over lives that have been determined based on the anticipated cash flow benefits of the intangible asset. Definite-lived intangible assets have a weighted average amortization period of 12 years. Amortization of definite-lived intangible assets was $14,182,000 in 2018, $11,957,000 in 2017, and $8,132,000 in 2016. The estimated future amortization expense of definite-lived intangible assets is $12,869,000 in 2019; $12,299,000 in 2020; $11,784,000 in 2021; $11,011,000 in 2022; $9,610,000 in 2023; and $39,289,000 in the aggregate thereafter.

Goodwill

Goodwill represents the excess of the cost of an acquisition over the fair value of the identifiable net assets of the acquired business at the date of acquisition. The Company's acquisitions have historically been made at prices above the fair value of the acquired net assets, resulting in goodwill, due to the expectation of synergies from combining the businesses.

The changes in the carrying amount of goodwill by segment are as follows:

(In thousands)	Papermaking Systems Segment	Wood Processing Systems Segment	Total
Balance as of December 31, 2016			
Gross balance	$ 219,699	$ 17,265	$ 236,964
Accumulated impairment losses	(85,509)	—	(85,509)
Net balance	134,190	17,265	151,455
2017 Adjustments			
Acquisitions (Note 2)	16,373	85,508	101,881
Currency translation	10,942	3,723	14,665
Total 2017 Adjustments	27,315	89,231	116,546
Balance at December 30, 2017			
Gross balance	247,014	106,496	353,510
Accumulated impairment losses	(85,509)	—	(85,509)
Net balance	161,505	106,496	268,001
2018 Adjustments			
Acquisitions (Note 2)	(17)	(75)	(92)
Currency translation	(5,085)	(4,650)	(9,735)
Total 2018 Adjustments	(5,102)	(4,725)	(9,827)
Balance at December 29, 2018			
Gross balance	241,912	101,771	343,683
Accumulated impairment losses	(85,509)	—	(85,509)
Net balance	$ 156,403	$ 101,771	$ 258,174

Impairment of Long-Lived Assets

The Company evaluates the recoverability of goodwill and indefinite-lived intangible assets as of the end of each fiscal year, or more frequently if events or changes in circumstances, such as a significant decline in sales, earnings, or cash flows, or material adverse changes in the business climate, indicate that the carrying value of an asset might be

impaired.

At year-end 2018, the Company performed a quantitative goodwill impairment assessment (Step 1) for all of its reporting units, which indicated that the fair value of each reporting unit exceeded its carrying value, and determined that the asset was not impaired.

At year-end 2017, the Company performed a qualitative impairment analysis (Step 0) of its goodwill and determined that the asset was not impaired. The impairment analysis included an assessment of certain qualitative factors including, but not limited to, the results of prior fair value calculations, the movement of the Company's share price and market capitalization, the reporting unit and overall financial performance, and macroeconomic and industry conditions. The Company considered the qualitative factors and weighed the evidence obtained, and determined that it was not more likely than not that the fair value of any of the assets was less than its carrying amount. Although the Company believes the factors considered in the impairment analysis are reasonable, significant changes in any one of the assumptions used could have produced a different result.

1. Nature of Operations and Summary of Significant Accounting Policies (continued)

Goodwill by reporting unit is as follows:

(In thousands)	December 29, 2018	December 30, 2017
Stock-Preparation	$ 58,142	$ 60,275
Fluid-Handling	64,052	65,289
Doctoring, Cleaning, & Filtration	34,209	35,941
Wood Processing Systems	101,771	106,496
	$ 258,174	$ 268,001

At year-end 2018, the Company performed a quantitative impairment analysis on its indefinite-lived intangible assets and determined that the assets were not impaired. At year-end 2017, the Company performed a qualitative impairment analysis on its indefinite-lived intangible assets and determined that the assets were not impaired.
The Company assesses its long-lived assets, other than goodwill and indefinite-lived intangible assets, for impairment whenever facts and circumstances indicate that the carrying amounts may not be fully recoverable. To analyze recoverability, the Company projects undiscounted net future cash flows over the remaining lives of such assets or asset groups. If these projected cash flows were to be less than the carrying amounts, an impairment loss would be recognized, resulting in a write-down of the assets with a corresponding charge to earnings. The impairment loss would be measured based upon the difference between the carrying amounts of the assets and their fair values calculated using projected cash flows. No indicators of impairment were identified in 2018 or 2017.

Foreign Currency Translation and Transactions
All assets and liabilities of the Company's foreign subsidiaries are translated at fiscal year-end exchange rates, and revenues and expenses are translated at average exchange rates for each quarter in accordance with ASC 830, Foreign Currency Matters. Resulting translation adjustments are reflected in the "accumulated other comprehensive items" (AOCI) component of stockholders' equity (see Note 13). Foreign currency transaction gains and losses are included in the accompanying consolidated statement of income and are not material in the three years presented.

Stock-Based Compensation
The Company recognizes compensation cost for all stock-based awards granted to employees and directors based on the grant date estimate of fair value for those awards. The fair value of RSUs is based on the grant date price of the Company's common stock, reduced by the present value of estimated dividends foregone during the requisite service period. The fair value of stock options is based on the Black-Scholes option-pricing model. For stock options and time-based RSUs, compensation expense is recognized ratably over the requisite service period for the entire award and net of actual forfeitures recorded when they occur. For performance-based RSUs, compensation expense is recognized ratably over the requisite service period for each separately-vesting portion of the award based on the grant date fair value, net of actual forfeitures and remeasured at each reporting period until the total number of RSUs to be issued is known. Compensation expense related to any modified stock-based awards is based on the fair value for those awards as of the modification date with any remaining incremental compensation expense recognized ratably over the remaining requisite service period.

Derivatives
The Company uses derivative instruments primarily to reduce its exposure to changes in currency exchange rates and interest rates. When the Company enters into a derivative contract, the Company makes a determination as to whether the transaction is deemed to be a hedge for accounting purposes. If a contract is deemed a hedge, the Company

formally documents the relationship between the derivative instrument and the risk being hedged. In this documentation, the Company specifically identifies the asset, liability, forecasted transaction, cash flow, or net investment that has been designated as the hedged item, and evaluates whether the derivative instrument is expected to reduce the risks associated with the hedged item. To the extent these criteria are not met, the Company does not use hedge accounting for the derivative. The change in the fair value of a derivative not deemed to be a hedge is recorded currently in earnings. The Company does not hold or engage in transactions involving derivative instruments for purposes other than risk management.

ASC 815, Derivatives and Hedging, requires that all derivatives be recognized on the balance sheet at fair value. For derivatives designated as cash flow hedges, the related gains or losses on these contracts are deferred as a component of AOCI. These deferred gains and losses are recognized in the statement of income in the period in which the underlying anticipated transaction occurs. For derivatives designated as fair value hedges, the unrealized gains and losses resulting from the impact of

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Kadant Inc. 2018 Financial Statements
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1. Nature of Operations and Summary of Significant Accounting Policies (continued)

currency exchange rate movements are recognized in earnings in the period in which the exchange rates change and offset the currency gains and losses on the underlying exposures being hedged. The Company performs an evaluation of the effectiveness of the hedge both at inception and on an ongoing basis. The ineffective portion of a hedge, if any, and changes in the fair value of a derivative not deemed to be a hedge, are recorded in the accompanying consolidated statement of income.

Recent Accounting Pronouncements
Revenue from Contracts with Customers (Topic 606), Section A-Summary and Amendments That Create Revenue from Contracts with Customers (Topic 606) and Other Assets and Deferred Costs-Contracts with Customers (Subtopic 340-40). In May 2014, the FASB issued ASU No. 2014-09, which requires an entity to recognize the amount of revenue to which it expects to be entitled for the transfer of promised goods or services to customers. The Company adopted this ASU (as modified by subsequently issued clarifying guidance) using the modified retrospective transition approach effective at the beginning of fiscal 2018. The guidance applies to all new contracts initiated in fiscal 2018. For existing contracts that had remaining obligations as of the beginning of fiscal 2018, any difference between the recognition criteria in this ASU and the Company's previous revenue recognition practices under Topic 605 was recognized using a cumulative-effect adjustment that increased retained earnings by $119,000. The increase in retained earnings primarily related to contracts which met the over time criteria under the new revenue standard and, as a result, the portion of the contract completed as of the beginning of fiscal 2018 was recognized immediately in retained earnings. Partially offsetting this increase was a reduction of retained earnings associated with certain contracts which were previously accounted for under the percentage-of-completion method of accounting, but did not meet the requirements for over time recognition under Topic 606. Amounts previously recognized in fiscal 2017 based on the percentage-of-completion method of accounting were deferred at the beginning of fiscal 2018 and were recognized along with the remaining revenue and costs in fiscal 2018 when control of the asset was transferred to the customer.
The Company implemented certain modifications to its existing internal controls to support the recognition criteria and disclosure requirements of this ASU. See Revenue Recognition in this note for further disclosures required by this ASU.
Statement of Cash Flows (Topic 230), Classification of Certain Cash Receipts and Cash Payments. In August 2016, the FASB issued ASU No. 2016-15, which simplifies the diversity in practice related to the presentation and classification of certain cash receipts and cash payments in the statement of cash flows under Topic 230. The Company adopted this ASU at the beginning of fiscal 2018 with no impact on the Company's consolidated statement of cash flows.
Income Taxes (Topic 740), Intra-Entity Transfers of Assets Other Than Inventory. In October 2016, the FASB issued ASU No. 2016-16, which requires an entity to recognize the income tax consequences of an intra-entity transfer of an asset other than inventory when the transfer occurs and eliminates the exception for an intra-entity transfer of an asset other than inventory. The Company adopted this ASU at the beginning of fiscal 2018 on a modified retrospective basis, which resulted in an immaterial adjustment to retained earnings. The impact of the adoption of this standard on future periods will be dependent on future asset transfers, which generally occur in connection with acquisitions and other business structuring activities.
Statement of Cash Flows (Topic 230), Restricted Cash. In November 2016, the FASB issued ASU No. 2016-18, which requires inclusion of restricted cash and restricted cash equivalents within cash and cash equivalents when reconciling the beginning-of-period and end-of-period total amounts shown on the statement of cash flows. The Company adopted this ASU at the beginning of fiscal 2018. Prior period amounts related to the Company's "cash flows from financing activities," "exchange rate effect on cash," and "cash, cash equivalents, and restricted cash" were

restated as required by this ASU, which did not have a material effect on the Company's consolidated statement of cash flows. See Restricted Cash in this note for further disclosures required by this ASU.
Business Combinations (Topic 805), Clarifying the Definition of a Business. In January 2017, the FASB issued ASU No. 2017-01, which clarifies 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 assets or businesses. The Company adopted this ASU on a prospective basis at the beginning of fiscal 2018. The adoption of this ASU will impact how the Company assesses acquisitions and disposals of businesses in the future.
Compensation - Retirement Benefits (Topic 715), Improving the Presentation of Net Periodic Pension Cost and Net Periodic Post-retirement Benefit Cost. In March 2017, the FASB issued ASU No. 2017-07, which requires employers to include only the service cost component of net periodic pension cost and net periodic post-retirement benefit cost within costs and operating expenses in the same income statement line item as the related employees' compensation costs. The other components of net benefit cost are required to be included within non-operating expenses. The Company adopted this ASU at the beginning of fiscal 2018 and prior period amounts were reclassified with no impact on the Company’s consolidated net income. As a result of the adoption, the Company reclassified $872,000 in 2017 and $1,069,000 in 2016 from operating income to other expense, net in the accompanying consolidated statement of income.

Kadant Inc. 2018 Financial Statements
Notes to Consolidated Financial Statements

1. Nature of Operations and Summary of Significant Accounting Policies (continued)

Compensation - Stock Compensation (Topic 718), Scope of Modification Accounting. In May 2017, the FASB issued ASU No. 2017-09, which provides clarity on which changes to the terms or conditions of share-based payment awards require entities to apply the modification accounting provisions required in Topic 718. The Company adopted this ASU on a prospective basis at the beginning of fiscal 2018. The adoption of this ASU did not have a material impact on the Company's consolidated financial statements.
Income Taxes (Topic 740), Amendments to SEC Paragraphs Pursuant to SEC Staff Accounting Bulletin No. 118. In March 2018, the FASB issued ASU No. 2018-05, an amendment to the December 2017 SEC Staff Accounting Bulletin No. 118 (SAB 118), which allowed SEC registrants to record provisional amounts in earnings due to the complexities involved in accounting for the December 22, 2017 enactment of The Tax Cuts and Jobs Act of 2017 (2017 Tax Act). Those provisional amounts would be subject to adjustment during the measurement period, which is limited to no more than one year beyond the enactment of the 2017 Tax Act. The Company recorded provisional amounts based on reasonable estimates in its 2017 consolidated financial statements and has made adjustments to those provisional amounts in its 2018 consolidated financial statements.
Intangibles - Goodwill and Other - Internal-Use Software (Subtopic 350-40), Customer’s Accounting for Implementation Costs Incurred in a Cloud Computing Arrangement That Is a Service Contract. In August 2018, the FASB issued ASU No. 2018-15, which aligns the requirements for capitalizing implementation costs incurred in a hosting arrangement that is a service contract with the requirements for capitalizing implementation costs incurred to develop or obtain internal-use software (and hosting arrangements that include an internal-use software license). The Company elected to early adopt this ASU on a prospective basis in the third quarter of 2018. The adoption of this ASU did not have a material impact on the Company's consolidated financial statements.

Recent Accounting Pronouncements Not Yet Adopted
Leases (Topic 842). In February 2016, the FASB issued ASU No. 2016-02, which requires a lessee to recognize a right-of-use asset and a lease liability for operating leases, initially measured at the present value of the future lease payments, in its balance sheet. This ASU also requires a lessee to recognize a single lease cost, calculated so that the cost of the lease is allocated over the lease term, generally on a straight-line basis. In July 2018, the FASB issued ASU No. 2018-11, Leases (Topic 842), Targeted Improvements, which provides an additional transition method that allows entities to recognize a cumulative effect adjustment to the opening balance of retained earnings in the period of adoption. The Company elected this new transition method upon adoption of this ASU at the beginning of the first quarter of fiscal 2019. Consequently, financial information will not be updated, and disclosures required under the new standard will not be provided for dates and periods before the beginning of fiscal 2019.
The Company has completed the evaluation of its lease population and has implemented a third-party software solution to assist with the accounting under the new standard. The new standard provides for a number of optional practical expedients in transition. The Company elected the "package of practical expedients" upon adoption, which permits the Company to not reassess its prior conclusions about lease identification, lease classification and initial direct costs under the new standard. The Company did not elect the "use-of hindsight" practical expedient to determine the lease term or in assessing the likelihood that a lease purchase option will be exercised. The new standard also provides practical expedients for an entity's ongoing accounting. The Company elected the short-term lease recognition exemption for all leases that qualify that allows it not to recognize right-of-use assets or lease liabilities for short-term leases, including not recognizing right-of-use assets or lease liabilities for existing short-term leases in transition. The Company also elected the practical expedient, as a policy election, to not separate lease and non-lease components for all leases except vehicle leases. Based on its lease portfolio at year-end 2018, the Company anticipates recognizing a lease liability of approximately $15,500,000 to $17,500,000 and a related right-of-use asset of approximately $18,500,000 to $20,500,000 on its consolidated balance sheet upon adoption. When determinable,

the Company will utilize the rate implicit in the lease as the discount rate to determine the lease liability. However, if this rate is not determinable, the Company will use its incremental borrowing rate as the discount rate, which is the rate the Company would incur to borrow over a similar term the funds needed to purchase the leased asset. The Company does not expect that the adoption of this standard will have a material impact on its results of operations or cash flows.

Financial Instruments - Credit Losses (Topic 326), Measurement of Credit Losses on Financial Instruments. In June 2016, the FASB issued ASU No. 2016-13, which significantly changes the way entities recognize impairment of many financial assets by requiring immediate recognition of estimated credit losses expected to occur over their remaining lives. This new guidance is effective for the Company in fiscal 2020 with early adoption permitted beginning in fiscal 2019. The Company is currently evaluating the effects that the adoption of this ASU will have on its consolidated financial statements.

Derivatives and Hedging (Topic 815), Targeted Improvements in Accounting for Hedging Activity. In August 2017, the FASB issued ASU No. 2017-12, which provides improvements to current hedge accounting to better portray the economic

1. Nature of Operations and Summary of Significant Accounting Policies (continued)

results of an entity's risk management activities and to simplify the application of current hedge accounting guidance. The Company will adopt this new guidance on a prospective basis at the beginning of the first quarter of fiscal 2019. The Company does not believe that adoption of this ASU will have a material effect on its consolidated financial statements.
Income Statement - Reporting Comprehensive Income (Topic 220), Reclassification of Certain Tax Effects from Accumulated Other Comprehensive Income. In February 2018, the FASB issued ASU No. 2018-02, which allows a reclassification from AOCI to retained earnings for stranded tax effects resulting from the 2017 Tax Act. The reclassification is elective and would allow the income tax effects on items that were originally recorded in AOCI to be reclassified from AOCI to retained earnings. This ASU is effective for the Company in fiscal year 2019 and interim periods therein and should be applied either at the beginning of the period of adoption or retrospectively to each period in which the income tax effects of the 2017 Tax Act are recognized. The Company does not believe that adoption of this ASU will have a material effect on its consolidated financial statements.
Compensation-Retirement Benefits - Defined Benefit Plans - General (Subtopic 715-20), Disclosure Framework - Changes to the Disclosure Requirements for Defined Benefit Plans. In August 2018, the FASB issued ASU 2018-14, which removes, adds and clarifies several disclosure requirements for employers that sponsor defined benefit pension or other postretirement plans. This new guidance is effective on a retrospective basis for the Company beginning in fiscal 2021. Early adoption is permitted. The Company does not believe that the adoption of this ASU will have a material effect on its consolidated financial statements.

2. Acquisitions

The Company's acquisitions are accounted for using the purchase method of accounting and their results are included in the accompanying financial statements from their respective dates of acquisition. Historically, the Company's acquisitions have been made at prices above the fair value of identifiable net assets, resulting in goodwill. Acquisition transaction costs are included in selling, general, and administrative expenses (SG&A) in the accompanying consolidated statement of income as incurred. The Company recorded acquisition transaction costs of $1,321,000 in 2018 (see Note 15, Subsequent Events), $5,375,000 in 2017, and $1,832,000 in 2016.

2017
On August 14, 2017, the Company acquired certain assets of Unaflex, LLC (Unaflex) for $31,274,000 in cash, subject to a post-closing adjustment. The Company expects to pay additional consideration of $397,000 to the sellers in 2019. The Company funded the acquisition through borrowings under its revolving credit facility. Unaflex, located principally in South Carolina, is a leading manufacturer of expansion joints and related products for process industries. This acquisition complemented the Company's existing Fluid-Handling product line within its Papermaking Systems segment. The Company anticipated and continues to achieve several synergies in connection with this acquisition, including the expansion of sales by Unaflex through leveraging the Company's sales efforts, as well as sourcing and manufacturing efficiencies. Goodwill from the Unaflex acquisition was $15,640,000, all of which is expected to be deductible for tax purposes. For 2017, the Company recorded revenues of $7,335,000 and operating income of $187,000 for Unaflex from its date of acquisition, including amortization expense of $176,000 associated with acquired profit in inventory.
On July 5, 2017, the Company acquired the forest products business of NII FPG Company (NII FPG) pursuant to a Stock and Asset Purchase Agreement dated May 24, 2017, for $170,792,000, net of cash acquired. In connection with the acquisition, the Company borrowed an aggregate $170,018,000 under its revolving credit facility, including $62,690,000 of Canadian dollar-denominated and $61,769,000 of euro-denominated borrowings. NII FPG, which has

two primary manufacturing facilities located in Canada and Finland, is a global leader in the design and manufacture of equipment used by sawmills, veneer mills, and other manufacturers in the forest products industry. NII FPG also designs and manufactures logging equipment used in harvesting timber from forest plantations. This acquisition extended the Company's presence deeper into the forest products industry and complemented its existing Wood Processing Systems segment. Goodwill from the NII FPG acquisition was $85,432,000, of which $33,993,000 is expected to be deductible for tax purposes. For 2017, the Company recorded revenues of $48,363,000 and operating income of $1,238,000 for NII FPG from its date of acquisition, including amortization expense of $6,399,000 associated with acquired profit in inventory and backlog.

In addition, the Company paid $2,500,000 in cash for another acquisition within the Fluid-Handling product line in the Company's Papermaking Systems segment.

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Kadant Inc. 2018 Financial Statements
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2. Acquisitions (continued)

The following table summarizes the estimated fair values of assets acquired and liabilities assumed and the purchase price of the Company's 2017 acquisitions.

(In thousands)	NII FPG July 5, 2017	Unaflex August 14, 2017	Other October 30, 2017	Total
Net Assets Acquired:				
Cash and Cash Equivalents	$2,219	$—	$—	$2,219
Accounts Receivable	6,542	2,079	—	8,621
Inventories	25,304	2,033	—	27,337
Property, Plant, and Equipment	12,912	1,279	284	14,475
Other Assets	2,375	72	—	2,447
Definite-Lived Intangible Assets				
Customer relationships	44,682	8,000	1,500	54,182
Product technology	17,100	2,300	—	19,400
Other	2,530	900	—	3,430
Indefinite-Lived Intangible Assets				
Tradenames	8,500	—	—	8,500
Goodwill	85,432	15,640	716	101,788
Total assets acquired	207,596	32,303	2,500	242,399
Accounts Payable	4,970	358	—	5,328
Customer Deposits	7,396	100	—	7,496
Long-Term Deferred Income Taxes	16,622	—	—	16,622
Other Liabilities	5,597	174	—	5,771
Total liabilities assumed	34,585	632	—	35,217
Net assets acquired	$173,011	$31,671	$2,500	$207,182
Purchase Price:				
Cash Paid	$2,993	$—	$—	$2,993
Cash Paid to Seller Borrowed Under the Revolving Credit Facility	170,018	31,274	2,500	203,792
Estimated Post-closing Adjustment	—	397	—	397
Total purchase price	$173,011	$31,671	$2,500	$207,182

For NII FPG, the weighted-average amortization period for definite-lived intangible assets acquired is 12 years, including weighted-average amortization periods of 15 years for product technology, 11 years for customer relationships, and 4 years for other intangible assets. For Unaflex, the weighted average amortization period for definite-lived intangible assets acquired, including customer relationships, product technology and other intangible assets, is 10 years. For the other acquisition, the amortization period for customer relationships is 11 years.

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Kadant Inc. 2018 Financial Statements
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2. Acquisitions (continued)

Unaudited Supplemental Pro Forma Information
Had the acquisitions of NII FPG and Unaflex been completed as of the beginning of 2016, the Company’s pro forma results of operations for 2017 and 2016 would have been as follows:

(In thousands, except per share amounts)	December 30, 2017	December 31, 2016
Revenues	$565,710	$508,832
Net Income Attributable to Kadant	$44,159	$30,638
Earnings per Share Attributable to Kadant		
Basic	$4.02	$2.82
Diluted	$3.90	$2.75

Pro forma results include the following non-recurring pro forma adjustments that were directly attributable to the business combinations:

- Pre-tax charge to SG&A expenses of $5,360,000 in 2016 and reversal in 2017, for acquisition transaction costs.
- Pre-tax charge to cost of revenues of $5,137,000 in 2016 and reversal in 2017, for the sale of inventory revalued at the date of acquisition.
- Pre-tax charge to SG&A expenses of $1,669,000 in 2016 and reversal of $1,438,000 in 2017, for intangible asset amortization related to acquired backlog.
- Reversal of pre-tax income of $852,000 in 2017, related to NII FPG's gain on the sale of a building.

These pro forma results of operations have been prepared for comparative purposes only, and they do not purport to be indicative of the results of operations that would have resulted had the acquisitions of NII FPG and Unaflex occurred as of the beginning of 2016, or that may result in the future. The Company's pro forma results above exclude its other 2017 acquisitions as those results would not have been materially different then the results presented above had they occurred at the beginning of 2016.

2016
On April 4, 2016, the Company acquired all the outstanding shares of RT Holding GmbH, the parent corporation of a group of companies known as the PAALGROUP (PAAL) for 49,713,000 euros, net of cash acquired, or $56,617,000, pursuant to a post-closing adjustment. The Company paid additional consideration of $165,000 to the sellers in 2017. In connection with the acquisition, the Company borrowed $29,866,000 of euro-denominated borrowings under its revolving credit facility. The remainder of the purchase price was funded from the Company's internal overseas cash. PAAL, which has operations in Germany, the United Kingdom, France and Spain, manufactures balers and related equipment used in the processing of recyclable and waste materials. This acquisition, which is included in the Company's Papermaking Systems segment's Stock-Preparation product line, broadened the Company's product portfolio and extended its presence deeper into recycling and waste management. The Company anticipated and continues to achieve several synergies in connection with this acquisition, including expanding sales of the products of the acquired business by leveraging the Company's geographic presence to enter or further penetrate existing markets, as well as sourcing and manufacturing efficiencies. Goodwill from the PAAL acquisition was $38,552,000, which is not deductible for tax purposes. For 2016, Company recorded revenues of $40,783,000 and operating income of $2,372,000 for PAAL from its date of acquisition, which included amortization expense of $1,926,000 associated with acquired inventory and backlog.

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Kadant Inc. 2018 Financial Statements
Notes to Consolidated Financial Statements

2. Acquisitions (continued)

The following table summarizes the estimated fair values of assets acquired and liabilities assumed and the purchase price of PAAL.

(In thousands)	PAAL April 4, 2016
Net Assets Acquired:	
Cash and Cash Equivalents	$2,277
Accounts Receivable	5,441
Inventories	3,947
Property, Plant, and Equipment	7,179
Other Assets	2,882
Definite-Lived Intangible Assets	
Customer relationships	15,831
Product technology	4,203
Tradenames	2,278
Other	2,379
Goodwill	38,552
Total assets acquired	84,969
Accounts Payable	5,536
Customer Deposits	2,471
Obligations Under Capital Lease	4,842
Long-Term Deferred Income Taxes	6,148
Other Liabilities	6,913
Total liabilities assumed	25,910
Net assets acquired	$59,059
Purchase Price:	
Cash	$29,193
Cash Paid to Seller Borrowed Under the Revolving Credit Facility	29,866
Total purchase price	$59,059

For the PAAL acquisition, the weighted-average amortization period for definite-lived intangible assets acquired is 12 years, including weighted-average amortization periods of 13 years for customer relationships, 9 years for product technology, 14 years for tradenames, and 7 years for other intangible assets.

3. Employee Benefit Plans

Stock-Based Compensation Plans

The Company maintains stock-based compensation plans primarily for its key employees and directors, although the plans permit awards to others expected to make significant contributions to the future of the Company. The plans authorize the compensation committee of the Company's board of directors (the board committee) to award a variety of stock and stock-based incentives, such as restricted stock, RSUs, nonqualified and incentive stock options, stock bonus shares, or performance-based shares. The award recipients and the terms of awards, including price, granted

under these plans are determined by the board committee. Upon a change of control, as defined in the plans, all options or other awards become fully vested and all restrictions lapse. The Company had 451,441 shares available for grant under stock-based compensation plans at year-end 2018. The Company generally issues its common stock out of treasury stock, to the extent available, for share issuances related to its stock-based compensation plans.

The Company recognizes compensation cost for all stock-based awards granted to employees and directors based on the grant date estimate of fair value for those awards. The fair value of RSUs is based on the grant date price of the Company's common stock, reduced by the present value of estimated dividends foregone during the requisite service period. The fair value of stock options is based on the Black-Scholes option-pricing model.

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3. Employee Benefit Plans (continued)

The components of pre-tax stock-based compensation expense included in SG&A expenses in the accompanying consolidated statement of income are as follows:

(In thousands)	December 29, 2018	December 30, 2017	December 31, 2016
RSU Awards	$ 6,838	$ 5,621	$ 4,848
Employee Stock Purchase Plan Awards	189	182	170
Stock Option Awards	—	—	51
Total	$ 7,027	$ 5,803	$ 5,069

The Company grants RSUs to non-employee directors and certain employees. Holders of RSUs have no voting rights and are not entitled to receive cash dividends.

Non-Employee Director Restricted Stock Units

The Company granted RSUs of 2,700 in 2018, 3,000 in 2017 and 5,000 in 2016 to each of its non-employee directors. Each RSU represents the right to receive one share of the Company's common stock upon vesting. Of the RSUs granted in 2018, half of the RSUs vested on June 1, 2018 and the remaining RSUs vested ratably on the last day of the remaining two fiscal quarters of 2018. The 2017 and 2016 RSUs vested ratably on the last day of each fiscal quarter within the year.

Performance-Based Restricted Stock Units

The Company grants performance-based RSUs to certain officers of the Company. Each performance-based RSU represents the right to receive one share of the Company's common stock upon vesting. The RSUs are subject to adjustment based on the achievement of a performance measure selected for the fiscal year, which historically has been a specified target for adjusted earnings before interest, taxes, depreciation, and amortization (adjusted EBITDA) generated from continuing operations. Following the adjustment, the RSUs are subject to additional time-based vesting, and vest in three equal annual installments, provided that the officer is employed by the Company on the applicable vesting dates.

The Company recognizes compensation expense associated with performance-based RSUs ratably over the requisite service period for each separately-vesting portion of the award based on the grant date fair value, and net of actual forfeitures recorded when they occur. Compensation expense recognized is remeasured each reporting period until the total number of RSUs to be issued is known. Unrecognized compensation expense related to the unvested performance-based RSUs totaled $2,164,000 at year-end 2018, and will be recognized over a weighted average period of 1.4 years.

The performance-based RSU agreements provide for forfeiture in certain events, such as voluntary or involuntary termination of employment, and for acceleration of vesting in certain events, such as death, disability or a change in control of the Company. If death, disability, or a change in control occurs prior to the end of the performance period, the officer will receive the target RSU amount; otherwise, the officer will receive the number of deliverable RSUs based on the achievement of the performance goal, as stated in the RSU agreements.

Time-Based Restricted Stock Units

The Company grants time-based RSUs to its officers and other employees of the Company. Each time-based RSU represents the right to receive one share of the Company's common stock upon vesting. The Company recognizes compensation expense associated with these time-based RSUs ratably over the requisite service period for the entire award based on the grant date fair value, and net of actual forfeitures recorded when they occur. The time-based RSU

agreement provides for forfeiture in certain events, such as voluntary or involuntary termination of employment, and for acceleration of vesting in certain events, such as death, disability, or a change in control of the Company. Unrecognized compensation expense related to the time-based RSUs totaled $2,937,000 at year-end 2018, and will be recognized over a weighted average period of 1.8 years.

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Kadant Inc. 2018 Financial Statements
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3. Employee Benefit Plans (continued)

A summary of the activity of the Company's unvested RSUs in 2018 is as follows:

	Units (In thousands)	Weighted Average Grant-Date Fair Value
Unvested RSUs at December 30, 2017	199	$ 49.32
Granted	73	$ 98.12
Vested	(116)	$ 54.11
Unvested RSUs at December 29, 2018	156	$ 68.57

The weighted-average grant date fair value of RSUs granted was $98.12 in 2018, $59.30 in 2017, and $40.41 in 2016. The total fair value of shares vested was $11,932,000 in 2018, $6,719,000 in 2017, and $6,233,000 in 2016.

Stock Options
The Company has not granted stock options since 2013. Prior to 2014, the Company granted nonqualified stock options to its executive officers that vested over three years and were not exercisable until vested. All options awarded in prior periods were granted at an exercise price equal to the fair market value of the Company's common stock on the date of grant. Stock options vested in three equal annual installments beginning on the first anniversary of the grant date, provided that the recipient remained employed by the Company on the applicable vesting dates and expire on the tenth anniversary of the grant date. All outstanding stock options are fully vested. The Company recognized compensation expense associated with these stock options ratably over the requisite service period for the entire award based on the grant date fair value, net of forfeitures. There was no unrecognized compensation expense related to these stock options at year-end 2018.
The Company used the Black-Scholes option-pricing model to determine the fair value of stock options, which was developed for use in estimating the fair value of traded options, which have no vesting restrictions and are fully transferable. Option-pricing models require the input of highly subjective assumptions, including expected stock price volatility. Expected stock price volatility was calculated based on a review of the Company's actual historic stock prices commensurate with the expected life of the award. The expected option life was derived based on a review of the Company's historic option holding periods, including consideration of the holding period inherent in currently vested but unexercised options. The expected annual dividend rate was calculated by dividing the Company's annual dividend by the closing stock price on the grant date. The risk-free interest rate is based on the yield on zero-coupon U.S. Treasury securities for a period that is commensurate with the expected term of the option. The compensation expense recognized for these equity-based awards was net of estimated forfeitures. Forfeitures were estimated based on an analysis of actual option forfeitures.
A summary of the Company's stock option activity in 2018 is as follows:

(In thousands, except per share amounts)	Number of Shares	Weighted Average Exercise Price	Weighted Average Remaining Contractual Life	Aggregate Intrinsic Value (a)
Options Outstanding at December 30, 2017	307	$ 20.72		
Exercised	(8)	$ 15.51		
Options Outstanding at December 29, 2018	299	$ 20.86	2.5 years	$ 18,029

Vested and Exercisable at December 29, 2018	299	$ 20.86	2.5 years	$ 18,029

(a) The closing price per share on the last trading day prior to year-end 2018 was $81.12.

There were no stock option exercises in 2017. A summary of the Company's stock option exercises in 2018 and 2016 are as follows:

(In thousands)	December 29, 2018	December 31, 2016
Total Intrinsic Value of Options Exercised	$ 515	$ 1,341
Cash Received from Options Exercised	$ 127	$ 1,189

3. Employee Benefit Plans (continued)

Modified Awards
On September 20, 2017, the Company entered into an executive transition agreement with its vice president, general counsel and secretary in connection with her retirement on July 1, 2018. This agreement included provisions for post-employment compensation and modifications to outstanding equity awards. The Company recognized $374,000 of post-employment compensation ratably through the retirement date. Pursuant to this agreement, all unvested RSUs vested at the retirement date. As of September 20, 2017, 4,254 RSUs were remeasured at a fair value of $93.82 per unit. The remaining compensation expense associated with the modified RSUs totaled $332,000 as of September 20, 2017, which was recognized ratably through the retirement date.

Employee Stock Purchase Plan
The Company's eligible U.S. employees may elect to participate in its employee stock purchase plan. Under the plan, shares of the Company's common stock may be purchased at a 15% discount from the fair market value at the beginning or end of the purchase period, whichever is lower. Shares purchased under the plan are subject to a one-year resale restriction and are purchased through payroll deductions of up to 10% of each participating employee's gross wages. The Company issued 10,439 shares for 2018 (issued in 2019), 13,156 shares for 2017 (issued in 2018), and 17,874 shares in 2016 of its common stock under this plan.

401(k) Savings and Other Defined Contribution Plans
The Company's U.S. subsidiaries participate in the Kadant Inc. 401(k) Retirement Savings Plan sponsored by the Company. Contributions to the plan are made by both the employee and the Company and are immediately vested. Company contributions are based upon the level of employee contributions.
Certain of the Company's subsidiaries offer other retirement plans, the majority of which are defined contribution plans. Company contributions to these plans are based on formulas determined by the Company.
For these plans, the Company contributed and charged to expense $3,705,000 in 2018, $3,327,000 in 2017, and $3,005,000 in 2016.

Pension and Other Post-Retirement Benefits Plans
The Company sponsors a noncontributory defined benefit pension plan, which is closed to new participants, for eligible employees at one of its U.S. divisions and its corporate office. Certain of the Company’s non-U.S. subsidiaries also sponsor defined benefit pension plans covering certain employees at those subsidiaries. Funds for the U.S. pension plan (Retirement Plan) and one of the non-U.S. pension plans are contributed to a trustee as necessary to provide for current service and for any unfunded projected benefit obligation over a reasonable period. The remaining non-U.S. pension plans are unfunded as permitted under their plans and applicable laws. Benefits under the Company’s pension plans are based on years of service and employee compensation.
The Company also provides other post-retirement benefits under plans in the United States and at one of its non-U.S. subsidiaries. In addition, the Company provides for a restoration plan (Restoration Plan) for certain executive officers which fully supplements benefits lost under the noncontributory defined benefit retirement plan as a consequence of applicable Internal Revenue Service limits and restores benefits for the limitation of years of service under the retirement plan.
In accordance with ASC 715, Compensation-Retirement Benefits, (ASC 715), the Company recognizes the funded status of its defined benefit pension and other post-retirement benefit plans as an asset or liability and changes in the funded status through AOCI, net of tax. The amounts in AOCI are recognized as net periodic pension cost pursuant to the Company's historical accounting policy for amortizing such amounts. Further, actuarial gains and losses that arise in subsequent periods and are not recognized as net periodic benefit cost will be recognized as a component of AOCI,

net of tax. The actuarial loss included in AOCI and expected to be recognized in net periodic benefit cost in 2019 is $65,000.

Effective at the beginning of fiscal 2018, the Company retrospectively adopted ASU No. 2017-07. See Recently Adopted Accounting Pronouncements in Note 1 for further discussion. As a result, only the service cost component of net periodic benefit cost is included in operating income. All other components are included in other expense, net in the accompanying consolidated statement of income.

In 2018, the Company's board of directors and its compensation committee approved amendments to freeze and terminate the Retirement Plan and Restoration Plan as of December 29, 2018 and, as a result, incurred a curtailment loss of $1,425,000 which was reclassified from AOCI and included in other expense, net in the accompanying consolidated statement of income in the fourth quarter of 2018. Additionally, an effect of curtailment of $4,862,000 was recognized as a reclassification from AOCI and a reduction in the accrued pension liability in the accompanying consolidated balance sheet at year-end 2018.

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3. Employee Benefit Plans (continued)

Procedures for plan settlement and distribution of the Retirement Plan assets will be initiated once the plan termination satisfies certain regulatory requirements, which is expected to occur in late 2019 or early 2020. At the settlement date, the Company will recognize a loss based on the difference between the unrecognized actuarial loss, unfunded benefit obligation, and any additional cash required to be paid. Participants in the Retirement Plan will have the option to receive either a lump sum payment or an annuity. Retirees will continue to receive payments pursuant to their current annuity elections. The Company will settle liabilities under the Restoration Plan by paying a lump sum to plan participants at least twelve and no more than twenty-four months following the termination date. The Company expects to settle the liabilities under the Restoration Plan in 2020. The Company has included the 2018 Retirement Plan liability in accrued payroll and employee benefits and the 2018 Restoration Plan liability in other long-term liabilities in the accompanying consolidated balance sheet.
The following table summarizes the change in benefit obligation; the change in plan assets; the unfunded status; and the amounts recognized in the accompanying consolidated balance sheet for the Company's U.S. and non-U.S. pension benefit plans and other post-retirement benefit plans. In accordance with ASU No. 2015-04, Compensation - Retirement Benefits (Topic 715), the Company elects to measure its plan assets and benefit obligations as of December 31.

(In thousands)	U.S. Pension		Non-U.S. Pension		Other Post-Retirement	
	December 29, 2018	December 30, 2017	December 29, 2018	December 30, 2017	December 29, 2018	December 30, 2017
Change in Projected Benefit Obligation:						
Projected benefit obligation at beginning of year	$34,757	$ 31,935	$4,270	$ 3,341	$4,704	$ 3,894
Acquisition	—	—	—	241	—	—
Service cost	699	685	173	148	213	175
Interest cost	1,193	1,231	126	114	172	170
Actuarial (gain) loss	(2,674)	2,626	(368)	270	(508)	635
Benefits paid	(1,589)	(1,720)	(394)	(265)	(157)	(175)
Plan amendment	1,116	—	—	—	322	—
Effect of curtailment	(3,787)	—	—	—	(1,075)	—
Currency translation	—	—	(136)	421	1	5
Projected benefit obligation at end of year	$29,715	$ 34,757	$3,671	$ 4,270	$3,672	$ 4,704
Change in Plan Assets:						
Fair value of plan assets at beginning of year	$31,754	$ 28,985	$557	$ 426	$35	$ 28
Actual return on plan assets	(1,436)	3,409	38	23	2	1
Employer contributions	—	1,080	528	355	164	179
Benefits paid	(1,589)	(1,720)	(394)	(265)	(157)	(175)
Currency translation	—	—	(3)	18	—	2
Fair value of plan assets at end of year	$28,729	$ 31,754	$726	$ 557	$44	$ 35
Unfunded Status	$(986)	$ (3,003)	$(2,945)	$ (3,713)	$(3,628)	$ (4,669)
Accumulated Benefit Obligation at End of Year	$29,715	$ 30,311	$2,604	$ 3,047	$—	$ —
Amounts Included in the Balance Sheet:						
Current liability	$(986)	$ —	$(58)	$ (205)	$(144)	$ (173)
Non-current liability	$—	$ (3,003)	$(2,887)	$ (3,508)	$(3,484)	$ (4,496)

Amounts Included in Accumulated Other Comprehensive Items Before Tax:						
Unrecognized net actuarial loss	$(3,205)	$ (7,485)	$(674)	$ (1,085)	$(69)	$ (1,424)
Unrecognized prior service cost	—	—	(45)	(52)	—	(439)
	$(3,205)	$ (7,485)	$(719)	$ (1,137)	$(69)	$ (1,863)

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3. Employee Benefit Plans (continued)

(In thousands)	U.S. Pension December 29, 2018	U.S. Pension December 30, 2017	Non-U.S. Pension December 29, 2018	Non-U.S. Pension December 30, 2017	Other Post-Retirement December 29, 2018	Other Post-Retirement December 30, 2017
Changes in Amounts Included in Accumulated Other Comprehensive Items Before Tax:						
Net actuarial (loss) gain	$(48)	$ (544)	$368	$ (277)	$508	$ (634)
Amortization of net actuarial loss	541	442	63	38	136	83
Amortization of prior service cost	—	53	6	6	86	88
Plan amendment	(1,116)	—	—	—	(322)	—
Effect of curtailment	3,787	—	—	—	1,075	—
Curtailment loss	1,116	—	—	—	309	—
Currency translation	—	—	(19)	(78)	2	(3)
	$4,280	$ (49)	$418	$ (311)	$1,794	$ (466)

The weighted-average assumptions used to determine the benefit obligation are as follows:

	U.S. Pension December 29, 2018	U.S. Pension December 30, 2017	Non-U.S. Pension December 29, 2018	Non-U.S. Pension December 30, 2017	Other Post-Retirement December 29, 2018	Other Post-Retirement December 30, 2017
Discount rate	4.10%	3.51%	3.56%	3.16%	4.32%	3.71%
Rate of compensation increase	—	3.00%	3.24%	3.33%	5.57%	3.11%

The discount rates for pension and other post-retirement plans are based on market yields on high-quality corporate bonds currently available and expected to be available during the period to maturity of the benefits. For pension and post-retirement plans that have been closed to new participants thereby shortening the duration, the discount rate is determined based on discounting the projected benefit streams against the Citigroup Pension discount curve.
The projected benefit obligations and fair values of plan assets for the Company's pension plans with projected benefit obligations in excess of plan assets are as follows:

(In thousands)	U.S. Pension December 29, 2018	U.S. Pension December 30, 2017	Non-U.S. Pension December 29, 2018	Non-U.S. Pension December 30, 2017
Pension Plans with Projected Benefit Obligations in Excess of Plan Assets:				
Projected benefit obligation	$29,715	$ 34,757	$3,671	$ 4,270
Fair value of plan assets	$28,729	$ 31,754	$726	$ 557

The accumulated benefit obligations and fair values of plan assets for the Company's pension plans with accumulated benefit obligations in excess of plan assets are as follows:

(In thousands)	U.S. Pension December 29, 2018	U.S. Pension December 30, 2017	Non-U.S. Pension December 29, 2018	Non-U.S. Pension December 30, 2017
Pension Plans with Accumulated Benefit Obligations in Excess of Plan Assets:				
Accumulated benefit obligation	$ 29,715	$ —	$2,604	$ 3,047

Fair value of plan assets	$ 28,729	$ —	$726	$ 557

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3. Employee Benefit Plans (continued)

The components of net periodic benefit cost are as follows:

(In thousands)	U.S. Pension			Non-U.S. Pension			Other Post-Retirement		
	December 29, 2018	December 30, 2017	December 31, 2016	December 29, 2018	December 30, 2017	December 31, 2016	December 29, 2018	December 30, 2017	December 31, 2016
Service cost	$699	$ 685	$ 723	$173	$ 148	$ 102	$213	$ 175	$ 130
Interest cost	1,193	1,231	1,273	126	114	107	172	170	156
Expected return on plan assets	(1,286)	(1,326)	(1,288)	(42)	(25)	(25)	(3)	(2)	(2)
Amortization of net actuarial loss	541	442	498	63	38	39	136	83	50
Amortization of prior service cost	—	53	55	6	6	4	86	88	88
Settlement loss	—	—	—	—	—	—	—	—	114
Curtailment loss	1,116	—	—	—	—	—	309	—	—
Net Periodic Benefit Cost	$2,263	$ 1,085	$ 1,261	$326	$ 281	$ 227	$913	$ 514	$ 536

The weighted-average assumptions used to determine net periodic benefit cost are as follows:

	U.S. Pension			Non-U.S. Pension			Other Post-Retirement		
	December 29, 2018	December 30, 2017	December 31, 2016	December 29, 2018	December 30, 2017	December 31, 2016	December 29, 2018	December 30, 2017	December 31, 2016
Discount Rate	3.51%	4.03 %	4.22 %	3.49%	3.45 %	3.87 %	3.58%	4.10 %	4.28 %
Expected Long-Term Return on Plan Assets	4.50%	5.00 %	5.00 %	7.43%	7.53 %	7.72 %	7.43%	7.53 %	7.72 %
Rate of Compensation Increase	3.00%	3.00 %	3.00 %	3.97%	3.65 %	3.67 %	3.05%	3.08 %	3.05 %

In developing the overall expected long-term return on plan assets assumption, a building block approach was used in which rates of return in excess of inflation were considered separately for equity securities, debt securities, and other assets. The excess returns were weighted by the representative target allocation and added along with an appropriate rate of inflation to develop the overall expected long-term return on plan assets assumption. The Company believes this determination is consistent with ASC 715, Compensation – Retirement Benefits.

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3. Employee Benefit Plans (continued)

Plan Assets
The fair values of the Company's noncontributory defined benefit retirement plan assets at year-end 2018 and year-end 2017 by asset category are as follows:

	December 29, 2018 Fair Value Measurement			
(In thousands)	Quoted Prices in Active Markets (Level 1)	Significant Observable Inputs (Level 2)	Significant Unobservable Inputs (Level 3)	Total
Retirement Plan Assets:				
Mutual funds:				
Money market funds	$12,852	$ —	$ —	$12,852
Fixed income funds	11,581	—	—	11,581
Investments measured at NAV				4,296
Total assets at fair value				$28,729
Non-U.S. Pension Plan Assets:				
Mutual funds	$726	$ —	$ —	$726
Total assets at fair value				$726

	December 30, 2017 Fair Value Measurement			
(In thousands)	Quoted Prices in Active Markets (Level 1)	Significant Observable Inputs (Level 2)	Significant Unobservable Inputs (Level 3)	Total
Retirement Plan Assets:				
Mutual funds:				
Fixed income funds	$17,560	$ —	$ —	$17,560
Equity funds	4,763	—	—	4,763
Investments measured at NAV				9,431
Total assets at fair value				$31,754
Non-U.S. Pension Plan Assets:				
Mutual funds	$557	$ —	$ —	$557
Total assets at fair value				$557

Description of Fair Value Measurements
Level 1 – Quoted, active market prices for identical assets.
Level 2 – Observable inputs other than Level 1 prices, based on model-derived valuations in which all significant inputs are observable in active markets.

Level 3 – Unobservable inputs based on the Company's own assumptions.

The following is a description of the valuation methodologies used for assets measured at fair value. There were no changes in valuation techniques during 2018 or 2017.

Mutual funds - Investments in money market, common stock index and fixed income funds. Share prices of the funds, referred to as a fund's Net Asset Value (NAV), are calculated daily based on the closing market prices and accruals of securities in the fund's total portfolio (total value of the fund) divided by the number of fund shares currently issued and outstanding. There are no redemption restrictions.

Investments measured at NAV - Investments in common collective trusts that invest in a diversified blend of investment and non-investment grade fixed income securities and are valued at NAV provided by the fund administrator. The NAV is used as the practical expedient to estimate fair value. The NAVs of the funds are calculated monthly based on the closing market prices

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3. Employee Benefit Plans (continued)

and accruals of securities in the fund's total portfolio (total value of the fund) divided by the number of fund shares currently issued and outstanding. Redemptions of the investments occur by contract at the respective fund's redemption date NAV.

The Company's investment policy for its U.S. noncontributory defined benefit retirement plan is to emphasize the preservation of capital. The investment policy takes into consideration the benefit obligations, including timing of distributions.

The following target asset allocation has been established for the plan:

Asset Category	Minimum	Neutral	Maximum
Money market funds	0 %	45 %	100 %
Debt Securities	0 %	55 %	100 %
Total		100 %	

Debt securities are weighted to reflect a portfolio duration to that of the plan's liabilities anticipated to be paid out as annuities. The credit quality must equal or exceed high investment grade quality ("Baa" or better).

Cash Flows

Contributions

The Company does not plan to make any material cash contributions to its pension and post-retirement benefit plans in 2019 other than to fund current benefit payments, as well as fund amounts related to the settlement of the Retirement Plan, which is expected to occur in late 2019 or early 2020.

Estimated Future Benefit Payments

Expected benefit payments are based on the same assumptions used to measure the Company's benefit obligation at year-end 2018. Estimated future benefit payments during the next five years and in aggregate for the five years thereafter are as follows:

(In thousands)	U.S. Pension	Non-U.S. Pension	Other Post-retirement
2019	$29,715	$ 194	$ 151
2020	—	142	2,871
2021	—	211	133
2022	—	312	127
2023	—	330	114
2024-2028	—	2,117	480

The estimated future benefit payments associated with the Retirement Plan are reflected in the table above in 2019. The actual settlement of the Retirement Plan's benefit obligation is dependent on the satisfaction of certain regulatory requirements, which is expected to occur in late 2019 or early 2020.

4. Stockholders' Equity

Preferred Stock

The Company's Certificate of Incorporation authorizes up to 5,000,000 shares of preferred stock, $.01 par value per share, for issuance by the Company's board of directors without further shareholder approval.

Common Stock
At year-end 2018, the Company reserved 945,279 unissued shares of its common stock for possible issuance under its stock-based compensation plans.

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5. Income Taxes

The Tax Cuts and Jobs Act of 2017 (2017 Tax Act) was signed into law on December 22, 2017 and its provisions are generally effective for tax years beginning January 1, 2018. The most significant impacts of the 2017 Tax Act to the Company include a decrease in the federal corporate income tax rate from 35% to 21%, and a one-time mandatory transition tax on deemed repatriation of previously tax-deferred and unremitted foreign earnings. On December 22, 2017, the SEC staff issued Staff Accounting Bulletin No. 118 (SAB 118) related to the income tax accounting implications of the 2017 Tax Act, which provides guidance on accounting for the 2017 Tax Act's impact. In accordance with SAB 118, the Company recorded a provisional net income tax expense of $7,487,000, including the impact of state taxes, in the fourth quarter of 2017, which consisted of a provisional amount for the one-time mandatory transition tax of $10,303,000, partially offset by a provisional net tax benefit of $2,816,000 for the re-measurement of the Company's deferred income tax assets and liabilities at the 21% federal corporate income tax rate. During 2018, the Company completed its accounting for the 2017 Tax Act under the SAB 118 guidance and recorded a net reduction of $138,000 to the 2017 provisional amount related to the one-time mandatory transition tax. While the 2017 Tax Act provides for a territorial tax system, beginning in 2018, it includes two new U.S. tax base erosion provisions, Global Intangible Low-Taxed Income (GILTI) and Base Erosion Anti-Abuse Tax (BEAT). The Company has elected to account for the GILTI tax in the period in which it is incurred and, therefore, has not provided the deferred income tax impact of GILTI in its consolidated financial statements. In addition, the Company does not expect to be subject to the minimum tax pursuant to the BEAT provisions.

The components of income from continuing operations before provision for income taxes are as follows:

(In thousands)	December 29, 2018	December 30, 2017	December 31, 2016
Domestic	$ (397)	$ 2,797	$ 6,196
Foreign	79,925	54,856	38,353
	$ 79,528	$ 57,653	$ 44,549

The components of the provision for income taxes from continuing operations are as follows:

(In thousands)	December 29, 2018	December 30, 2017	December 31, 2016
Current Provision:			
Federal	$ 724	$ 7,835	$ 535
Foreign	21,829	17,372	11,323
State	169	285	838
	22,722	25,492	12,696
Deferred (Benefit) Provision:			
Federal	(2,551)	4,682	1,738
Foreign	(1,761)	(3,563)	(1,818)
State	72	(541)	(533)
	(4,240)	578	(613)
	$ 18,482	$ 26,070	$ 12,083

The provision for income taxes included in the accompanying consolidated statement of income is as follows:

(In thousands)	December 29, 2018	December 30, 2017	December 31, 2016
Continuing Operations	$ 18,482	$ 26,070	$ 12,083
Discontinued Operation	—	—	2
	$ 18,482	$ 26,070	$ 12,085

The Company receives a tax deduction upon the exercise of nonqualified stock options and the vesting of RSUs. In 2016, the Company adopted ASU No. 2016-09, Compensation – Stock Compensation (Topic 718), Improvements to Employee Share-Based Payment Accounting. This ASU requires that excess income tax benefits and tax deficiencies related to stock-based compensation arrangements be recognized as discrete items within the provision for income taxes instead of capital in excess of par value in the reporting period in which they occur. The Company recognized an income tax benefit of $1,097,000 in 2018, $608,000 in 2017 and $582,000 in 2016 in the Company's accompanying consolidated statement of income.

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5. Income Taxes (continued)

The provision for income taxes from continuing operations in the accompanying statement of income differs from the provision calculated by applying the statutory federal income tax rate to income from continuing operations before provision for income taxes due to the following:

(In thousands)	December 29, 2018	December 30, 2017	December 31, 2016
Provision for Income Taxes at Statutory Rate (21% in 2018 and 35% in 2017 and 2016)	$ 16,701	$ 20,179	$ 15,592
Increases (Decreases) Resulting From:			
State income taxes, net of federal tax	164	151	189
U.S. tax cost of foreign earnings	1,215	761	192
Foreign tax rate differential	3,158	(3,747)	(3,921)
(Reversal of) provision for tax benefit reserves, net	(1,785)	1,517	(76)
Change in valuation allowance	141	(341)	(131)
Nondeductible expenses	781	1,177	1,090
Research and development tax credits	(445)	(297)	(229)
Excess tax benefit related to stock-based compensation	(967)	(581)	(553)
Impact of the U.S. Tax Cuts and Jobs Act	(106)	7,093	—
Other	(375)	158	(70)
	$ 18,482	$ 26,070	$ 12,083

Net deferred tax liability in the accompanying consolidated balance sheet consists of the following:

(In thousands)	December 29, 2018	December 30, 2017
Deferred Tax Asset:		
Foreign, state, and alternative minimum tax credit carryforwards	$ 184	$ 185
Reserves and accruals	3,555	4,455
Net operating loss carryforwards	12,785	15,161
Inventory basis difference	3,692	3,265
Research and development	—	88
Employee compensation	4,382	2,610
Allowance for doubtful accounts	482	505
Other	294	59
Deferred tax asset, gross	25,374	26,328
Less: valuation allowance	(9,946)	(10,835)
Deferred tax asset, net	15,428	15,493
Deferred Tax Liability:		
Goodwill and intangible assets	(28,060)	(32,120)
Fixed asset basis difference	(3,565)	(4,213)
Provision for unremitted foreign earnings	(1,124)	(2,718)
Research and development	(54)	—
Other	(619)	(554)
Deferred tax liability	(33,422)	(39,605)
Net deferred tax liability	$ (17,994)	$ (24,112)

The deferred tax assets and liabilities are presented in the accompanying consolidated balance sheet within other assets and long-term deferred income taxes on a net basis by tax jurisdiction. The Company has established valuation allowances related to certain domestic and foreign deferred tax assets on deductible temporary differences, tax losses, and tax credit carryforwards. The valuation allowance at year-end 2018 was $9,946,000, consisting of $418,000 in the United States and $9,528,000 in foreign jurisdictions. The decrease in the valuation allowance in 2018 of $889,000 related primarily to fluctuations in foreign currency exchange rates and tax rate changes. Compliance with ASC 740 requires the Company to periodically evaluate the necessity of establishing or adjusting a valuation allowance for deferred tax assets depending on whether it is more likely than not that a related tax benefit will be realized in future periods. When assessing the need for a valuation allowance in a tax jurisdiction, the Company evaluates the weight of all available evidence to determine whether it is more likely than not that some portion or all of the deferred tax assets will not be realized. As part of this evaluation, the Company considers its cumulative three-year history of earnings before income taxes, taxable income in prior carryback years, future reversals of existing taxable temporary differences, prudent and feasible tax planning strategies, and expected future results of operations. As of year-end 2018, the Company continued to maintain a valuation allowance in the United States against a portion of its state net operating loss carryforwards due to the uncertainty of future profitability in state jurisdictions. As of year-end 2018, the Company maintained valuation allowances in certain foreign jurisdictions because of the uncertainty of future profitability.

At year-end 2018, the Company had domestic state net operating loss carryforwards of $25,852,000 and foreign net operating loss carryforwards of $44,495,000. The domestic state net operating loss carryforwards will expire in the years 2019 through 2037. Their utilization is limited to future taxable income from the Company's domestic subsidiaries. The foreign net operating loss carryforwards do not expire.

At year-end 2018, the Company had approximately $283,922,000 of unremitted foreign earnings. The Company intends to repatriate the distributable reserves of select foreign subsidiaries back to the United States and has recognized $830,000 of net tax expense on the estimated repatriation amount during 2018. Except for these select foreign subsidiaries, the Company intends to indefinitely reinvest $272,846,000 of these earnings of its international subsidiaries in order to support the current and future capital needs of their operations in the foreign jurisdictions, including the repayment of the Company’s foreign debt. The related foreign withholding taxes, which would be required if the Company were to remit these foreign earnings to the United States, would be approximately $4,949,000.

The Company operates within multiple tax jurisdictions and could be subject to audit in those jurisdictions. Such audits can involve complex income tax issues, which may require an extended period of time to resolve and may cover multiple years. In management's opinion, adequate provisions for income taxes have been made for all years subject to audit.

As of year-end 2018, the Company had $12,364,000 of unrecognized tax benefits which, if recognized, would reduce the effective tax rate. A reconciliation of the beginning and ending amount of unrecognized tax benefits at year-end 2018 and year-end 2017 is as follows:

(In thousands)	December 29, 2018	December 30, 2017
Unrecognized Tax Benefits, Beginning of Year	$ 7,843	$ 5,467
Gross Increases—Tax Positions in Prior Periods	1,019	4
Gross Decreases—Tax Positions in Prior Periods	(390)	(22)
Gross Increases—Current-period Tax Positions	7,344	2,229
Settlements	(131)	—
Lapses of Statutes of Limitations	(3,190)	(11)
Currency Translation	(131)	176
Unrecognized Tax Benefits, End of Year	$ 12,364	$ 7,843

The Company recognizes accrued interest and penalties related to unrecognized tax benefits in the provision for income taxes. The Company has accrued $2,087,000 at year-end 2018 and $1,523,000 at year-end 2017 for the potential payment of interest and penalties. The interest and penalties included in the accompanying consolidated statement of income was an expense of $544,000 in 2018 and $199,000 in 2017.

The Company is currently under audit in certain tax jurisdictions. It is reasonably possible that over the next fiscal year the amount of liability for unrecognized tax benefits may be reduced by up to $841,000 primarily from the expiration of tax statutes of limitations.

The Company remains subject to U.S. Federal income tax examinations for the tax years 2015 through 2018, and to non-U.S. income tax examinations for the tax years 2004 through 2018. In addition, the Company remains subject to state and local income tax examinations in the United States for the tax years 2004 through 2018.

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6. Long-Term Obligations

Long-term obligations are as follows:

(In thousands)	December 29, 2018	December 30, 2017
Revolving Credit Facility, due 2023	$ 141,106	$ 237,011
Commercial Real Estate Loan, due 2019 to 2028	20,475	—
Senior Promissory Notes, due 2023 to 2028	10,000	—
Obligations Under Capital Lease, due 2019 to 2022	4,144	4,633
Other Borrowings, due 2019 to 2023	244	436
Unamortized Debt Issuance Costs	(148)	—
Total	175,821	242,080
Less: Current Maturities of Long-Term Obligations	(1,668)	(696)
Long-Term Obligations	$ 174,153	$ 241,384

See Note 10 for the fair value information related to the Company's long-term obligations.

Revolving Credit Facility
In December 2018, the Company entered into a second amendment (Second Amendment) to its existing amended and restated five-year, unsecured multi-currency revolving credit facility (Credit Agreement), dated as of March 1, 2017. Pursuant to the Second Amendment, the Credit Agreement was amended to, among other changes, increase its borrowing capacity from $300,000,000 to $400,000,000, increase its uncommitted unsecured incremental borrowing facility from $100,000,000 to $150,000,000 and extend its maturity date from March 1, 2022 to December 14, 2023. Interest on borrowings outstanding accrues and is payable quarterly in arrears calculated at one of the following rates selected by the Company: (i) the Base Rate, calculated as the highest of (a) the federal funds rate plus 0.50%, (b) the prime rate as published by Citizens Bank, and (c) the thirty-day London Inter-Bank Offered Rate (LIBOR) rate, as defined, plus 0.50%; or (ii) the LIBOR rate (with a zero percent floor), as defined, plus an applicable margin of 1% to 2.25%. The applicable margin is determined based upon the ratio of the Company's total debt, net of unrestricted cash up to $30,000,000 and certain debt obligations, to earnings before interest, taxes, depreciation, and amortization (EBITDA) as defined in the Credit Agreement.
The obligations of the Company under the Credit Agreement may be accelerated upon the occurrence of an event of default, which includes customary events of defaults under such financing arrangements. In addition, as amended by the Second Amendment, the Credit Agreement contains negative covenants applicable to the Company and its subsidiaries, including financial covenants requiring the Company to maintain a maximum consolidated leverage ratio of 3.75 to 1.00, or for the quarter during which a material acquisition occurs and for the three fiscal quarters thereafter, 4.00 to 1.00, and limitations on making certain restricted payments (including dividends and stock repurchases).
Loans under the Credit Agreement are guaranteed by certain domestic subsidiaries of the Company. In addition, one of the Company’s foreign subsidiaries entered into a separate guarantee agreement limited to certain obligations of two foreign subsidiary borrowers.
At year-end 2018, the outstanding balance under the Credit Agreement was $141,106,000, and included $41,612,000 of Canadian dollar-denominated borrowings and $19,494,000 of euro-denominated borrowings. The Company had $258,864,000 of borrowing capacity available under the Credit Agreement at year-end 2018, which was calculated by translating its foreign-denominated borrowings using borrowing date foreign exchange rates. The weighted average interest rate for the outstanding balance under the Credit Agreement was 3.47% as of year-end 2018. See Note 15, Subsequent Events, for the additional borrowings under the Credit Agreement related to the Company's acquisition that occurred on January 2, 2019.

During 2018, the Company incurred $741,000 of debt issuance costs related to the Second Amendment of the Credit Agreement. Unamortized debt issuance costs related to the Credit Agreement, included in other assets in the accompanying consolidated balance sheet, were $1,735,000 at year-end 2018 and $1,285,000 at year-end 2017 and are being amortized to interest expense using the straight-line method.

Commercial Real Estate Loan

In July 2018, the Company and certain domestic subsidiaries borrowed $21,000,000 under a promissory note (Real Estate Loan) which is repayable in quarterly principal installments of $262,500 over a ten-year period with the remaining principal balance of $10,500,000 due upon maturity. Interest accrues and is payable quarterly in arrears at a fixed rate of 4.45%

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6. Long-Term Obligations (continued)

per annum. The Company is not permitted to prepay any amount in the first twelve months of the term of the Real Estate Loan. Any voluntary prepayments are subject to a 2% prepayment fee if paid in the second twelve months of the term of the Real Estate Loan and are subject to a 1% prepayment fee if paid in the third twelve months of the term of the Real Estate Loan. Thereafter, no prepayment fee will be applied to voluntary prepayment by the Company.
The Real Estate Loan is secured by real estate and related personal property of the Company and certain of its domestic subsidiaries, pursuant to the mortgage and security agreements dated July 6, 2018 (Mortgage and Security Agreements). The obligations of the Company under the Real Estate Loan may be accelerated upon the occurrence of an event of default under the Real Estate Loan and the Mortgage and Security Agreements, which includes customary events of default for financings of this type. In addition, a default under the Credit Agreement or any successor credit facility would be an event of default under the Real Estate Loan. The Company used the proceeds from the Real Estate Loan to repay a portion of its U.S. dollar-denominated debt under the Credit Agreement.
The Company incurred $158,000 of debt issuance costs related to the Real Estate Loan. The effective interest rate for the Real Estate Loan, including amortization of debt issuance costs, was 4.60% as of December 29, 2018.

Senior Promissory Notes
In December 2018, the Company entered into an uncommitted, unsecured Multi-Currency Note Purchase and Private Shelf Agreement (Note Purchase Agreement). Simultaneous with the execution of the Note Purchase Agreement, the Company issued senior promissory notes (Initial Notes) in an aggregate principal amount of $10,000,000, with a per annum interest rate of 4.90% payable semiannually, and a maturity date of December 14, 2028. The Company is required to prepay a portion of the principal of the Initial Notes beginning on December 14, 2023 and each year thereafter, and may optionally prepay the principal on the Initial Notes, together with any prepayment premium, at any time (in a minimum amount of $1,000,000, or the foreign currency equivalent thereof, if applicable) in accordance with the Note Purchase Agreement. The obligations of Initial Notes may be accelerated upon an event of default as defined in the Note Purchase Agreement, which includes customary events of defaults under such financing arrangements.
In accordance with the Note Purchase Agreement, the Company may also issue additional senior promissory notes (together with the Initial Notes, the Senior Promissory Notes) up to an additional $115,000,000 until the earlier of December 14, 2021 or the thirtieth day after written notice to terminate the issuance and sale of additional notes pursuant to the Note Purchase Agreement. The Senior Promissory Notes will be pari passu with the Company’s indebtedness under the Credit Agreement, and any other senior debt of the Company, subject to certain specified exceptions, and will participate in a sharing agreement with respect to the obligations of the Company and its subsidiaries under the Credit Agreement. The Senior Promissory Notes are guaranteed by certain of the Company’s domestic subsidiaries.
The Company incurred $193,000 of debt issuance costs related to the Note Purchase Agreement.
The following schedule presents the annual repayment requirements for the Company’s Credit Agreement, Real Estate Loan and Initial Notes as of year-end 2018.

(In thousands)	
2019	$1,050
2020	1,050
2021	1,050
2022	1,050
2023	143,823
2024 and Thereafter	23,558
	$171,581

Debt Compliance

At year-end 2018, the Company was in compliance with the covenants related to its debt obligations.

Obligations Under Capital Lease

The Company's obligations under capital leases include a sale-leaseback financing arrangement for a manufacturing facility in Germany. Under this arrangement, the quarterly lease payment includes principal, interest, and a payment to the landlord toward a loan receivable. The interest rate on the outstanding obligation is 1.79%. The secured loan receivable, which is included in other assets in the accompanying consolidated balance sheet, was $692,000 at year-end 2018. The lease arrangement provides for a fixed price purchase option, net of the projected loan receivable, of $1,524,000 at the end of the

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6. Long-Term Obligations (continued)

lease term in 2022. If the Company does not exercise the purchase option for the facility, the Company will receive cash from the landlord to settle the loan receivable. As of year-end 2018, $4,082,000 was outstanding under this capital lease obligation and $62,000 was outstanding under other capital lease obligations.
The following schedule presents future minimum lease payments under the Company's capital lease obligations and the present value of the minimum lease payments as of year-end 2018.

(In thousands)	
2019	$571
2020	578
2021	542
2022	1,099
Total Minimum Lease Payments	$2,790
Less: Imputed Interest	(170)
Present Value of Minimum Lease Payments	$2,620

7. Commitments and Contingencies

Operating Leases
The Company occupies office and operating facilities under various operating leases. The accompanying consolidated statement of income includes expenses from operating leases of $5,575,000 in 2018, $4,955,000 in 2017, and $4,298,000 in 2016. The future minimum payments due under noncancelable operating leases at year-end 2018 are $4,507,000 in 2019; $3,275,000 in 2020; $2,230,000 in 2021; $1,579,000 in 2022; $987,000 in 2023 and $1,713,000 thereafter. Total future minimum lease payments are $14,291,000.

Letters of Credit and Bank Guarantees
Outstanding letters of credit and bank guarantees issued on behalf of the Company, principally relating to performance obligations and customer deposit guarantees, totaled $18,320,000 at year-end 2018. Certain of the Company's contracts, particularly for stock-preparation and systems orders, require the Company to provide a standby letter of credit or bank guarantee to a customer as beneficiary, limited in amount to a negotiated percentage of the total contract value, in order to guarantee warranty and performance obligations of the Company under the contract. Typically, these standby letters of credit and bank guarantees expire without being drawn by the beneficiary.

Right of Recourse
In the ordinary course of business, the Company's subsidiaries in China may receive banker's acceptance drafts from customers as payment for their trade accounts receivable. The drafts are noninterest-bearing obligations of the issuing bank and mature within six months of the origination date. The Company's subsidiaries in China may use these banker's acceptance drafts prior to the scheduled maturity date to settle outstanding accounts payable with vendors. Banker's acceptance drafts transferred to vendors are subject to customary right of recourse provisions prior to their scheduled maturity dates. The Company had $12,406,000 at year-end 2018 and $10,035,000 at year-end 2017 of banker's acceptance drafts subject to recourse, which were transferred to vendors and had not reached their scheduled maturity dates. Historically, the banker's acceptance drafts have settled upon maturity without any claim of recourse against the Company.

Contingencies

In the ordinary course of business, the Company is, at times, required to issue limited performance guarantees, some of which do not require the issuance of letters of credit to customers in support of these guarantees, relating to its equipment and systems. The Company generally limits its liability under these guarantees to amounts typically capped at 10% or less of the value of the contract. The Company believes that it has adequate reserves for any potential liability in connection with such guarantees.

Litigation

From time to time, the Company is subject to various claims and legal proceedings covering a range of matters that arise in the ordinary course of business. Such litigation may include, but is not limited to, claims and counterclaims by and against the Company for breach of contract or warranty, canceled contracts, product liability, or bankruptcy-related claims. For

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7. Commitments and Contingencies (continued)

legal proceedings in which a loss is probable and estimable, the Company accrues a loss based on the low end of the range of estimated loss when there is no better estimate within the range. If the Company were found to be liable for any of the claims or counterclaims against it, the Company would incur a charge against earnings for amounts in excess of legal accruals.

8. Restructuring Costs and Other Income

Restructuring Costs
In 2017, the Company constructed a 160,000 square foot manufacturing facility in the United States that integrated its U.S. and Swedish papermaking stock-preparation product lines into a single manufacturing facility to achieve economies of scale and greater efficiencies. As a result of the consolidation and integration of these facilities, the Company developed a restructuring plan totaling $1,920,000, primarily related to costs for the relocation of machinery and equipment and administrative offices, severance, and abandonment of leased facilities in the Papermaking Systems segment. As a result of this plan, the Company recorded restructuring charges of $203,000 in 2017 associated with severance costs for the reduction of four employees in the United States and six employees in Sweden. In 2018, the Company recorded additional restructuring costs of $1,717,000 related to this plan, including $1,318,000 primarily for the relocation of machinery and equipment and administrative offices, $454,000 associated with employee retention costs and abandonment of excess facility and other closure costs, and a reversal of $55,000 of severance costs no longer required. The Company does not expect to incur additional charges related to this restructuring plan.
A summary of the changes in accrued restructuring costs included in other accrued expenses in the accompanying consolidated balance sheet are as follows:

(In thousands)	Severance	Relocation	Other (a)	Total
2017 Restructuring Plan				
Provision	$ 203	$ —	$ —	$ 203
Balance at December 30, 2017	203	—	—	203
(Reversal) Provision	(55)	1,318	454	1,717
Usage	(77)	(1,315)	(448)	(1,840)
Currency translation	(8)	(3)	(6)	(17)
Balance at December 29, 2018	$ 63	$ —	$ —	$ 63

(a) Includes employee retention costs that are accrued ratably over the period through which employees must work to qualify for a payment and facility closure and clean-up costs.

Other Income
In 2016, other income consisted of a pre-tax gain of $317,000 from the sale of real estate in Sweden for cash proceeds of $368,000.

9. Derivatives

Interest Rate Swap Agreements
In May 2018, the Company entered into an interest rate swap agreement (2018 Swap Agreement) which has a $15,000,000 notional value and expires on June 30, 2023. In 2015, the Company also entered into an interest rate

swap agreement (2015 Swap Agreement) which has a $10,000,000 notional value and expires on March 27, 2020. The swap agreements hedge the Company's exposure to movements in the three-month LIBOR rate on U.S. dollar-denominated debt. On a quarterly basis, the Company receives a three-month LIBOR rate and pays a fixed rate of interest of 3.15% plus an applicable margin as defined in the Credit Agreement on the 2018 Swap Agreement and 1.50% plus an applicable margin as defined in the Credit Agreement on the 2015 Swap Agreement. The 2018 Swap Agreement is subject to a zero percent floor on the three-month LIBOR rate. The interest rate swap agreements are designated as cash flow hedges and, accordingly, unrecognized gains and losses are recorded to AOCI, net of tax. The Company has structured the interest rate swap agreements to be 100% effective and, as a result, there is no current impact to earnings resulting from hedge ineffectiveness. Management believes that any credit risk associated with the interest

9. Derivatives (continued)

rate swap agreements is remote based on the Company's financial position and the creditworthiness of the financial institution that issued those agreements.
The counterparty to the interest rate swap agreements could demand an early termination of those agreements if the Company were to be in default under the Credit Agreement, or any agreement that amends or replaces the Credit Agreement in which the counterparty is a member, and if the Company were to be unable to cure the default (see Note 6). The fair values of the interest rate swap agreements represent the estimated amounts that the Company would receive from or pay to the counterparty in the event of an early termination.

Forward Currency-Exchange Contracts
The Company uses forward currency-exchange contracts primarily to hedge exposures resulting from fluctuations in currency exchange rates. Such exposures result primarily from portions of the Company's operations and assets and liabilities that are denominated in currencies other than the functional currencies of the businesses conducting the operations or holding the assets and liabilities. The Company typically manages its level of exposure to the risk of currency-exchange fluctuations by hedging a portion of its anticipated currency exposures over the ensuing 12-month period, using forward currency-exchange contracts that have maturities of twelve months or less.
Forward currency-exchange contracts that hedge forecasted accounts receivable or accounts payable are designated as cash flow hedges and unrecognized gains and losses are recorded to AOCI, net of tax. For forward currency-exchange contracts that are designated as fair value hedges, the gain or loss on the derivative, as well as the offsetting loss or gain on the hedged item are recognized currently in earnings. The fair values of forward currency-exchange contracts that are not designated as hedges are recorded currently in earnings. The Company recognized within SG&A expenses in the accompanying consolidated statement of income losses of $27,000 in 2018, $1,367,000 in 2017 and $797,000 in 2016, associated with forward currency-exchange contracts that were not designated as hedges. Management believes that any credit risk associated with forward currency-exchange contracts is remote based on the Company's financial position and the creditworthiness of the financial institutions issuing the contracts.
The following table summarizes the fair value of the Company's derivative instruments in the accompanying consolidated balance sheet:

(In thousands)	Balance Sheet Location	December 29, 2018 Asset (Liability) (a)	December 29, 2018 Notional Amount (b)	December 30, 2017 Asset (Liability) (a)	December 30, 2017 Notional Amount
Derivatives Designated as Hedging Instruments:					
Derivatives in an Asset Position:					
2015 Swap Agreement	Other Long-Term Assets	$148	$10,000	$126	$10,000
Forward currency-exchange contract	Other Long Term Assets	$11	$842	$—	$—
Derivatives in a Liability Position:					
Forward currency-exchange contract	Other Current Liabilities	$(50)	$2,946	$—	$—
2018 Swap Agreement	Other Long-Term Liabilities	$(352)	$15,000	$—	$—
Derivatives Not Designated as Hedging Instruments:					
Derivatives in an Asset Position:					

Forward currency-exchange contracts	Other Current Assets	$9	$1,192	$17	$1,244
Derivatives in a Liability Position:					
Forward currency-exchange contracts	Other Current Liabilities	$(31)	$1,384	$(16)	$2,049

(a) See Note 10 for the fair value measurements relating to these financial instruments.

(b) The total 2018 notional amounts are indicative of the level of the Company's recurring derivative activity.

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9. Derivatives (continued)

The following table summarizes the activity in AOCI associated with the Company's derivative instruments designated as cash flow hedges as of and for the year ended December 29, 2018:

(In thousands)	Interest Rate Swap Agreements	Forward Currency-Exchange Contracts	Total
Unrealized Gain, Net of Tax, at December 30, 2017	$ 79	$ —	$79
Loss (gain) reclassified to earnings (a)	8	(16)	(8)
Loss recognized in AOCI	(257)	(11)	(268)
Unrealized Loss, Net of Tax, at December 29, 2018	$ (170)	$ (27)	$(197)

(a) See Note 13 for the income statement classification.

At year-end 2018, the Company expects to reclassify $8,000 from AOCI to earnings over the next twelve months based on the estimated cash flows of the interest rate swap agreements and the maturity dates of the forward currency-exchange contracts.

10. Fair Value Measurements and Fair Value of Financial Instruments

Fair value measurement is defined as the price that would be received to sell an asset or paid to transfer a liability in the principal or most advantageous market for the asset or liability in an orderly transaction between market participants at the measurement date. A fair value hierarchy is established, which prioritizes the inputs used in measuring fair value into three broad levels as follows:

- Level 1—Quoted prices in active markets for identical assets or liabilities.
- Level 2—Inputs, other than quoted prices in active markets, that are observable either directly or indirectly.
- Level 3—Unobservable inputs based on the Company's own assumptions.

The following table presents the fair value hierarchy for those assets and liabilities measured at fair value on a recurring basis:

	Fair Value as of December 29, 2018			
(In thousands)	Level 1	Level 2	Level 3	Total
Assets:				
Money market funds and time deposits	$6,902	$—	$ —	$6,902
Banker's acceptance drafts (a)	$—	$7,976	$ —	$7,976
2015 Swap Agreement	$—	$148	$ —	$148
Forward currency-exchange contracts	$—	$20	$ —	$20
Liabilities:				
2018 Swap Agreement	$—	$352	$ —	$352
Forward currency-exchange contracts	$—	$81	$ —	$81

Fair Value as of December 30, 2017

(In thousands)	Level 1	Level 2	Level 3	Total
Assets:				
Money market funds and time deposits	$17,728	$—	$ —	$17,728
Banker's acceptance drafts (a)	$—	$15,960	$ —	$15,960
2015 Swap Agreement	$—	$126	$ —	$126
Forward currency-exchange contracts	$—	$17	$ —	$17
Liabilities:				
Forward currency-exchange contracts	$—	$16	$ —	$16

(a) Included in accounts receivable in the accompanying consolidated balance sheet.

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10. Fair Value Measurements and Fair Value of Financial Instruments (continued)

The Company uses the market approach technique to value its financial assets and liabilities, and there were no changes in valuation techniques during 2018. The Company's financial assets and liabilities carried at fair value are cash equivalents, banker's acceptance drafts, derivative instruments used to hedge the Company's foreign currency and interest rate risks, variable rate debt, and capital lease obligations. The Company's cash equivalents are comprised of money market funds and bank deposits which are highly liquid and readily tradable. These cash equivalents are valued using inputs observable in active markets for identical securities. The carrying value of banker's acceptance drafts approximates their fair value due to the short-term nature of the negotiable instrument. The fair values of the Company's forward currency-exchange contracts are based on quoted forward foreign exchange rates at the reporting date. The fair values of the Company's interest rate swap agreements is based on LIBOR yield curves at the reporting date. The forward currency-exchange contracts and interest rate swap agreements are hedges of either recorded assets or liabilities or anticipated transactions. Changes in values of the underlying hedged assets and liabilities or anticipated transactions are not reflected in the table above.
The carrying value and fair value of the Company's debt obligations are as follows:

(In thousands)	December 29, 2018		December 30, 2017	
	Carrying Value	Fair Value	Carrying Value	Fair Value
Debt Obligations:				
Revolving credit facility	$141,106	$141,106	$237,011	$237,011
Commercial real estate loan	20,475	20,575	—	—
Senior promissory notes	10,000	10,120	—	—
Capital lease obligations	4,144	4,144	4,633	4,633
Other borrowings	244	244	436	436
	$175,969	$176,189	$242,080	$242,080

The carrying value of the Company's revolving credit facility approximates the fair value as the obligation bears variable rates of interest, which adjust quarterly based on prevailing market rates. The fair values of the commercial real estate loan and senior promissory notes were calculated based on quoted market rates, plus an applicable margin available to the Company at the end of the quarter, which represents a Level 2 measurement. The carrying values of the Company's capital lease obligations and other borrowings approximate fair value as the stipulated interest rates are comparable to prevailing market rates for those obligations.

11. Business Segment and Geographical Information

The Company has combined its operating entities into two reportable operating segments, Papermaking Systems and Wood Processing Systems, and a separate product line, Fiber-based Products. In classifying operational entities into a particular segment, the Company has aggregated businesses with similar economic characteristics, products and services, production processes, customers, and methods of distribution.
The Papermaking Systems segment develops, manufactures, and markets a range of equipment and products for the global papermaking, paper recycling, recycling and waste management, and other process industries. The Company's principal products include custom-engineered stock-preparation systems and equipment for the preparation of wastepaper for conversion into recycled paper and balers and related equipment used in the processing of recyclable and waste materials; fluid-handling systems and equipment used in industrial piping systems to compensate for movement and to efficiently transfer fluid, power, and data; doctoring systems and equipment and related consumables important to the efficient operation of paper machines and other industrial processes; and filtration and

cleaning systems essential for draining, purifying, and recycling process water and cleaning fabrics, belts, and rolls in various process industries.

The Wood Processing Systems segment develops, manufactures, and markets stranders, debarkers, chippers, and logging machinery used in the harvesting and production of lumber and OSB. Through this segment, the Company also provides refurbishment and repair of pulping equipment for the pulp and paper industry.

The Fiber-based Products business manufactures and sells biodegradable, absorbent granules derived from papermaking by-products for use primarily as carriers for agricultural, home lawn and garden, and professional lawn, turf and ornamental applications, as well as for oil and grease absorption.

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11. Business Segment and Geographical Information (continued)

(In thousands)	December 29, 2018	December 30, 2017	December 31, 2016
Business Segment Information			
Revenues by Product Line:			
Papermaking Systems:			
Stock-Preparation	$ 221,933	$ 193,838	$ 171,378
Fluid-Handling	131,830	104,136	89,145
Doctoring, Cleaning, & Filtration	116,136	109,631	105,938
Papermaking Systems	$ 469,899	$ 407,605	$ 366,461
Wood Processing Systems	151,366	95,053	36,850
Fiber-based Products	12,521	12,375	10,815
	$ 633,786	$ 515,033	$ 414,126
Income from Continuing Operations Before Provision for Income Taxes:			
Papermaking Systems (a)	$ 83,454	$ 73,069	$ 58,025
Wood Processing Systems (b)	31,237	10,005	8,327
Corporate and Fiber-based Products (c)	(26,093)	(21,449)	(19,710)
Total operating income	88,598	61,625	46,642
Interest expense, net (d)	(6,653)	(3,100)	(1,024)
Other expense, net (d, e)	(2,417)	(872)	(1,069)
	$ 79,528	$ 57,653	$ 44,549
Total Assets:			
Papermaking Systems	$ 462,297	$ 494,919	$ 407,538
Wood Processing Systems	247,553	257,467	52,407
Other (f)	15,899	8,708	10,746
	$ 725,749	$ 761,094	$ 470,691
Depreciation and Amortization:			
Papermaking Systems	$ 12,561	$ 11,239	$ 11,513
Wood Processing Systems	10,317	7,515	2,188

Other	690	621	625
	$ 23,568	$ 19,375	$ 14,326
Capital Expenditures:			
Papermaking Systems	$ 12,717	$ 14,359	$ 5,504
Wood Processing Systems	3,272	2,333	29
Other	570	589	271
	$ 16,559	$ 17,281	$ 5,804
Geographical Information			
Revenues (g):			
United States	$ 234,487	$ 182,788	$ 165,335
China	89,645	63,910	43,299
Canada	61,096	47,611	28,888
Germany	26,577	32,026	18,095
Finland	10,934	8,607	3,885
Other	211,047	180,091	154,624
	$ 633,786	$ 515,033	$ 414,126
Long-lived Assets (h):			
United States	$ 35,446	$ 32,852	$ 18,482
China	11,069	11,685	10,714
Canada	8,193	9,449	1,125
Finland	6,998	5,841	—
Germany	6,223	6,452	5,792
Other	12,228	13,444	11,591
	$ 80,157	$ 79,723	$ 47,704

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11. Business Segment and Geographical Information (continued)

(a) Includes $787,000 in 2017 and $3,491,000 in 2016 of acquisition-related expenses. Acquisition-related expenses include acquisition transaction costs and amortization of acquired profit in inventory and backlog. Includes restructuring costs of $1,717,000 in 2018 and $203,000 in 2017, and other income of $317,000 in 2016 (see Note 8).
(b) Includes $252,000 in 2018 and $11,163,000 in 2017 of acquisition-related expenses.
(c) Corporate primarily includes general and administrative expenses, including $1,321,000 in 2018 of acquisition-related expenses.
(d) The Company does not allocate interest and other expense, net to its segments.
(e) Includes a curtailment loss of $1,425,000 in 2018 (see Note 3, Employee Benefit Plans, under Pension and Other Post-Retirement Benefits Plans).
(f) Primarily includes Corporate and Fiber-based Products' cash and cash equivalents, tax assets, and property, plant, and equipment.
(g) Revenues are attributed to countries based on customer location.
(h) Represents property, plant, and equipment, net.

12. Earnings per Share

Basic and diluted EPS were calculated as follows:

(In thousands, except per share amounts)	December 29, 2018	December 30, 2017	December 31, 2016
Amounts Attributable to Kadant			
Income from Continuing Operations	$ 60,413	$ 31,092	$ 32,074
Income from Discontinued Operation	—	—	3
Net Income Attributable to Kadant	$ 60,413	$ 31,092	$ 32,077
Basic Weighted Average Shares	11,086	10,991	10,869
Effect of Stock Options, Restricted Stock Units and Employee Stock Purchase Plan Shares	314	321	280
Diluted Weighted Average Shares	11,400	11,312	11,149
Basic EPS			
Continuing Operations	$ 5.45	$ 2.83	$ 2.95
Discontinued Operation	$ —	$ —	$ —
Earnings per Basic Share	$ 5.45	$ 2.83	$ 2.95
Diluted EPS			
Continuing Operations	$ 5.30	$ 2.75	$ 2.88
Discontinued Operation	$ —	$ —	$ —
Earnings per Diluted Share	$ 5.30	$ 2.75	$ 2.88

The dilutive effect of the outstanding and unvested RSUs totaling 18,700 shares in 2018, 15,600 shares in 2017, and 36,700 shares in 2016 of the Company's common stock was not included in the computation of diluted EPS, as the effect would have been antidilutive or, for unvested performance-based RSUs, the performance conditions had not been met as of the end of the reporting periods during the year.

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13. Accumulated Other Comprehensive Items

Comprehensive income combines net income and other comprehensive items, which represent certain amounts that are reported as components of stockholders' equity in the accompanying consolidated balance sheet.
Changes in each component of AOCI, net of tax, are as follows:

(In thousands)	Foreign Currency Translation Adjustment	Unrecognized Prior Service (Cost) Income on Retirement Benefit Plans	Net Actuarial Loss on Retirement Benefit Plans	Deferred Gain (Loss) on Cash Flow Hedges	Total
Balance at December 30, 2017	$ (17,501)	$ (319)	$ (8,974)	$ 79	$ (26,715)
Other comprehensive (loss) income before reclassifications	(17,303)	(810)	4,020	(268)	(14,361)
Reclassifications from AOCI	—	1,149	559	(8)	1,700
Net current period other comprehensive (loss) income	(17,303)	339	4,579	(276)	(12,661)
Balance at December 29, 2018	$ (34,804)	$ 20	$ (4,395)	$ (197)	$ (39,376)

Amounts reclassified out of AOCI are as follows:

(In thousands)	December 29, 2018	December 30, 2017	December 31, 2016	Statement of Income Line Item
Retirement Benefit Plans (a)				
Recognized net actuarial loss	$ (740)	$ (563)	$ (701)	Other expense, net
Amortization of prior service cost	(92)	(147)	(147)	Other expense, net
Curtailment loss	(1,425)	—	—	Other expense, net
Total expense before income taxes	(2,257)	(710)	(848)	
Income tax benefit	549	246	295	Provision for income taxes
	(1,708)	(464)	(553)	
Cash Flow Hedges (b)				
Interest rate swap agreements	(11)	(30)	(174)	Interest expense
Forward currency-exchange contracts	—	—	(14)	Revenues
Forward currency-exchange contracts	22	(97)	(186)	Cost of revenues
Total income (expense) before income taxes	11	(127)	(374)	
Income tax (provision) benefit	(3)	43	(37)	Provision for income taxes
	8	(84)	(411)	
Total Reclassifications	$ (1,700)	$ (548)	$ (964)	

(a) Included in the computation of net periodic benefit cost. See Note 3 for additional information.
(b) See Note 9 for additional information.

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14. Unaudited Quarterly Information

2018 (In thousands, except per share amounts)	First	Second	Third	Fourth
Revenues	$149,193	$154,913	$165,745	$163,935
Gross Profit	$66,079	$68,164	$73,093	$70,945
Net Income Attributable to Kadant	$10,858	$12,349	$18,784	$18,422
Basic Earnings per Share:				
Net Income Attributable to Kadant	$0.98	$1.11	$1.69	$1.66
Diluted Earnings per Share:				
Net Income Attributable to Kadant	$0.96	$1.08	$1.64	$1.61
Cash Dividends Declared per Common Share	$0.22	$0.22	$0.22	$0.22

2017 (In thousands, except per share amounts)	First	Second	Third	Fourth
Revenues	$102,857	$110,242	$152,794	$149,140
Gross Profit	49,017	52,852	64,655	64,623
Net Income Attributable to Kadant	$8,951	$8,096	$13,285	$760
Basic Earnings per Share:				
Net Income Attributable to Kadant	$0.82	$0.74	$1.21	$0.07
Diluted Earnings per Share:				
Net Income Attributable to Kadant	$0.80	$0.72	$1.17	$0.07
Cash Dividends Declared per Common Share	$0.21	$0.21	$0.21	$0.21

15. Subsequent Events

Acquisition
On January 2, 2019, the Company acquired Syntron Material Handling Group, LLC and certain of its affiliates (SMH) pursuant to an equity purchase agreement, dated December 9, 2018, for approximately $179,000,000, subject to certain customary adjustments. The Company funded the acquisition through borrowings under its Credit Agreement and recognized acquisition costs of $1,321,000 within SG&A expenses in the accompanying consolidated statement of income in 2018.
SMH is a leading provider of material handling equipment and systems to various process industries, including mining, aggregates, food processing, packaging, and pulp and paper and manufactures conveying equipment, with revenue of $89,365,000 for the twelve months ended October 31, 2018 and approximately 250 employees worldwide. This acquisition extends the Company's breadth of premier offerings to process industries, and also gives the Company access to new industries that offer potential avenues for growth. The Company expects several synergies in connection with this acquisition, including expansion of product sales into new markets by leveraging SMH's existing presence, strengthening of SMH's relationships in the pulp and paper industry, and sourcing efficiencies. The excess of the purchase price for the acquisition of SMH over the net assets acquired will be recorded as goodwill. The Company is currently evaluating its segment classification of the SMH business.
The Company has not yet completed its preliminary assessment of the fair value of the assets acquired and liabilities assumed in the SMH acquisition, including the valuation of intangible assets and goodwill, due to the proximity of the acquisition to the issuance of these consolidated financial statements. Accordingly and as permitted by ASC 805, Business Combinations, we are unable to provide further disclosures, including the allocation of the purchase price and pro forma financial information, for this acquisition at this time.

In connection with the acquisition of SMH, the Company assumed multiple leased properties and is currently evaluating the effect these leases will have on its consolidated financial statements upon the adoption of ASU No. 2016-02, Leases (Topic 842) as described in Note 1, under Recent Accounting Pronouncements Not Yet Adopted.

Borrowings Under the Credit Agreement

On December 31, 2018, the Company borrowed an aggregate amount of $180,000,000, primarily used to finance the acquisition of SMH, under its existing revolving credit facility pursuant to the terms of the Credit Agreement. See Note 6, Long-Term Obligations, for further details.