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

FORM 10-Q

(Mark One)

x QUARTERLY REPORT PURSUANT TO SECTION 13 OR 15(d) OF THE SECURITIES EXCHANGE ACT OF 1934
For the quarterly period ended September 29, 2018

OR

☐ TRANSITION REPORT PURSUANT TO SECTION 13 OR 15(d) OF THE SECURITIES EXCHANGE ACT OF 1934
For the transition period from ________ to _________

Commission file number 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

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 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 o
Non-accelerated filer o	Smaller reporting company o
	Emerging growth company o

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

Indicate the number of shares outstanding of each of the issuer's classes of common stock, as of the latest practicable date.

Class	Outstanding at October 26, 2018
Common Stock, $.01 par value	11,107,296

Kadant Inc.
Quarterly Report on Form 10-Q
for the Period Ended September 29, 2018
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PART 1 – FINANCIAL INFORMATION

Item 1 – Financial Statements

KADANT INC.
Condensed Consolidated Balance Sheet
(Unaudited)

(In thousands, except share and per share amounts)	September 29, 2018	December 30, 2017
Assets		
Current Assets:		
Cash and cash equivalents	$ 57,384	$ 75,425
Restricted cash (Note 1)	675	1,421
Accounts receivable, less allowances of $2,939 and $2,879 (Note 1)	96,326	89,624
Inventories (Note 1)	91,736	84,933
Unbilled revenues	8,315	2,374
Other current assets	13,032	12,246
Total Current Assets	267,468	266,023
Property, Plant, and Equipment, at Cost	168,414	165,231
Less: accumulated depreciation and amortization	88,956	85,508
Property, Plant, and Equipment, at Cost, Net	79,458	79,723
Other Assets	13,509	14,311
Intangible Assets, Net (Note 1)	119,246	133,036
Goodwill (Note 1)	262,081	268,001
Total Assets	$ 741,762	$ 761,094
Liabilities and Stockholders' Equity		
Current Liabilities:		
Current maturities of long-term obligations (Note 5)	$ 1,686	$ 696
Accounts payable	34,761	35,461
Customer deposits	36,431	30,103
Accrued payroll and employee benefits	28,677	29,616
Advanced billings	11,313	7,316
Other current liabilities	29,712	29,038
Total Current Liabilities	142,580	132,230
Long-Term Obligations (Note 5)	191,929	241,384
Long-Term Deferred Income Taxes	25,168	29,085
Other Long-Term Liabilities	23,646	25,891
Commitments and Contingencies (Note 12)		
Stockholders' Equity:		
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	103,117	103,221
Retained earnings	377,602	342,893
Treasury stock at cost, 3,516,863 and 3,613,838 shares	(86,177)	(88,554)
Accumulated other comprehensive items (Note 8)	(37,727)	(26,715)
Total Kadant Stockholders' Equity	356,961	330,991
Noncontrolling interest	1,478	1,513
Total Stockholders' Equity	358,439	332,504
Total Liabilities and Stockholders' Equity	$ 741,762	$ 761,094

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

KADANT INC.
Condensed Consolidated Statement of Income
(Unaudited)

(In thousands, except per share amounts)	Three Months Ended September 29, 2018	Three Months Ended September 30, 2017	Nine Months Ended September 29, 2018	Nine Months Ended September 30, 2017
Revenues (Notes 1 and 11)	$ 165,745	$ 152,794	$ 469,851	$ 365,893
Costs and Operating Expenses:				
Cost of revenues	92,652	88,139	262,515	199,369
Selling, general, and administrative expenses	42,888	42,346	133,796	115,936
Research and development expenses	2,452	2,635	8,049	7,004
Restructuring costs (Note 2)	378	—	1,717	—
	138,370	133,120	406,077	322,309
Operating Income	27,375	19,674	63,774	43,584
Interest Income	30	94	335	300
Interest Expense	(1,738)	(1,282)	(5,320)	(2,022)
Other Expense, Net (Note 7)	(245)	(216)	(736)	(637)
Income Before Provision for Income Taxes	25,422	18,270	58,053	41,225
Provision for Income Taxes (Note 4)	6,443	4,860	15,575	10,550
Net Income	18,979	13,410	42,478	30,675
Net Income Attributable to Noncontrolling Interest	(195)	(125)	(487)	(343)
Net Income Attributable to Kadant	$ 18,784	$ 13,285	$ 41,991	$ 30,332
Earnings per Share Attributable to Kadant (Note 3):				
Basic	$ 1.69	$ 1.21	$ 3.79	$ 2.76
Diluted	$ 1.64	$ 1.17	$ 3.69	$ 2.69
Weighted Average Shares (Note 3):				
Basic	11,101	11,004	11,078	10,986
Diluted	11,421	11,344	11,388	11,282
Cash Dividends Declared per Common Share	$ 0.22	$ 0.21	$ 0.66	$ 0.63

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

KADANT INC.
Condensed Consolidated Statement of Comprehensive Income
(Unaudited)

(In thousands)	Three Months Ended September 29, 2018	Three Months Ended September 30, 2017	Nine Months Ended September 29, 2018	Nine Months Ended September 30, 2017
Net Income	$ 18,979	$ 13,410	$ 42,478	$ 30,675
Other Comprehensive Items:				
Foreign currency translation adjustment	(1,121)	7,740	(11,561)	21,427
Pension and other post-retirement liability adjustments (net of tax provision of $46, $26, $155 and $86)	143	(11)	472	152
Deferred gain on cash flow hedges (net of tax provision (benefit) of $35, $28, ($12) and $44)	100	58	20	92
Other Comprehensive Items	(878)	7,787	(11,069)	21,671
Comprehensive Income	18,101	21,197	31,409	52,346
Comprehensive Income Attributable to Noncontrolling Interest	(191)	(193)	(430)	(574)
Comprehensive Income Attributable to Kadant	$ 17,910	$ 21,004	$ 30,979	$ 51,772

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

KADANT INC.
Condensed Consolidated Statement of Cash Flows
(Unaudited)

(In thousands)	Nine Months Ended September 29, 2018	Nine Months Ended September 30, 2017
Operating Activities		
Net income attributable to Kadant	$ 41,991	$ 30,332
Net income attributable to noncontrolling interest	487	343
Net income	42,478	30,675
Adjustments to reconcile net income to net cash provided by operating activities:		
Depreciation and amortization	17,739	13,056
Stock-based compensation expense	5,346	4,283
Provision for losses on accounts receivable	344	238
Loss on the sale of property, plant, and equipment	79	37
Other items, net	(3,543)	(738)
Contributions to U.S. pension plan	—	(810)
Changes in current assets and liabilities, net of effects of acquisitions:		
Accounts receivable	(9,598)	(16,225)
Unbilled revenues	(3,947)	(2,582)
Inventories	(10,155)	(3,504)
Other current assets	241	(2,517)
Accounts payable	4,182	2,049
Other current liabilities	9,384	8,366
Net cash provided by operating activities	52,550	32,328
Investing Activities		
Purchases of property, plant, and equipment	(12,817)	(8,718)
Proceeds from sale of property, plant, and equipment	173	111
Acquisitions, net of cash acquired	—	(204,228)
Net cash used in investing activities	(12,644)	(212,835)
Financing Activities		
Repayment of debt	(81,540)	(20,272)
Proceeds from issuance of debt	37,000	222,019
Dividends paid	(7,200)	(6,699)
Tax withholding payments related to stock-based compensation	(3,886)	(2,206)
Proceeds from issuance of Company common stock	813	—
Dividend paid to noncontrolling interest	(465)	(882)
Payment of debt issuance costs	(158)	(1,257)
Other financing activities	(351)	(288)
Net cash (used in) provided by financing activities	(55,787)	190,415
Exchange Rate Effect on Cash, Cash Equivalents, and Restricted Cash	(2,906)	7,911
(Decrease) Increase in Cash, Cash Equivalents, and Restricted Cash	(18,787)	17,819
Cash, Cash Equivalents, and Restricted Cash at Beginning of Period	76,846	73,569
Cash, Cash Equivalents, and Restricted Cash at End of Period	$ 58,059	$ 91,388

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 condensed consolidated financial statements.

KADANT INC.
Condensed Consolidated Statement of Stockholders' Equity
(Unaudited)

(In thousands, except share amounts)	Common Stock		Capital in Excess of Par Value	Retained Earnings	Treasury Stock		Accumulated Other Comprehensive Items	Noncontrolling Interest	Total Stockholders' Equity
	Shares	Amount			Shares	Amount			
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	—	—	—	30,332	—	—	—	343	30,675
Dividends declared	—	—	—	(6,933)	—	—	—	—	(6,933)
Dividend paid to noncontrolling interest	—	—	—	—	—	—	—	(882)	(882)
Activity under stock plans	—	—	369	—	(69,694)	1,708	—	—	2,077
Other comprehensive items	—	—	—	—	—	—	21,440	231	21,671
Balance at September 30, 2017	14,624,159	$ 146	$ 101,774	$ 344,449	3,616,838	$ (88,627)	$ (28,197)	$ 1,342	$ 330,887
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	—	—	—	41,991	—	—	—	487	42,478
Adoption of ASU No. 2014-09 (Note 1)	—	—	—	119	—	—	—	—	119
Adoption of ASU No. 2016-16 (Note 1)	—	—	—	(75)	—	—	—	—	(75)
Dividends declared	—	—	—	(7,326)	—	—	—	—	(7,326)
Dividend paid to noncontrolling interest	—	—	—		—	—	—	(465)	(465)
Activity under stock plans	—	—	(104)	—	(96,975)	2,377	—	—	2,273
Other comprehensive items	—	—	—	—	—	—	(11,012)	(57)	(11,069)
Balance at September 29, 2018	14,624,159	$ 146	$ 103,117	$ 377,602	3,516,863	$ (86,177)	$ (37,727)	$ 1,478	$ 358,439

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

KADANT INC.
Notes to Condensed Consolidated Financial Statements
(Unaudited)

1. Nature of Operations and Summary of Significant Accounting Policies

Nature of 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) operations include two reportable operating segments, Papermaking Systems and Wood Processing Systems, and a separate product line, Fiber-based Products.

Through its Papermaking Systems segment, the Company 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.

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

Through its Fiber-based Products business, the Company 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.

Interim Financial Statements

The interim condensed consolidated financial statements and related notes presented have been prepared by the Company, are unaudited, and, in the opinion of management, reflect all adjustments of a normal recurring nature necessary for a fair statement of the Company's financial position at September 29, 2018, its results of operations and comprehensive income for the three- and nine-month periods ended September 29, 2018 and September 30, 2017, and its cash flows and stockholders' equity for the nine-month periods ended September 29, 2018 and September 30, 2017. Interim results are not necessarily indicative of results for a full year or for any other interim period.

The condensed consolidated balance sheet presented as of December 30, 2017 has been derived from the consolidated financial statements contained in the Company's Annual Report on Form 10-K for the fiscal year ended December 30, 2017. The condensed consolidated financial statements and related notes are presented as permitted by the Securities and Exchange Commission (SEC) rules and regulations for Form 10-Q and do not contain certain information included in the annual consolidated financial statements and related notes of the Company. The condensed consolidated financial statements and notes included herein should be read in conjunction with the consolidated financial statements and related notes included in the Company's Annual Report on Form 10-K for the fiscal year ended December 30, 2017, filed with the SEC.

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 condensed consolidated statement of income in the 2017 period. 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 condensed consolidated statement of cash flows in the 2017 period.

KADANT INC.
Notes to Condensed Consolidated Financial Statements
(Unaudited)

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

Effective at the beginning of fiscal 2018, the Company adopted ASU No. 2014-09, *Revenue from Contracts with Customers (Topic 606)* (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 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 versus Topic 605 on the Company's results for the third quarter and first nine months of 2018 is not material.

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 to the consolidated financial statements in the Company's Annual Report on Form 10-K for the fiscal year ended December 30, 2017, and in *Revenue Recognition* and *Recently Adopted Accounting Pronouncements, Revenue from Contracts with Customers (Topic 606),* in this note.

Although the Company makes every effort to ensure the accuracy of the estimates and assumptions used in the preparation of its condensed 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 condensed consolidated financial statements.

Supplemental Cash Flow Information

	Nine Months Ended	
(In thousands)	September 29, 2018	September 30, 2017
Cash Paid for Interest	$ 5,914	$ 1,421
Cash Paid for Income Taxes, Net of Refunds	$ 20,823	$ 12,479
Non-Cash Investing Activities:		
Estimated post-closing adjustment (a)	$ 397	$ —
Fair value of assets acquired	$ —	$ 241,141
Cash paid for acquired businesses	—	(206,447)
Liabilities assumed of acquired businesses	$ —	$ 34,694
Non-cash additions to property, plant and equipment	$ 783	$ 1,938
Non-Cash Financing Activities:		
Issuance of Company common stock upon vesting of restricted stock units	$ 3,976	$ 3,018
Dividends declared but unpaid	$ 2,444	$ 2,312

(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 2018.

KADANT INC.
Notes to Condensed Consolidated Financial Statements
(Unaudited)

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

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.

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

(In thousands)	September 29, 2018	September 30, 2017	December 30, 2017	December 31, 2016
Cash and cash equivalents	$ 57,384	$ 90,622	$ 75,425	$ 71,487
Restricted cash	675	766	1,421	2,082
Total Cash, Cash Equivalents, and Restricted Cash	$ 58,059	$ 91,388	$ 76,846	$ 73,569

Banker's Acceptance Drafts included in Accounts Receivable

The Company's Chinese subsidiaries may receive banker's acceptance drafts from customers as payment for their trade accounts receivable. The banker's acceptance 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 $14,193,000 at September 29, 2018 and $15,960,000 at December 30, 2017, are included in accounts receivable in the accompanying condensed 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.

Inventories

The components of inventories are as follows:

(In thousands)	September 29, 2018	December 30, 2017
Raw Materials and Supplies	$ 43,739	$ 38,952
Work in Process	23,895	18,203
Finished Goods	24,102	27,778
	$ 91,736	$ 84,933

Intangible Assets, Net

Acquired intangible assets by major asset class are as follows:

(In thousands)	Gross	Currency Translation	Accumulated Amortization	Net
September 29, 2018				
Definite-Lived				
Customer relationships	$ 113,283	$ (2,716)	$ (35,873)	$ 74,694
Product technology	46,501	(1,282)	(22,653)	22,566
Tradenames	5,227	(344)	(1,864)	3,019
Other	13,744	(88)	(11,375)	2,281
	178,755	(4,430)	(71,765)	102,560
Indefinite-Lived				
Tradenames	16,600	86	—	16,686
Acquired Intangible Assets	$ 195,355	$ (4,344)	$ (71,765)	$ 119,246

KADANT INC.
Notes to Condensed Consolidated Financial Statements
(Unaudited)

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

(In thousands)	Gross	Currency Translation	Accumulated Amortization	Net
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

Intangible assets are initially recorded at fair value at the date of acquisition and are stated net of accumulated amortization and currency translation in the accompanying condensed 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.

Goodwill

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

(In thousands)	Papermaking Systems Segment	Wood Processing Systems Segment	Total
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 (a)	(17)	(75)	(92)
Currency translation	(3,552)	(2,276)	(5,828)
Total 2018 adjustments	(3,569)	(2,351)	(5,920)
Balance at September 29, 2018			
Gross balance	243,445	104,145	347,590
Accumulated impairment losses	(85,509)	—	(85,509)
Net balance	$ 157,936	$ 104,145	$ 262,081

(a) Relates to a purchase price allocation adjustment primarily for inventory and a purchase price adjustment for acquisitions completed in 2017. The purchase price allocations for the Company's 2017 acquisitions were finalized in the second and third quarters of 2018.

KADANT INC.
Notes to Condensed Consolidated Financial Statements
(Unaudited)

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

Warranty Obligations

The changes in the carrying amount of accrued warranty costs included in other current liabilities in the accompanying condensed consolidated balance sheet are as follows:

	Nine Months Ended	
(In thousands)	September 29, 2018	September 30, 2017
Balance at Beginning of Year	$ 5,498	$ 3,843
Provision charged to expense	2,584	1,931
Usage	(1,828)	(1,506)
Acquisitions	—	790
Currency translation	(215)	382
Balance at End of Period	$ 6,039	$ 5,440

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 versus Topic 605 on the Company's results for the third quarter and first nine months of 2018 is not material.

Approximately 90% in the third quarter of 2018 and 93% in the first nine months of 2018 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 10% in the third quarter of 2018 and 7% in the first nine months of 2018 of the Company’s revenue 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 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.

KADANT INC.
Notes to Condensed Consolidated Financial Statements
(Unaudited)

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

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 as shown below:

	Three Months Ended		Nine Months Ended	
(In thousands)	September 29, 2018	September 30, 2017	September 29, 2018	September 30, 2017
Revenues by Product Line:				
Papermaking Systems:				
Stock-Preparation	$ 62,983	$ 52,065	$ 164,842	$ 139,396
Fluid-Handling	33,083	28,532	98,500	73,099
Doctoring, Cleaning, & Filtration	30,704	30,538	87,469	82,921
Papermaking Systems	$ 126,770	$ 111,135	$ 350,811	$ 295,416
Wood Processing Systems	37,042	39,714	109,335	61,050
Fiber-based Products	1,933	1,945	9,705	9,427
	$ 165,745	$ 152,794	$ 469,851	$ 365,893
Revenues by Product Type:				
Parts and Consumables	$ 92,749	$ 83,755	$ 283,591	$ 224,239
Capital	72,996	69,039	186,260	141,654
	$ 165,745	$ 152,794	$ 469,851	$ 365,893
Revenues by Geography:				
North America	$ 74,089	$ 68,369	$ 227,080	$ 170,092
Europe	44,912	46,475	131,437	113,178
Asia	32,887	25,215	78,537	53,658
Rest of World	13,857	12,735	32,797	28,965
	$ 165,745	$ 152,794	$ 469,851	$ 365,893

The following table presents revenue by revenue recognition method:

	Three Months Ended	Nine Months Ended
(In thousands)	September 29, 2018	September 29, 2018
Timing of Revenue Recognition:		
Point in Time	$ 148,524	$ 436,527
Over Time	17,221	33,324
	$ 165,745	$ 469,851

The following tables present the balances from contracts with customers:

(In thousands)	September 29, 2018	December 30, 2017
Balances from Contracts with Customers:		
Accounts receivable	$ 96,326	$ 89,624
Contract assets	$ 8,315	$ 2,374
Contract liabilities	$ 48,959	$ 38,702

Contract assets represent unbilled revenue associated with revenue recognized on contracts accounted for on an over time basis. Unbilled amounts will be billed in future periods based on the contract terms. Contract liabilities consist of customer deposits and advanced billings, and deferred revenue which is included in other current liabilities in the accompanying condensed 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 delivered and control of the asset has transferred to the customer.

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

The Company recognized revenue of $5,787,000 in the third quarter of 2018 and $35,900,000 in the first nine months of 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.

Recently Adopted 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 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 have 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 meet 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 do 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 will be recognized along with the remaining revenue and costs in fiscal 2018 when control of the asset has been transferred to the customer.

The Company has 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 condensed 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 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.

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

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 condensed consolidated net income. As a result of the adoption, the Company reclassified $216,000 in the third quarter of 2017 and $637,000 in the first nine months of 2017 from operating income to other expense, net in the accompanying condensed consolidated statement of income.

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 condensed 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). While the Company's accounting for certain tax effects is incomplete, it has determined reasonable estimates for those effects and has recorded provisional amounts in the condensed consolidated financial statements as of September 29, 2018 and December 30, 2017.

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 condensed 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. This new guidance is effective for the Company in fiscal 2019 and early adoption is permitted. In July 2018, the FASB issued ASU 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 has elected to adopt this new transition method when it adopts ASU 2016-02 at the beginning of fiscal 2019.

The Company is completing the assessment of the practical expedients allowed under this new guidance and finalizing its elections and the impact on its systems, processes and controls to account for its leases. The Company has substantially completed the evaluation of its lease population and is implementing a third-party software solution to assist with the accounting under the new standard. The implementation of this new standard will have a significant impact on the Company's disclosures and balance sheet as it expects that assets and liabilities will increase upon adoption for right-of-use assets and lease liabilities, but is not expected to have a material impact on its results of operations or cash flows. The Company's operating leases are summarized in Note 7 to the consolidated financial statements for 2017 included in the Company's Annual Report on Form 10-K, filed with the SEC. The actual impact of this new standard will depend on the total amount of the Company's lease commitments as of the adoption date.

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

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

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 condensed 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 results of an entity's risk management activities and to simplify the application of current hedge accounting guidance. This new guidance is effective on a prospective basis for the Company in fiscal 2019. Early adoption is permitted. The Company does not believe that adoption of this ASU will have a material effect on its condensed 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 accumulated other comprehensive items (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. Early adoption is permitted. The Company is currently evaluating the effects that the adoption of this ASU will have on its condensed 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 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 condensed consolidated financial statements.

2. 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 approximately $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 the first nine months of 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 condensed consolidated balance sheet are as follows:

(In thousands)	Severance	Relocation	Other (a)	Total
Balance at December 30, 2017	$ 203	$ —	$ —	$ 203
(Reversal) provision	(55)	1,318	454	1,717
Usage	(77)	(1,315)	(439)	(1,831)
Currency translation	(8)	(3)	—	(11)
Balance at September 29, 2018	$ 63	$ —	$ 15	$ 78

(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.

The Company expects to pay the remaining accrued restructuring costs in 2018.

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3. Earnings per Share

Basic and diluted earnings per share (EPS) are calculated as follows:

(In thousands, except per share amounts)	Three Months Ended September 29, 2018	Three Months Ended September 30, 2017	Nine Months Ended September 29, 2018	Nine Months Ended September 30, 2017
Amounts Attributable to Kadant:				
Net Income	$ 18,784	$ 13,285	$ 41,991	$ 30,332
Basic Weighted Average Shares	11,101	11,004	11,078	10,986
Effect of Stock Options, Restricted Stock Units and Employee Stock Purchase Plan Shares	320	340	310	296
Diluted Weighted Average Shares	11,421	11,344	11,388	11,282
Basic Earnings per Share	$ 1.69	$ 1.21	$ 3.79	$ 2.76
Diluted Earnings per Share	$ 1.64	$ 1.17	$ 3.69	$ 2.69

Restricted stock units (RSUs) totaling 11,000 shares of common stock in the third quarter of 2018, 4,000 in the third quarter of 2017, 25,000 in the first nine months of 2018 and 21,000 in the first nine months of 2017 were 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.

4. Provision for 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 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 SAB 118 to provide guidance on accounting for the 2017 Tax Act's impact. In accordance with SAB 118, the Company recognized the provisional tax impacts related to the remeasurement of its deferred income tax assets and liabilities and the one-time mandatory transition tax on deemed repatriation of unremitted foreign earnings in the three months ended December 30, 2017. In the first nine months of 2018, the Company recorded an additional provisional net income tax expense of $792,000, which included the impact of state taxes for the one-time mandatory transition tax, primarily due to a 2018 tax law change associated with the 2017 Tax Act that impacted the provisional amount initially recorded.

Additional work is still necessary to finalize the provisional tax impacts of the 2017 Tax Act, including the completion of a more detailed analysis of the Company's historical foreign earnings and the understanding and application of anticipated additional regulatory guidance regarding the provisions of the 2017 Tax Act that may be issued by the Internal Revenue Service and state and local jurisdictions. Any subsequent adjustment to the provisional amounts will be recorded to current tax expense in the fourth quarter of 2018 when the analysis will be complete.

The provision for income taxes was $15,575,000 in the first nine months of 2018 and $10,550,000 in the first nine months of 2017. The effective tax rate of 27% in the first nine months of 2018 was higher than the Company's 2018 statutory tax rate of 21% primarily due to the global intangible low-taxed income (GILTI) provisions of the 2017 Tax Act, the distribution of the Company's worldwide earnings, the cost of repatriating the earnings of certain foreign subsidiaries, and a change in estimate to the federal and state provisional net income tax expense initially recorded in 2017 for the 2017 Tax Act. 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 26% in the first nine months of 2017 was lower than the Company's 2017 statutory tax rate of 35% primarily due to the distribution of the Company's worldwide earnings and the net excess income tax benefits from stock-based compensation arrangements, offset in part by an increase in tax related to non-deductible expenses and unrecognized tax benefits.

The Company has elected to account for GILTI as a current period expense when incurred (the period cost method). Because of the complexity of the GILTI tax rules and the lack of legislative guidance, the Company continues to evaluate the

4. Provision for Income Taxes (continued)

provisions of the 2017 Tax Act and the application of ASC 740, *Income Taxes*. The final impact on the Company from the 2017 Tax Act's GILTI tax legislation may differ from the estimate calculated by the Company. Such differences could be material, due to, among other things, changes in interpretations of the 2017 Tax Act, future legislative action to address questions that arise because of the 2017 Tax Act, changes in accounting standards for income taxes or related interpretations in response to the 2017 Tax Act, or any updates or changes to estimates the Company has utilized to calculate the GILTI inclusion.

5. Long-Term Obligations

Long-term obligations are as follows:

(In thousands)	September 29, 2018	December 30, 2017
Revolving Credit Facility, due 2022	$ 168,468	$ 237,011
Commercial Real Estate Loan, due 2028	20,738	—
Obligations Under Capital Lease, due 2018 to 2022	4,277	4,633
Other Borrowings, due 2018 to 2023	286	436
Unamortized Debt Issuance Costs	(154)	—
Total	193,615	242,080
Less: Current Maturities of Long-Term Obligations	(1,686)	(696)
Long-Term Obligations	$ 191,929	$ 241,384

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

Revolving Credit Facility

In 2017, the Company entered into an Amended and Restated Credit Agreement, as amended (the 2017 Credit Agreement), which is a five-year unsecured multi-currency revolving credit facility in the aggregate principal amount of up to $300,000,000. The 2017 Credit Agreement also includes an uncommitted unsecured incremental borrowing facility of up to an additional $100,000,000. The principal on any borrowings is due on March 1, 2022. Borrowing may be denominated in U.S. dollars or certain foreign currencies as defined in the 2017 Credit Agreement. Interest on any loans outstanding accrues and generally is payable quarterly in arrears 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%. The applicable margin is determined based upon the ratio of the Company's total debt, net of certain cash and debt, as defined, to earnings before interest, taxes, depreciation, and amortization (EBITDA), as defined in the 2017 Credit Agreement. For this purpose, total debt net of certain cash and debt is defined as total debt less the sum of (i) unrestricted U.S. cash, and (ii) 65% of unrestricted cash outside of the United States, but no more than an aggregate amount of $30,000,000.

The obligations of the Company under the 2017 Credit Agreement may be accelerated upon the occurrence of an event of default under the 2017 Credit Agreement, which includes customary events of default including, without limitation, payment defaults, defaults in the performance of affirmative and negative covenants, the inaccuracy of representations or warranties, bankruptcy- and insolvency-related defaults, defaults relating to such matters as the Employment Retirement Income Security Act (ERISA), unsatisfied judgments, the failure to pay certain indebtedness, and a change of control default. In addition, the 2017 Credit Agreement contains negative covenants applicable to the Company and its subsidiaries, including financial covenants requiring the Company to comply with a maximum consolidated leverage ratio of 3.5 to 1, a minimum consolidated interest coverage ratio of 3 to 1, and restrictions on liens, indebtedness, fundamental changes, dispositions of property, making certain restricted payments (including dividends and stock repurchases), investments, transactions with affiliates, sale and leaseback transactions, swap agreements, changing its fiscal year, arrangements affecting subsidiary distributions, entering into new lines of business, and certain actions related to a discontinued operation. As of September 29, 2018, the Company was in compliance with these covenants.

Loans under the 2017 Credit Agreement are guaranteed by certain domestic subsidiaries of the Company pursuant to an Amended and Restated Guarantee Agreement. In addition, one of the Company's foreign subsidiaries entered into a guarantee agreement limited to certain obligations of two foreign subsidiary borrowers.

5. Long-Term Obligations (continued)

As of September 29, 2018, the outstanding balance under the 2017 Credit Agreement was $168,468,000, including $43,687,000 of Canadian dollar-denominated borrowings and $33,781,000 of euro-denominated borrowings. As of September 29, 2018, the Company had $131,156,000 of borrowing capacity available under its 2017 Credit Agreement, which was calculated by translating its foreign-denominated borrowings using borrowing date foreign exchange rates.

The weighted average interest rate for the revolving credit facility was 3.07% as of September 29, 2018.

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% 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 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 including, without limitation, payment defaults, defaults in the performance of covenants and obligations, the inaccuracy of representations or warranties, bankruptcy- and insolvency-related defaults, liens on the properties or collateral and uninsured judgments. In addition, the occurrence of an event of default under the 2017 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 2017 Credit Agreement.

During the third quarter of 2018, 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 4.55% as of September 29, 2018.

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 condensed consolidated balance sheet, was $645,000 at September 29, 2018. The lease arrangement provides for a fixed price purchase option, net of the projected loan receivable, of $1,545,000 at the end of the 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 September 29, 2018, $4,205,000 was outstanding under this capital lease obligation and $72,000 was outstanding under other capital lease obligations.

6. Stock-Based Compensation

The Company recognizes compensation expense 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. For time-based RSUs, compensation expense is recognized 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. 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 recorded when they occur and remeasured each reporting period until the total number of RSUs to be issued is known. The Company recognized stock-based compensation expense of $1,736,000 in the third quarter of 2018, $1,547,000 in the third quarter of 2017, $5,346,000 in the first nine months of 2018 and $4,283,000 in the first nine months of 2017 within selling, general, and administrative (SG&A) expenses in the accompanying condensed consolidated statement of income. Unrecognized compensation expense related to stock-based compensation totaled approximately $6,698,000 at September 29, 2018, and will be recognized over a weighted average period of 1.7 years.

7. Retirement Benefit Plans

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 condensed consolidated statement of income. The components of net periodic benefit cost are as follows:

	Three Months Ended September 29, 2018			Three Months Ended September 30, 2017		
(In thousands, except percentages)	U.S. Pension	Non-U.S. Pension	Other Post-Retirement	U.S. Pension	Non-U.S. Pension	Other Post-Retirement
Service Cost	$ 175	$ 35	$ 53	$ 171	$ 35	$ 43
Interest Cost	298	30	43	307	28	43
Expected Return on Plan Assets	(322)	(11)	(1)	(331)	(10)	(1)
Recognized Net Actuarial Loss	135	15	34	110	10	22
Amortization of Prior Service Cost	—	2	22	14	2	22
	$ 286	$ 71	$ 151	$ 271	$ 65	$ 129
The weighted average assumptions used to determine net periodic benefit cost are as follows:						
Discount Rate	3.51%	3.86%	3.64%	4.03%	3.42%	4.12%
Expected Long-Term Return on Plan Assets	4.50%	7.43%	7.43%	5.00%	7.72%	7.72%
Rate of Compensation Increase	3.00%	3.72%	3.07%	3.00%	3.41%	3.08%

7. Retirement Benefit Plans (continued)

	Nine Months Ended September 29, 2018			Nine Months Ended September 30, 2017		
(In thousands, except percentages)	U.S. Pension	Non-U.S. Pension	Other Post-Retirement	U.S. Pension	Non-U.S. Pension	Other Post-Retirement
Service Cost	$ 525	$ 106	$ 159	$ 514	$ 100	$ 131
Interest Cost	894	90	129	923	78	127
Expected Return on Plan Assets	(966)	(33)	(3)	(994)	(27)	(1)
Recognized Net Actuarial Loss	405	46	102	331	28	62
Amortization of Prior Service Cost	—	6	66	40	4	66
	$ 858	$ 215	$ 453	$ 814	$ 183	$ 385
The weighted average assumptions used to determine net periodic benefit cost are as follows:						
Discount Rate	3.51%	3.82%	3.64%	4.03%	3.43%	4.12%
Expected Long-Term Return on Plan Assets	4.50%	7.43%	7.43%	5.00%	7.72%	7.72%
Rate of Compensation Increase	3.00%	3.70%	3.07%	3.00%	3.42%	3.07%

On October 29, 2018, the Company's board of directors and its compensation committee approved amendments to freeze and terminate the U.S. pension plan and a restoration plan (included in "Other Post-Retirement" in the tables above) as of December 29, 2018. The Company estimates it will incur a curtailment loss in the fourth quarter of 2018 of approximately $1,400,000, which was calculated using actuarial assumptions as of September 29, 2018.

8. 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 condensed 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 on Retirement Benefit Plans	Net Actuarial Loss on Retirement Benefit Plans	Deferred Gain on Cash Flow Hedges	Total
Balance at December 30, 2017	$ (17,501)	$ (319)	$ (8,974)	$ 79	$ (26,715)
Other comprehensive (loss) income before reclassifications	(11,504)	1	—	34	(11,469)
Reclassifications from AOCI	—	54	417	(14)	457
Net current period other comprehensive (loss) income	(11,504)	55	417	20	(11,012)
Balance at September 29, 2018	$ (29,005)	$ (264)	$ (8,557)	$ 99	$ (37,727)

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8. Accumulated Other Comprehensive Items (continued)

Amounts reclassified from AOCI are as follows:

(In thousands)	Three Months Ended September 29, 2018	Three Months Ended September 30, 2017	Nine Months Ended September 29, 2018	Nine Months Ended September 30, 2017	Statement of Income Line Item
Retirement Benefit Plans (a)					
Recognized net actuarial loss	$ (184)	$ (142)	$ (553)	$ (421)	Other expense, net
Amortization of prior service cost	(24)	(38)	(72)	(110)	Other expense, net
Total expense before income taxes	(208)	(180)	(625)	(531)	
Income tax benefit	51	63	154	186	Provision for income taxes
	(157)	(117)	(471)	(345)	
Cash Flow Hedges (b)					
Interest rate swap agreements	17	(8)	(5)	(26)	Interest expense
Forward currency-exchange contracts	—	(26)	24	(37)	Cost of revenues
Total income (expense) before income taxes	17	(34)	19	(63)	
Income tax (provision) benefit	(4)	11	(5)	22	Provision for income taxes
	13	(23)	14	(41)	
Total Reclassifications	$ (144)	$ (140)	$ (457)	$ (386)	

(a) Included in the computation of net periodic benefit cost. See Note 7 for additional information.
(b) See Note 9 for additional information.

9. 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 changes in the fair value of a derivative not deemed to be a hedge are 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 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 condensed consolidated statement of income.

9. Derivatives (continued)

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 revolving credit facility on the 2018 Swap Agreement and 1.50% plus an applicable margin as defined in the revolving credit facility 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 its 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 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 2017 Credit Agreement, or any agreement that amends or replaces the 2017 Credit Agreement in which the counterparty is a member, and if the Company were to be unable to cure the default. An event of default under the 2017 Credit Agreement includes customary events of default and failure to comply with financial covenants, including a maximum consolidated leverage ratio of 3.5 to 1, a minimum consolidated interest coverage ratio of 3 to 1, and restrictions on liens, indebtedness, fundamental changes, dispositions of property, making certain restricted payments (including dividends and stock repurchases), investments, transactions with affiliates, sale and leaseback transactions, swap agreements, changing its fiscal year, arrangements affecting subsidiary distributions, entering into new lines of business, and certain actions related to a discontinued operation. As of September 29, 2018, the Company was in compliance with these covenants. 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 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 condensed consolidated statement of income losses of $67,000 in the third quarter of 2018, gains of $109,000 in the third quarter of 2017, losses of $40,000 in the first nine months of 2018 and losses of $1,384,000 in the first nine months of 2017 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.

9. Derivatives (continued)

The following table summarizes the fair value of the Company's derivative instruments in the accompanying condensed consolidated balance sheet:

(In thousands)	Balance Sheet Location	September 29, 2018 Asset (Liability) (a)	September 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:					
Forward currency-exchange contract	Other Long-Term Assets	$ 32	$ 842	$ —	$ —
2015 Swap Agreement	Other Long-Term Assets	$ 202	$ 10,000	$ 126	$ 10,000
Derivatives in a Liability Position:					
Forward currency-exchange contracts	Other Current Liabilities	$ (12)	$ 3,788	$ —	$ —
2018 Swap Agreement	Other Long-Term Liabilities	$ (87)	$ 15,000	$ —	$ —
Derivatives Not Designated as Hedging Instruments:					
Derivatives in an Asset Position:					
Forward currency-exchange contracts	Other Current Assets	$ —	$ —	$ 17	$ 1,244
Derivatives in a Liability Position:					
Forward currency-exchange contracts	Other Current Liabilities	$ (36)	$ 1,402	$ (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.

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 nine months ended September 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)	4	(18)	(14)
Gain recognized in AOCI	3	31	34
Unrealized Gain, Net of Tax, at September 29, 2018	$ 86	$ 13	$ 99

(a) See Note 8 for the income statement classification.

As of September 29, 2018, the Company expects to reclassify $37,000 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:

(In thousands)	Level 1	Level 2	Level 3	Total
September 29, 2018				
Assets:				
Money market funds and time deposits	$ 4,344	$ —	$ —	$ 4,344
2015 Swap Agreement	$ —	$ 202	$ —	$ 202
Banker's acceptance drafts (a)	$ —	$ 14,193	$ —	$ 14,193
Forward currency-exchange contract	$ —	$ 32	$ —	$ 32
Liabilities:				
Forward currency-exchange contracts	$ —	$ 48	$ —	$ 48
2018 Swap Agreement	$ —	$ 87	$ —	$ 87
December 30, 2017				
Assets:				
Money market funds and time deposits	$ 17,728	$ —	$ —	$ 17,728
Forward currency-exchange contracts	$ —	$ 17	$ —	$ 17
2015 Swap Agreement	$ —	$ 126	$ —	$ 126
Banker's acceptance drafts (a)	$ —	$ 15,960	$ —	$ 15,960
Liabilities:				
Forward currency-exchange contracts	$ —	$ 16	$ —	$ 16

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

KADANT INC.
Notes to Condensed Consolidated Financial Statements
(Unaudited)

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 the first nine months of 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 are 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:

	September 29, 2018		December 30, 2017	
(In thousands)	Carrying Value	Fair Value	Carrying Value	Fair Value
Debt Obligations:				
Revolving credit facility	$ 168,468	$ 168,468	$ 237,011	$ 237,011
Commercial real estate loan	20,584	20,288	—	—
Capital lease obligations	4,277	4,277	4,633	4,633
Other borrowings	286	286	436	436
	$ 193,615	$ 193,319	$ 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 value of the commercial real estate loan was calculated based on a quoted market rate, 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 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 following table presents financial information for the Company's reportable operating segments:

	Three Months Ended		Nine Months Ended	
(In thousands)	September 29, 2018	September 30, 2017	September 29, 2018	September 30, 2017
Revenues:				
Papermaking Systems (a)	$ 126,770	$ 111,135	$ 350,811	$ 295,416
Wood Processing Systems (b)	37,042	39,714	109,335	61,050
Fiber-based Products	1,933	1,945	9,705	9,427
	$ 165,745	$ 152,794	$ 469,851	$ 365,893

11. Business Segment Information (continued)

(In thousands)	Three Months Ended September 29, 2018	Three Months Ended September 30, 2017	Nine Months Ended September 29, 2018	Nine Months Ended September 30, 2017
Income Before Provision for Income Taxes:				
Papermaking Systems (c)	$ 25,919	$ 21,684	$ 61,402	$ 53,247
Wood Processing Systems (d)	8,704	4,418	21,380	6,511
Corporate and Fiber-based Products (e)	(7,248)	(6,428)	(19,008)	(16,174)
Total operating income	27,375	19,674	63,774	43,584
Interest expense, net (f)	(1,708)	(1,188)	(4,985)	(1,722)
Other expense, net	(245)	(216)	(736)	(637)
	$ 25,422	$ 18,270	$ 58,053	$ 41,225
Capital Expenditures:				
Papermaking Systems	$ 1,348	$ 3,790	$ 9,837	$ 6,567
Wood Processing Systems	1,026	1,358	2,586	1,649
Corporate and Other	232	135	394	502
	$ 2,606	$ 5,283	$ 12,817	$ 8,718

(a) Includes $917,000 in the three-month period ended September 29, 2018 and $12,247,000 in the nine-month period ended September 29, 2018 from 2017 acquisitions.
(b) Includes $52,310,000 in the nine-month period ended September 29, 2018 from a 2017 acquisition.
(c) Includes $378,000 in the three-month period ended September 29, 2018 and $1,717,000 in the nine-month period ended September 29, 2018 for restructuring costs (see Note 2) and $278,000 in the three-month period ended September 30, 2017 and $593,000 in the nine-month period ended September 30, 2017 for acquisition transaction costs and amortization of acquired profit in inventory.
(d) Includes $4,625,000 in the three-month period ended September 30, 2017, $252,000 in the nine-month period ended September 29, 2018 and $8,727,000 in the nine-month period ended September 30, 2017 for acquisition-related costs.
(e) Corporate primarily includes general and administrative expenses.
(f) The Company does not allocate interest expense, net to its segments.

12. Commitments and Contingencies

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 banker's acceptance 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 outstanding $11,105,000 at September 29, 2018 and $10,035,000 at December 30, 2017 of banker's acceptance drafts subject to recourse, which had been transferred to vendors but 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.

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 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.

Item 2 – Management's Discussion and Analysis of Financial Condition and Results of Operations

This Quarterly Report on Form 10-Q includes 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.

When we use the terms “we,” “us,” “our,” and the “Company,” we mean Kadant Inc., a Delaware corporation, and its consolidated subsidiaries, taken as a whole, unless the context otherwise indicates.

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 our Annual Report on Form 10-K for the fiscal year ended December 30, 2017 (fiscal 2017), as filed with the Securities and Exchange Commission (SEC) and as may be further amended and/or restated in subsequent filings with the SEC.

Overview

Company Background

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, as detailed below.

Papermaking Systems Segment

Through our Papermaking Systems segment, we develop, manufacture, and market equipment and products for the global papermaking, paper recycling, recycling and waste management, and other process industries. This segment consists of the following product lines:

- Stock-Preparation: 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;
- Fluid-Handling: rotary joints, precision unions, steam and condensate systems, components, and controls used to transfer fluids, power, and data in numerous process industries and expansion joints used in industrial piping systems; and
- Doctoring, Cleaning, & Filtration: systems and related consumables that 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; 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.

Overview (continued)

Wood Processing Systems Segment

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. In addition, we provide refurbishment and repair of pulping equipment for the pulp and paper industry. Our principal wood-processing products include:

- Debarkers: ring and rotary debarkers and related parts and consumables that employ mechanical abrasion or log-to-log contact to efficiently remove bark from logs of all shapes and species;
- Stranders: disc and ring stranders and related parts and consumables that cut batch-fed logs into strands for OSB production;
- Chippers: 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, sawmill, and planer mill sites; and
- Logging machinery: feller bunchers, log loaders, and swing yarders that are used to harvest and gather timber for lumber production.

Fiber-based Products

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.

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 complements our existing Wood Processing Systems segment.

On August 14, 2017, we acquired certain assets of Unaflex, LLC (Unaflex) for $31.7 million, consisting of $31.3 million in cash and an estimated $0.4 million post-closing adjustment to be paid in 2018. 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.

International Sales

Our sales to customers outside the United States, mainly in Europe, Asia and Canada, were approximately 63% of total revenues in the first nine months of 2018 and 64% in the first nine months of 2017. 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.

Overview (continued)

Application of Critical Accounting Policies and Estimates

Management's discussion and analysis of financial condition and results of operations is based upon our condensed consolidated financial statements, which have been prepared in accordance with accounting principles generally accepted in the United States of America (GAAP). The preparation of these condensed 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 condensed 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 in "Management's Discussion and Analysis of Financial Condition and Results of Operations" under the section captioned "Application of Critical Accounting Policies and Estimates" in Part II, Item 7, of our Annual Report on Form 10-K for the fiscal year ended December 30, 2017, filed with the SEC. There have been no material changes to these critical accounting policies since fiscal year-end 2017 that warrant disclosure, except for the adoption of the Financial Accounting Standards Board's Accounting Standards Update No. 2014-09, *Revenue from Contracts with Customers (Topic 606)*, as described in *Recently Adopted Accounting Pronouncements* and *Revenue Recognition* in Note 1 to the accompanying condensed consolidated financial statements.

Industry and Business Outlook

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

Packaging

Approximately 37% of our revenue in the first nine months of 2018 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. We have also extended our expertise in fluid handling to the corrugating market in which boxes are produced and are 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 23% of our revenue in the first nine months of 2018 was from sales to manufacturers in the wood processing industries, including lumber mills, engineered wood panel producers, and sawmills, that use stranders, debarkers, 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 other parts of the world.

Tissue and Other Paper

Approximately 12% of our revenue in the first nine months of 2018 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 in the first nine months of 2018 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.

Overview (continued)

Other

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

Bookings

Our bookings increased 22% to $165 million in the third quarter of 2018 compared with $135 million in the third quarter of 2017. Bookings in the 2018 period included a $4 million, or 3%, decrease from the unfavorable effect of foreign currency translation. Excluding the unfavorable effect of foreign currency translation, our bookings in the third quarter of 2018 increased 25% compared with the third quarter of 2017, primarily due to strong demand in North America and, to a lesser extent, Asia and South America. 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 $91 million in the third quarter of 2018, or 55% of total bookings, compared with $81 million, or 60% of total bookings, in the third quarter of 2017.

Bookings by geographic region are as follows:

North America

The largest and most impactful regional market for our products in the third quarter of 2018 was North America, and we expect this to continue to be the case for the remainder of 2018. Our bookings in North America increased 30% to $78 million in the third quarter of 2018 compared with $60 million in the third quarter of 2017, including an unfavorable foreign currency translation effect of $1 million. The primary pulp and paper markets we serve in North America tend to be relatively stable with modest growth. The packaging market in North America continues to be healthy, with low fiber input costs, due in part to the restrictions on waste paper imports in China, and relatively high fiber prices, and demand is expected to benefit from increasing e-commerce activity. In addition, the U.S. tax law passed in 2017 and repatriation of offshore cash has resulted in additional capital investment activity by our customers in the United States. According to a RISI PPI Pulp & Paper Week report, U.S. box makers report stable demand going into the fourth quarter as linerboard prices are holding while export levels are beginning to fall. RISI also reported that containerboard mill operating rates were 97% in the first nine months of 2018, a slight increase over the same period last year. The strength of the U.S. housing market has led to continued bookings growth in our Wood Processing product line in the first nine months of 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 current strength of the U.S. housing market, concerns about a potential softening have begun to surface related to an increasing lack of affordability as home prices have risen due to increasing costs of land, labor and material. For the month of September 2018, the U.S. Census Bureau reported that U.S. housing starts increased 4% from the prior year to a seasonally-adjusted 1.201 million.

Europe

European packaging producers are operating in a favorable environment with low fiber costs and stable demand and prices. Our bookings in Europe decreased 4% to $38 million in the third quarter of 2018 compared with $40 million in the third quarter of 2017, including an unfavorable foreign currency translation effect of $1 million. Excluding the unfavorable effect of foreign currency translation, our bookings in Europe decreased 1% in the third quarter of 2018 compared with the third quarter of 2017.

Asia

Our bookings in Asia increased 23% to $30 million in the third quarter of 2018 compared with $24 million in the third quarter of 2017, including an unfavorable foreign currency translation effect of $1 million. The market in Asia continues to undergo a fundamental shift, as the Chinese government restricted imports of recovered paper effective January 1, 2018, and has since announced that it may ban waste paper imports altogether by 2020. According to RISI, the Chinese government's actions have already led to a severe shortage of recovered paper in China that has forced mills to incur additional downtime,

Overview (continued)

which in the near term, may result in decreased demand for our parts and consumables products in China. In response to this, Chinese containerboard producers have been investing in pulping capacity in Southeast Asia to process recovered paper with the intent to ship the pulp to paper and paperboard mills in China. This capacity build-out has increased demand for our capital equipment outside of China, which we expect will result in related demand for our parts and consumables products.

Rest of World

Our bookings in the rest of the world increased 59% to $20 million in the third quarter of 2018 compared with $12 million in the third quarter of 2017, including an unfavorable foreign currency translation effect of $1 million, due to a large stock-preparation order from a customer in Argentina. While our third quarter bookings were encouraging, geopolitical conditions in South America, particularly in Brazil, continue to create economic headwinds, leading to uncertainty and a constrained capital investment environment.

Global Trade

On July 6, 2018, the United States began imposing tariffs on certain imports from China, which will increase the cost of some of our pulp and paper equipment that we import if we are not able to offset the costs through price increases. Although we are working to mitigate the impact of tariffs through pricing and sourcing strategies, we cannot be certain how our customers and competitors will react to the actions we take. For more information on risks associated with our global operations, including tariffs, please see the risk factors within Part I, “Item 1A. Risk Factors” in our 2017 Annual Report on Form 10-K, as amended in subsequent filings with the SEC.

Through the end of the third quarter, the strength of the economy in North America had led to upward pressure on input costs, particularly material costs. For more information on risks associated with price increases in raw materials, please see the risk factors within Part I, “Item 1A. Risk Factors” in our 2017 Annual Report on Form 10-K. Over time, we expect to offset most of the higher costs through price adjustments and sourcing strategies.

Guidance

For 2018, we now expect to report full year revenue of $628 to $632 million, revised from our previous guidance of $630 to $638 million. We expect to achieve GAAP diluted earnings per share (EPS) of $4.93 to $4.98 in 2018, revised from our previous guidance of $4.89 to $4.99. The revised 2018 guidance includes a pre-tax curtailment loss of $1.4 million, or $0.09 per diluted share, related to the termination of defined benefit plans at one of our U.S. operations. The revised 2018 guidance also includes pre-tax restructuring costs of $1.7 million, or $0.11 per diluted share, pre-tax amortization expense associated with acquired backlog of $0.3 million, or $0.02 per diluted share, and a discrete tax benefit of $1.7 million, or $0.15 per diluted share. For the fourth quarter of 2018, we expect GAAP diluted EPS of $1.24 to $1.29 on revenue of $158 to $162 million. The fourth quarter guidance includes the pre-tax curtailment loss described above of $1.4 million, or $0.09 per diluted share.

Results of Operations

Third Quarter 2018 Compared With Third Quarter 2017

Revenues

The following table presents changes in revenues by segment and product line between the third quarters of 2018 and 2017, and the changes in revenues by segment and product line between the third quarters of 2018 and 2017 excluding the effect of currency translation and an acquisition. Currency translation is calculated by converting third quarter of 2018 revenues in local currency into U.S. dollars at third quarter of 2017 exchange rates and then comparing this result with actual revenues in the third quarter of 2018. The presentation of the changes in revenues excluding the effect of currency translation and an acquisition 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.

Results of Operations (continued)

Revenues for the third quarters of 2018 and 2017 are as follows:

(In thousands)	Three Months Ended September 29, 2018	Three Months Ended September 30, 2017	Total Increase (Decrease)	Currency Translation	Acquisition	(Non-GAAP) Adjusted Total Increase (Decrease)
Stock-Preparation	$ 62,983	$ 52,065	$ 10,918	$ (685)	$ —	$ 11,603
Fluid-Handling	33,083	28,532	4,551	(817)	917	4,451
Doctoring, Cleaning, & Filtration	30,704	30,538	166	(893)	—	1,059
Papermaking Systems	126,770	111,135	15,635	(2,395)	917	17,113
Wood Processing Systems	37,042	39,714	(2,672)	(1,377)	—	(1,295)
Fiber-based Products	1,933	1,945	(12)	—	—	(12)
	$ 165,745	$ 152,794	$ 12,951	$ (3,772)	$ 917	$ 15,806

Papermaking Systems Segment

Revenues from our Papermaking Systems segment increased $15.6 million, or 14%, to $126.8 million in the third quarter of 2018 from $111.1 million in the third quarter of 2017, including a $2.4 million decrease from the unfavorable effect of foreign currency translation and $0.9 million of revenue from an acquisition. Excluding the unfavorable effect of foreign currency translation and the acquisition, revenues increased $17.1 million as explained in the product line discussions below.

Revenues from our Stock-Preparation product line increased $10.9 million, or 21%, to $63.0 million in the third quarter of 2018 from $52.1 million in the third quarter of 2017, including a $0.7 million decrease from the unfavorable effect of foreign currency translation. Excluding the unfavorable effect of foreign currency translation, revenues increased $11.6 million, or 22%, primarily due to increased demand for our capital equipment at our Asian and North American operations. The market in Asia continues to undergo a fundamental shift, as the Chinese government restricted imports of recovered paper effective January 1, 2018, and has since announced that it may ban waste paper imports altogether by 2020. In response to this, Chinese containerboard producers have been investing in pulping capacity to process recovered paper in Southeast Asia, with the intent to ship the pulp to paper and paperboard mills in China. This capacity build-out has increased demand for our capital equipment outside of China. Demand for our stock-preparation products in North America has benefited from increased use of boxes in e-commerce, as well as a general strengthening of the economy.

Revenues from our Fluid-Handling product line increased $4.6 million, or 16%, to $33.1 million in the third quarter of 2018 from $28.5 million in the third quarter of 2017, including $0.9 million of revenue from an acquisition and a $0.8 million decrease from the unfavorable effect of foreign currency translation. Excluding the acquisition and the unfavorable effect of foreign currency translation, revenues increased $4.5 million, or 16%, largely due to a full quarter of revenues in 2018 related to our acquisition of the Unaflex business, as well as increased demand for our capital equipment at our North American operations.

Revenues from our Doctoring, Cleaning, & Filtration product line increased $0.2 million, or 1%, to $30.7 million in the third quarter of 2018 from $30.5 million in the third quarter of 2017, including a $0.9 million decrease from the unfavorable effect of foreign currency translation. Excluding the unfavorable effect of foreign currency translation, revenues increased $1.1 million, or 3%, due to increased demand for our products at our Asian operations, offset in part by decreased demand at our North American and European operations.

Wood Processing Systems Segment

Revenues from our Wood Processing Systems segment decreased $2.7 million, or 7%, to $37.0 million in the third quarter of 2018 from $39.7 million in the third quarter of 2017, including a $1.4 million decrease from the unfavorable effect of foreign currency translation. Excluding the unfavorable effect of foreign currency translation, revenues decreased $1.3 million, or 3%, compared with a very strong third quarter in 2017. The decrease in the 2018 period was due to lower sales from our timber harvesting product line, offset in part by increased demand for our parts and consumables products at our European and North American operations.

Results of Operations (continued)

Fiber-based Products

Revenues from our Fiber-based Products business were flat at $1.9 million in both the third quarters of 2018 and 2017.

Gross Profit Margin

Gross profit margins for the third quarters of 2018 and 2017 were as follows:

	Three Months Ended	
	September 29, 2018	September 30, 2017
Papermaking Systems	44.6%	45.6%
Wood Processing Systems	42.6%	33.5%
Fiber-based Products	36.6%	35.7%
Consolidated Gross Margin	44.1%	42.3%

Papermaking Systems Segment

The gross profit margin in our Papermaking Systems segment decreased to 44.6% in the third quarter of 2018 from 45.6% in the third quarter of 2017 due to a lower proportion of higher-margin parts and consumables revenues as a percentage of total revenues.

Wood Processing Systems Segment

The gross profit margin in our Wood Processing Systems segment increased to 42.6% in the third quarter of 2018 from 33.5% in the third quarter of 2017 primarily due to the amortization in 2017 of $3.3 million of acquired profit in inventory related to the acquisition of our forest products business.

Fiber-based Products

The gross profit margin in our Fiber-based Products business increased to 36.6% in the third quarter of 2018 from 35.7% in the third quarter of 2017.

Selling, General, and Administrative Expenses

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

	Three Months Ended		
(In thousands)	September 29, 2018	September 30, 2017	Increase (Decrease)
Papermaking Systems	$ 28,390	$ 27,159	$ 1,231
Wood Processing Systems	6,639	8,142	(1,503)
Corporate and Other	7,859	7,045	814
	$ 42,888	$ 42,346	$ 542

SG&A expenses as a percentage of revenues decreased to 26% in the third quarter of 2018 from 28% in the third quarter of 2017. SG&A expenses increased $0.5 million, or 1%, to $42.9 million in the third quarter of 2018 from $42.3 million in the third quarter of 2017, including $0.7 million from the favorable effect of foreign currency translation in the 2018 period and $1.5 million of acquisition-related costs in the 2017 period.

Papermaking Systems Segment

SG&A expenses in our Papermaking Systems segment increased $1.2 million, or 5%, to $28.4 million in the third quarter of 2018 from $27.2 million in the third quarter of 2017 primarily due to a full quarter of SG&A expenses in 2018 related to our acquisition of the Unaflex business and, to a lesser extent, SG&A expenses from a fourth quarter 2017 acquisition.

Results of Operations (continued)

Wood Processing Systems Segment

SG&A expenses in our Wood Processing Systems segment decreased $1.5 million to $6.6 million in the third quarter of 2018 from $8.1 million in the third quarter of 2017 primarily due to the inclusion in the 2017 period of $1.4 million of acquisition-related costs.

Corporate and Other

SG&A expenses for Corporate and Other increased $0.8 million to $7.9 million in the third quarter of 2018 from $7.0 million in the third quarter of 2017 primarily due to increased incentive compensation expense and consulting fees related to system conversion projects.

Research and Development Expenses

Research and development expenses decreased $0.1 million to $2.5 million, or 1% of revenues, in the third quarter of 2018 from $2.6 million, or 2% of revenues, in the third quarter of 2017.

Restructuring Costs

Restructuring costs in the third quarter of 2018 of $0.4 million primarily represented costs for the relocation of machinery and equipment and administrative offices related to the integration of our U.S. and Swedish papermaking stock-preparation product lines into a newly-constructed manufacturing facility in the United States to achieve economies of scale and greater efficiencies.

Interest Expense

Interest expense increased $0.5 million to $1.7 million in the third quarter of 2018 from $1.3 million in the third quarter of 2017 primarily due to higher interest rates in the third quarter of 2018 compared with the third quarter of 2017, partially offset by lower outstanding borrowings in the third quarter of 2018 compared with the third quarter of 2017.

Provision for Income Taxes

Our provision for income taxes was $6.4 million, or 25% of pre-tax income, in the third quarter of 2018 and $4.9 million, or 27% of pre-tax income, in the third quarter of 2017. The effective tax rate in the third quarter of 2018, included a discrete tax benefit of 7% primarily due to the release of tax reserves. The effective tax rate of 25% in the third quarter of 2018 was higher than our 2018 statutory tax rate of 21% primarily due to the global intangible low-taxed income (GILTI) provisions of The Tax Cuts and Jobs Act of 2017 (2017 Tax Act), the distribution of our worldwide earnings, and the cost of repatriating the earnings of certain foreign subsidiaries. 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. The effective tax rate of 27% in the third quarter of 2017 was lower than our statutory tax rate of 35% primarily due to the distribution of our worldwide earnings, offset in part by an increase in tax related to non-deductible expenses and unrecognized tax benefits.

See *Provision for Income Taxes* in the Results of Operations for the first nine months of 2018 compared with the first nine months of 2017 for further discussion on the impact of the 2017 Tax Act and the GILTI provisions.

Net Income

Net income increased $5.6 million, or 42%, to $19.0 million in the third quarter of 2018 from $13.4 million in the third quarter of 2017 due to a $7.7 million increase in operating income that was partially offset by increases in provision for income taxes of $1.6 million and interest expense of $0.5 million (see discussions above for further details).

Results of Operations (continued)

First Nine Months 2018 Compared With First Nine Months 2017

Revenues

The following table presents changes in revenues by segment and product line between the first nine months of 2018 and 2017, and the changes in revenues by segment and product line between the first nine months of 2018 and 2017 excluding the effect of currency translation and acquisitions. Currency translation is calculated by converting first nine months of 2018 revenues in local currency into U.S. dollars at first nine months of 2017 exchange rates and then comparing this result with actual revenues in the first nine months of 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.

Revenues for the first nine months of 2018 and 2017 are as follows:

(In thousands)	Nine Months Ended September 29, 2018	Nine Months Ended September 30, 2017	Total Increase	Currency Translation	Acquisitions	(Non-GAAP) Adjusted Total Increase (Decrease)
Stock-Preparation	$ 164,842	$ 139,396	$ 25,446	$ 5,714	$ —	$ 19,732
Fluid-Handling	98,500	73,099	25,401	1,540	12,247	11,614
Doctoring, Cleaning, & Filtration	87,469	82,921	4,548	869	—	3,679
Papermaking Systems	350,811	295,416	55,395	8,123	12,247	35,025
Wood Processing Systems	109,335	61,050	48,285	(512)	52,310	(3,513)
Fiber-based Products	9,705	9,427	278	—	—	278
	$ 469,851	$ 365,893	$ 103,958	$ 7,611	$ 64,557	$ 31,790

Papermaking Systems Segment

Revenues from our Papermaking Systems segment increased $55.4 million, or 19%, to $350.8 million in the first nine months of 2018 from $295.4 million in the first nine months of 2017, including $12.2 million of revenue from acquisitions and an $8.1 million increase from the favorable effect of foreign currency translation. Excluding acquisitions and the favorable effect of foreign currency translation, revenues increased $35.0 million as explained in the product line discussions below.

Revenues from our Stock-Preparation product line increased $25.4 million, or 18%, to $164.8 million in the first nine months of 2018 from $139.4 million in the first nine months of 2017, including a $5.7 million increase from the favorable effect of foreign currency translation. Excluding the favorable effect of foreign currency translation, revenues increased $19.7 million, or 14%, primarily due to increased demand for capital equipment at our Asian and North American operations. The market in Asia continues to undergo a fundamental shift, as the Chinese government restricted imports of recovered paper effective January 1, 2018, and has since announced that it may ban waste paper imports altogether by 2020. In response to this, Chinese containerboard producers have been investing in pulping capacity to process recovered paper in Southeast Asia, with the intent to ship the pulp to paper and paperboard mills in China. This capacity build-out has increased demand for our capital equipment outside of China. Demand for our stock-preparation products in North America has benefited from increased use of boxes in e-commerce, as well as a general strengthening of the economy.

Revenues from our Fluid-Handling product line increased $25.4 million, or 35%, to $98.5 million in the first nine months of 2018 from $73.1 million in the first nine months of 2017 due to $12.2 million in revenues from acquisitions made in 2017 and a $1.5 million increase from the favorable effect of foreign currency translation. Excluding acquisitions and the favorable effect of foreign currency translation, revenues increased $11.6 million, or 16%, largely due to increased demand for our capital equipment primarily at our North American operations.

Results of Operations (continued)

Revenues from our Doctoring, Cleaning, & Filtration product line increased $4.6 million, or 5%, to $87.5 million in the first nine months of 2018 from $82.9 million in the first nine months of 2017, including a $0.9 million increase from the favorable effect of foreign currency translation. Excluding the favorable effect of foreign currency translation, revenues increased $3.7 million, or 4%, primarily due to increased demand for our parts and consumables products.

Wood Processing Systems Segment

Revenues from our Wood Processing Systems segment increased $48.3 million to $109.3 million in the first nine months of 2018 from $61.1 million in the first nine months of 2017 due to the inclusion of $52.3 million in revenues from an acquisition, slightly offset by a $0.5 million unfavorable effect of foreign currency translation. Excluding the acquisition and the unfavorable effect of foreign currency translation, revenues decreased $3.5 million, or 6%, primarily due to a decrease in sales from our timber harvesting product line.

Fiber-based Products

Revenues from our Fiber-based Products business increased $0.3 million to $9.7 million in the first nine months of 2018 compared with $9.4 million in the first nine months of 2017 due to an increase in demand for our biodegradable granular products.

Gross Profit Margin

Gross profit margins for the first nine months of 2018 and 2017 were as follows:

	Nine Months Ended	
	September 29, 2018	September 30, 2017
Papermaking Systems	45.1%	47.1%
Wood Processing Systems	40.4%	37.1%
Fiber-based Products	50.1%	50.1%
Consolidated Gross Margin	44.1%	45.5%

Papermaking Systems Segment

The gross profit margin in our Papermaking Systems segment decreased to 45.1% in the first nine months of 2018 from 47.1% in the first nine months of 2017 due to a lower proportion of higher-margin parts and consumables revenues as a percentage of total revenues, and to a lesser extent, lower gross margins on our capital equipment.

Wood Processing Systems Segment

The gross profit margin in our Wood Processing Systems segment increased to 40.4% in the first nine months of 2018 from 37.1% in the first nine months of 2017 primarily due to the amortization in 2017 of $3.3 million of acquired profit in inventory related to the acquisition of our forest products business, partially offset by the inclusion of lower gross profit margins from our timber harvesting product line that was acquired in 2017 as part of the forest products business.

Fiber-based Products

The gross profit margin in our Fiber-based Products business was flat at 50.1% in both the first nine months of 2018 and 2017.

Results of Operations (continued)

Selling, General, and Administrative Expenses

SG&A expenses for the first nine months of 2018 and 2017 were as follows:

(In thousands)	Nine Months Ended September 29, 2018	Nine Months Ended September 30, 2017	Increase
Papermaking Systems	$ 89,205	$ 80,121	$ 9,084
Wood Processing Systems	20,929	15,396	5,533
Corporate and Other	23,662	20,419	3,243
	$ 133,796	$ 115,936	$ 17,860

SG&A expenses as a percentage of revenues decreased to 28% in the first nine months of 2018 from 32% in the first nine months of 2017 due to the inclusion of $5.7 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. SG&A expenses increased $17.9 million, or 15%, to $133.8 million in the first nine months of 2018 from $115.9 million in the first nine months of 2017 primarily due to the inclusion of $14.4 million of incremental SG&A expenses from our acquisitions and a $2.4 million unfavorable effect from foreign currency translation.

Papermaking Systems Segment

SG&A expenses in our Papermaking Systems segment increased $9.1 million to $89.2 million in the first nine months of 2018 from $80.1 million in the first nine months of 2017, primarily due to $3.7 million of incremental SG&A expenses from acquisitions and a $2.5 million unfavorable effect from foreign currency translation.

Wood Processing Systems Segment

SG&A expenses in our Wood Processing Systems segment increased $5.5 million to $20.9 million in the first nine months of 2018 from $15.4 million in the first nine months of 2017 primarily due to $10.7 million of incremental SG&A expenses in the 2018 period from a 2017 acquisition, offset in part by $5.5 million of acquisition-related costs in the 2017 period.

Corporate and Other

SG&A expenses for Corporate and Other increased $3.2 million to $23.7 million in the first nine months of 2018 from $20.4 million in the first nine months of 2017 primarily due to increased incentive compensation expense and consulting fees related to system conversion projects.

Research and Development Expenses

Research and development expenses, which represented 2% of revenues in both periods, increased $1.0 million to $8.0 million in the first nine months of 2018 from $7.0 million in the first nine months of 2017 due to the inclusion of research and development expenses from acquisitions.

Restructuring Costs

Restructuring costs in the first nine months of 2018 of $1.7 million related to the integration of our U.S. and Swedish papermaking stock-preparation product lines into a newly-constructed manufacturing facility in the United States to achieve economies of scale and greater efficiencies, and included $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.

Interest Expense

Interest expense increased $3.3 million to $5.3 million in the first nine months of 2018 from $2.0 million in the first nine months of 2017 primarily due to interest expense on additional borrowings for acquisitions made in the second half of 2017, and to a lesser extent, to higher interest rates in the third quarter of 2018 compared with the third quarter of 2017.

Results of Operations (continued)

Provision for Income Taxes

Our provision for income taxes was $15.6 million in the first nine months of 2018 and $10.6 million in the first nine months of 2017. The effective tax rate of 27% in the first nine months of 2018 was higher than our 2018 statutory tax rate of 21% primarily due to the GILTI provisions of the 2017 Tax Act, the distribution of our worldwide earnings, the cost of repatriating the earnings of certain foreign subsidiaries, and a change in estimate to the federal and state provisional net income tax expense initially recorded in 2017 for the 2017 Tax Act. 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 26% in the first nine months of 2017 was lower than our statutory tax rate of 35% primarily due to the distribution of our worldwide earnings and the net excess income tax benefits from stock-based compensation arrangements, offset in part by an increase in tax related to non-deductible expenses and unrecognized tax benefits.

Additional work is still necessary to finalize the provisional tax impacts of the 2017 Tax Act, including the completion of a more detailed analysis of our historical foreign earnings and the understanding and application of anticipated additional regulatory guidance regarding the provisions of the 2017 Tax Act that may be issued by the Internal Revenue Service and state and local jurisdictions. Any subsequent adjustment to the provisional amounts will be recorded to current tax expense in the fourth quarter of 2018 when the analysis will be complete.

We have elected to account for GILTI as a current period expense when incurred (the period cost method). Because of the complexity of the GILTI tax rules and the lack of legislative guidance, we continue to evaluate the provisions of the 2017 Tax Act and the application of Accounting Standards Codification, *Income Taxes (Topic 740)*. The final impact to us from the 2017 Tax Act's GILTI tax legislation may differ from the estimate calculated by us. Such differences could be material due to, among other things, changes in interpretations of the 2017 Tax Act, future legislative action to address questions that arise because of the 2017 Tax Act, changes in accounting standards for income taxes or related interpretations in response to the 2017 Tax Act, or any updates or changes to estimates we have utilized to calculate the GILTI inclusion.

Net Income

Net income increased $11.8 million, or 38%, to $42.5 million in the first nine months of 2018 from $30.7 million in the first nine months of 2017 due to a $20.2 million increase in operating income that was partially offset by increases in provision for income taxes of $5.0 million and interest expense of $3.3 million (see discussions above for further details).

Recent Accounting Pronouncements

See Note 1, under the headings *Recently Adopted Accounting Pronouncements* and *Recent Accounting Pronouncements Not Yet Adopted*, in the accompanying condensed consolidated financial statements for further details.

Liquidity and Capital Resources

Consolidated working capital was $124.9 million at September 29, 2018, compared with $133.8 million at December 30, 2017. Included in working capital were cash and cash equivalents of $57.4 million at September 29, 2018, compared with $75.4 million at December 30, 2017. At September 29, 2018, $53.1 million of cash and cash equivalents was held by our foreign subsidiaries.

Liquidity and Capital Resources (continued)

Cash Flows

First Nine Months of 2018

Our operating activities provided cash of $52.6 million in the first nine months of 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. We used cash of $10.2 million to purchase inventory primarily associated with the expected shipment of capital orders later in 2018. We had an increase in accounts receivable of $9.6 million related to a record level of revenue in the third quarter of 2018, which will be collected in subsequent periods. We received $9.4 million of cash from other current liabilities primarily related to customer deposits and advanced billings.

Our investing activities used cash of $12.6 million in the first nine months of 2018 primarily related to purchases of property, plant, and equipment, including $6.4 million for a newly-constructed manufacturing facility in the United States.

Our financing activities used cash of $55.8 million in the first nine months of 2018. We used cash of $81.5 million for principal payments on our outstanding debt obligations, $7.2 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 commercial real estate loan and $16.0 million under our revolving credit agreement, and $0.8 million received from employee purchases of our common stock.

First Nine Months of 2017

Our operating activities provided cash of $32.3 million in the first nine months of 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 $16.2 million related to increased capital shipments in the third quarter of 2017. We used cash of $3.5 million to purchase inventory primarily related to purchases associated with the shipment of Stock-Preparation capital orders in the fourth quarter of 2017 and the first half of 2018. We received $8.4 million of cash from other current liabilities primarily related to advanced billings.

Our investing activities used cash of $212.8 million in the first nine months of 2017, including $204.2 million for acquisitions and $8.7 million for purchases of property, plant, and equipment.

Our financing activities provided cash of $190.4 million in the first nine months of 2017. We borrowed $222.0 million under our revolving credit agreement, including $70.7 million of Canadian dollar-denominated and $61.8 million of euro-denominated borrowings. These borrowings were partially offset by $20.3 million used for principal payments on our outstanding debt obligations, $6.7 million used for cash dividends paid to stockholders, $2.2 million used for tax withholding payments related to stock-based compensation, and $1.3 million used for the payment of debt issuance costs.

Additional Liquidity and Capital Resources

On May 16, 2018, our board of directors approved 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 cash dividends of $7.2 million in the first nine months of 2018. On September 12, 2018, our board of directors declared a quarterly cash dividend of $0.22 per share, totaling $2.4 million, that will be paid on November 8, 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 covenant in our revolving credit facility related to our consolidated leverage ratio.

Liquidity and Capital Resources (continued)

As of September 29, 2018, we had cash and cash equivalents of $57.4 million, of which $53.1 million was held by our foreign subsidiaries. As of September 29, 2018, we had approximately $267.5 million of total unremitted foreign earnings. It is our intent to indefinitely reinvest $259.2 million of these earnings to support the current and future capital needs of our foreign operations, including debt repayments. In the first nine months of 2018, we recorded withholding taxes on the earnings 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 $4.7 million.

We plan to make expenditures of approximately $5 million during the remainder of 2018 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 debt repayments, capital projects, dividends, stock repurchases, or acquisitions. We believe that our existing resources, together with the cash available from our revolving credit facility 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.

Revolving Credit Facility

In 2017, we entered into an Amended and Restated Credit Agreement, as amended (the 2017 Credit Agreement), which is a five-year unsecured multi-currency revolving credit facility in the aggregate principal amount of up to $300 million. The 2017 Credit Agreement also includes an uncommitted unsecured incremental borrowing facility of up to an additional $100 million. The principal on any borrowings is due on March 1, 2022. Borrowing may be denominated in U.S. dollars or certain foreign currencies as defined in the 2017 Credit Agreement. Interest on any loans outstanding accrues and generally is payable quarterly in arrears at one of the following rates selected by us: (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%. The applicable margin is determined based upon the ratio of our total debt, net of certain cash and debt, as defined, to earnings before interest, taxes, depreciation, and amortization (EBITDA), as defined in the 2017 Credit Agreement. For this purpose, total debt net of certain cash and debt as defined as total debt less the sum of (i) unrestricted U.S. cash, and (ii) 65% of unrestricted cash outside of the United States, but no more than an aggregate amount of $30 million.

Our obligations under the 2017 Credit Agreement may be accelerated upon the occurrence of an event of default under the 2017 Credit Agreement, which includes customary events of default including, without limitation, payment defaults, defaults in the performance of affirmative and negative covenants, the inaccuracy of representations or warranties, bankruptcy- and insolvency-related defaults, defaults relating to such matters as the Employment Retirement Income Security Act (ERISA), unsatisfied judgments, the failure to pay certain indebtedness, and a change of control default. In addition, the 2017 Credit Agreement contains negative covenants applicable to us, including financial covenants requiring us to comply with a maximum consolidated leverage ratio of 3.5 to 1, a minimum consolidated interest coverage ratio of 3 to 1, and restrictions on liens, indebtedness, fundamental changes, dispositions of property, making certain restricted payments (including dividends and stock repurchases), investments, transactions with affiliates, sale and leaseback transactions, swap agreements, changing our fiscal year, arrangements affecting subsidiary distributions, entering into new lines of business, and certain actions related to a discontinued operation. As of September 29, 2018, we were in compliance with these covenants.

Loans under the 2017 Credit Agreement are guaranteed by certain of our domestic subsidiaries pursuant to an Amended and Restated Guarantee Agreement. In addition, one of our foreign subsidiaries entered into a guarantee agreement limited to certain obligations of two foreign subsidiary borrowers.

As of September 29, 2018, the outstanding balance under the 2017 Credit Agreement was $168.5 million, including $43.7 million of Canadian dollar-denominated and $33.8 million of euro-denominated borrowings. As of September 29, 2018, we had $131.2 million of borrowing capacity available under the 2017 Credit Agreement, which was calculated by translating our foreign-denominated borrowings using borrowing date foreign exchange rates.

The weighted average interest rate for the revolving credit facility was 3.07% as of September 29, 2018.

Liquidity and Capital Resources (continued)

Commercial Real Estate Loan

In July 2018, we and certain domestic subsidiaries borrowed $21.0 million under a promissory note (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.

The Real Estate Loan is secured by real estate and related personal property of ours and certain of our domestic subsidiaries pursuant to mortgage and security agreements dated July 6, 2018 (Mortgage and Security Agreements). Our obligations 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 including, without limitation, payment defaults, defaults in the performance of covenants and obligations, the inaccuracy of representations or warranties, bankruptcy- and insolvency-related defaults, liens on the properties or collateral and uninsured judgments. In addition, the occurrence of an event of default under the 2017 Credit Agreement or any successor credit facility would be an event of default under the Real Estate Loan. We used the proceeds from the Real Estate Loan to repay a portion of our U.S. dollar-denominated debt under the 2017 Credit 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 September 29, 2018, $4.2 million was outstanding under this capital lease obligation with an interest rate of 1.79% on the outstanding obligation.

Interest Rate Swap Agreements

In May 2018, we entered into a swap agreement (2018 Swap Agreement) that has a $15.0 million notional value and expires on June 30, 2023. In 2015, we also entered into a swap agreement (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 revolving credit facility on the 2018 Swap Agreement and 1.50% plus an applicable margin as defined in the revolving credit facility on the 2015 Swap Agreement. The 2018 Swap Agreement is subject to a zero percent floor on the three-month LIBOR rate.

We believe that any credit risk associated with the swap agreements is remote based on our financial position and the creditworthiness of the financial institution that issued the 2018 and 2015 Swap Agreements.

The counterparty to the swap agreements could demand an early termination of these agreements if we were to be in default under the 2017 Credit Agreement, or any agreement that amends or replaces the 2017 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

There have been no significant changes to our contractual obligations and other commercial commitments during the nine months ended September 29, 2018, compared with those disclosed in Management's Discussion and Analysis of Financial Condition and Results of Operations, set forth in Part II, Item 7, of our Annual Report on Form 10-K for the fiscal year-end 2017, other than the Real Estate Loan and the 2018 Swap Agreement, as described above.

Item 3 – Quantitative and Qualitative Disclosures About Market Risk

Our exposure to market risk from changes in interest rates and foreign currency exchange rates has not changed materially from our exposure at fiscal year-end 2017 as disclosed in Item 7A of our Annual Report on Form 10-K for the fiscal year ended December 30, 2017, filed with the SEC, except as related to the Real Estate Loan and the 2018 Swap Agreement. Pursuant to the Real Estate Loan, in July 2018, we borrowed $21 million with a fixed interest rate of 4.45% and used the proceeds to repay our outstanding variable rate debt under the 2017 Credit Agreement. In May 2018, we entered into the 2018 Swap Agreement to hedge our exposure to movements in the three-month LIBOR rate.

Item 4 – 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 as of September 29, 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 as of September 29, 2018, our Chief Executive Officer and Chief Financial Officer concluded that as of September 29, 2018, our disclosure controls and procedures were effective at the reasonable assurance level.

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 September 29, 2018 that have materially affected, or are reasonably likely to materially affect, our internal control over financial reporting.

PART II – OTHER INFORMATION

Item 1A – Risk Factors

There have been no material changes from the risk factors disclosed in Part I, Item 1A of the Company’s Annual Report on Form 10-K for the fiscal year ended December 30, 2017, as amended in subsequent filings with the SEC.

Item 6 – Exhibits

Exhibit Number	Description of Exhibit
10.1	Promissory Note in the principal amount of $21,000,000 dated July 6, 2018, executed by Kadant Inc., 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 Form 8-K [File No. 001-11406] and incorporated in this document by reference).
10.2	Mortgage, Security Agreement and Assignment of Leases and Rents dated July 6, 2018 executed by Kadant Inc. 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 Form 8-K [File No. 001-11406] and incorporated in this document by reference).
10.3	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 Form 8-K [File No. 001-11406] and incorporated in this document by reference).
10.4	Open-End Mortgage, Security Agreement, and Assignment of Leases and Rents 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 Form 8-K [File No. 001-11406] and incorporated in this document by reference).
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.

* Filed herewith.

** Furnished herewith.

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

KADANT INC.

SIGNATURE

Pursuant to the requirements of the Securities Exchange Act of 1934, the registrant has duly caused this report to be signed on its behalf by the undersigned thereunto duly authorized.

KADANT INC.

Date: November 7, 2018	/s/ Michael J. McKenney
	Michael J. McKenney
	Executive Vice President and Chief Financial Officer
	(Principal Financial Officer)

Exhibit 31.1

CERTIFICATION

I, Jonathan W. Painter, certify that:

1. I have reviewed this Quarterly Report on Form 10-Q for the period ended September 29, 2018 of Kadant Inc.;
2. Based on my knowledge, this report does not contain any untrue statement of a material fact or omit to state a material fact necessary to make the statements made, in light of the circumstances under which such statements were made, not misleading with respect to the period covered by this report;
3. Based on my knowledge, the financial statements, and other financial information included in this report, fairly present in all material respects the financial condition, results of operations and cash flows of the registrant as of, and for, the periods presented in this report;
4. The registrant's other certifying officer and I are responsible for establishing and maintaining disclosure controls and procedures (as defined in Exchange Act Rules 13a-15(e) and 15d-15(e)) and internal control over financial reporting (as defined in Exchange Act Rules 13a-15(f) and 15d-15(f)) for the registrant and have:
   a) Designed such disclosure controls and procedures, or caused such disclosure controls and procedures to be designed under our supervision, to ensure that material information relating to the registrant, including its consolidated subsidiaries, is made known to us by others within those entities, particularly during the period in which this report is being prepared;
   b) Designed such internal control over financial reporting, or caused such internal control over financial reporting to be designed under our supervision, to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with generally accepted accounting principles;
   c) Evaluated the effectiveness of the registrant's disclosure controls and procedures and presented in this report our conclusions about the effectiveness of the disclosure controls and procedures, as of the end of the period covered by this report based on such evaluation; and
   d) Disclosed in this report any change in the registrant's internal control over financial reporting that occurred during the registrant's most recent fiscal quarter (the registrant's fourth fiscal quarter in the case of an annual report) that has materially affected, or is reasonably likely to materially affect, the registrant's internal control over financial reporting; and
5. The registrant's other certifying officer and I have disclosed, based on our most recent evaluation of internal control over financial reporting, to the registrant's auditors and the audit committee of the registrant's board of directors (or persons performing the equivalent functions):
   a) All significant deficiencies and material weaknesses in the design or operation of internal control over financial reporting which are reasonably likely to adversely affect the registrant's ability to record, process, summarize and report financial information; and
   b) Any fraud, whether or not material, that involves management or other employees who have a significant role in the registrant's internal control over financial reporting.

Date: November 7, 2018

/s/ Jonathan W. Painter

Jonathan W. Painter

Chief Executive Officer

Exhibit 31.2

CERTIFICATION

I, Michael J. McKenney, certify that:

1. I have reviewed this Quarterly Report on Form 10-Q for the period ended September 29, 2018 of Kadant Inc.;

2. Based on my knowledge, this report does not contain any untrue statement of a material fact or omit to state a material fact necessary to make the statements made, in light of the circumstances under which such statements were made, not misleading with respect to the period covered by this report;

3. Based on my knowledge, the financial statements, and other financial information included in this report, fairly present in all material respects the financial condition, results of operations and cash flows of the registrant as of, and for, the periods presented in this report;

4. The registrant's other certifying officer and I are responsible for establishing and maintaining disclosure controls and procedures (as defined in Exchange Act Rules 13a-15(e) and 15d-15(e)) and internal control over financial reporting (as defined in Exchange Act Rules 13a-15(f) and 15d-15(f)) for the registrant and have:

   a) Designed such disclosure controls and procedures, or caused such disclosure controls and procedures to be designed under our supervision, to ensure that material information relating to the registrant, including its consolidated subsidiaries, is made known to us by others within those entities, particularly during the period in which this report is being prepared;

   b) Designed such internal control over financial reporting, or caused such internal control over financial reporting to be designed under our supervision, to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with generally accepted accounting principles;

   c) Evaluated the effectiveness of the registrant's disclosure controls and procedures and presented in this report our conclusions about the effectiveness of the disclosure controls and procedures, as of the end of the period covered by this report based on such evaluation; and

   d) Disclosed in this report any change in the registrant's internal control over financial reporting that occurred during the registrant's most recent fiscal quarter (the registrant's fourth fiscal quarter in the case of an annual report) that has materially affected, or is reasonably likely to materially affect, the registrant's internal control over financial reporting; and

5. The registrant's other certifying officer and I have disclosed, based on our most recent evaluation of internal control over financial reporting, to the registrant's auditors and the audit committee of the registrant's board of directors (or persons performing the equivalent functions):

   a) All significant deficiencies and material weaknesses in the design or operation of internal control over financial reporting which are reasonably likely to adversely affect the registrant's ability to record, process, summarize and report financial information; and

   b) Any fraud, whether or not material, that involves management or other employees who have a significant role in the registrant's internal control over financial reporting.

Date: November 7, 2018

/s/ Michael J. McKenney

Michael J. McKenney
Chief Financial Officer

Exhibit 32

CERTIFICATION PURSUANT TO 18 U.S.C. SECTION 1350,
AS ADOPTED PURSUANT TO SECTION 906
OF THE SARBANES-OXLEY ACT OF 2002

Pursuant to 18 U.S.C. Section 1350 as adopted pursuant to Section 906 of the Sarbanes-Oxley Act of 2002, the undersigned, Jonathan W. Painter, Chief Executive Officer, and Michael J. McKenney, Chief Financial Officer, of Kadant Inc., a Delaware corporation (the "Company"), do hereby certify, to our best knowledge and belief, that:

The Quarterly Report on Form 10-Q for the period ended September 29, 2018 of the Company fully complies with the requirements of Section 13(a) or 15(d) of the Securities Exchange Act of 1934, as amended (the "Exchange Act") and the information contained in this Quarterly Report fairly presents, in all material respects, the financial condition and results of operations of the Company.

Dated: November 7, 2018	/s/ Jonathan W. Painter
	Jonathan W. Painter
	Chief Executive Officer
	/s/ Michael J. McKenney
	Michael J. McKenney
	Chief Financial Officer

This certification accompanies this Quarterly Report on Form 10-Q pursuant to Section 906 of the Sarbanes-Oxley Act of 2002 and shall not, except to the extent required by such Act, be deemed filed by the Company for purposes of Section 18 of the Exchange Act. Such certification will not be deemed to be incorporated by reference into any filing under the Securities Act of 1933, as amended, or the Exchange Act, except to the extent that the Company specifically incorporates it by reference.