2018 Annual Report

HUNTSMAN

Enriching lives through innovation

HUNTSMAN

Enriching lives through innovation

WE ARE GROWING OUR DOWNSTREAM SPECIALTY AND DIFFERENTIATED BUSINESSES.

Huntsman Corporation is a publicly traded global manufacturer and marketer of specialty and differentiated chemicals. Our products are sold worldwide and serve a broad and diverse range of consumer and industrial end markets.

2018 Milestones

- We achieved a record safety year at the company, which included our lowest combined associate and contractors OSHA recordable injury rate in our history.
- We reported record adjusted EBITDA and earnings per share, which was an increase of 17% and 35% year over year, respectively.*
- We generated $651 million in free cash flow, which is a 44% conversion of adjusted EBITDA.*
- We maintained a balance sheet with investment grade metrics (and formally received investment grade ratings from Moody's and Fitch in February 2019) that included a net debt to adjusted EBITDA ratio of 1.3x.* We also entered into a new five-year $1.2 billion senior unsecured revolving credit facility maturing in 2023, which replaced the company's previous $650 million senior secured credit facility.
- We returned a substantial amount of capital to our shareholders, including increasing our quarterly dividend by 30% and repurchasing $276 million of shares under our board-authorized $1 billion share repurchase program.
- We completed two bolt-on acquisitions that grew and added new technologies to our downstream differentiated businesses.

**Reconciliations of non-GAAP measures to GAAP are provided on pages 46–51 of our annual report on Form 10-K for the year ended December 31, 2018, as filed with the SEC on February 12, 2019.*

Dear Fellow Shareholders:

Peter R. Huntsman
Chairman, President and Chief Executive Officer

In my letter to you last year, I shared that our company's future had never shined brighter and that I had never been more excited about our prospects. Today, I am even more enthusiastic about the future of this great company.

2018 was truly a great year for Huntsman—in fact, the strongest in our nearly 50-year history. We generated record adjusted EBITDA and earnings per share, along with free cash flow that exceeded expectations. At our Investor Day in May 2018, we outlined our 2020 targets for cash generation and EBITDA growth, and we remain on track and committed to those targets.

We remain fully committed to our transparent and consistent strategy. We have continued to grow our downstream specialty and differentiated businesses through both internal investment and acquisition. We invested in two strategically aligned bolt-on acquisitions, one in our Advanced Materials division and the other in our Polyurethanes division, and we expect to globalize and further develop these and other previously acquired businesses into meaningful contributors to our long-term growth.

The strength of Huntsman's balance sheet has never been greater. With a net debt to adjusted EBITDA ratio of 1.3x, we are well within investment grade metrics. During the year, we further improved our overall financial flexibility by successfully entering into a new $1.2 billion senior unsecured revolving credit facility, which replaced a much smaller and secured revolving facility.

Our improved financial strength and cash flow, compared to past years, significantly enhanced our ability to return capital to shareholders. We increased our regular quarterly dividend by 30% and expect to maintain a competitive yield. Additionally, Huntsman's board of directors authorized a $1 billion share repurchase program early in the year, enabling the repurchase of approximately 10.4 million shares, representing $276 million during the year. Entering 2019, we have $724 million remaining on our authorization and intend to remain opportunistic and balanced in our approach to capital allocation when considering share repurchases, dividends and investments to grow our downstream businesses.

As I look to 2019 and beyond, I see a Huntsman Corporation that is very well positioned to create long-term value for our shareholders. No one can predict the future of the global economic environment, but we will maintain a laser focus on what we can control: maintenance of a balance sheet with investment grade metrics and continued investment in our downstream strategy. Our businesses will focus on product innovation and development with our customers. Our socially responsible operations will build on the record safety performance achieved in 2018 while at the same time look to further reduce our environmental footprint—while delivering solutions to help our customers do the same—and further improve overall operational efficiency and reliability to help drive shareholder value even higher.

I fully expect 2019 to be another solid year for Huntsman. I look forward to the opportunities ahead and to updating you on our progress in next year's letter.

Peter R. Huntsman
Chairman, President and Chief Executive Officer

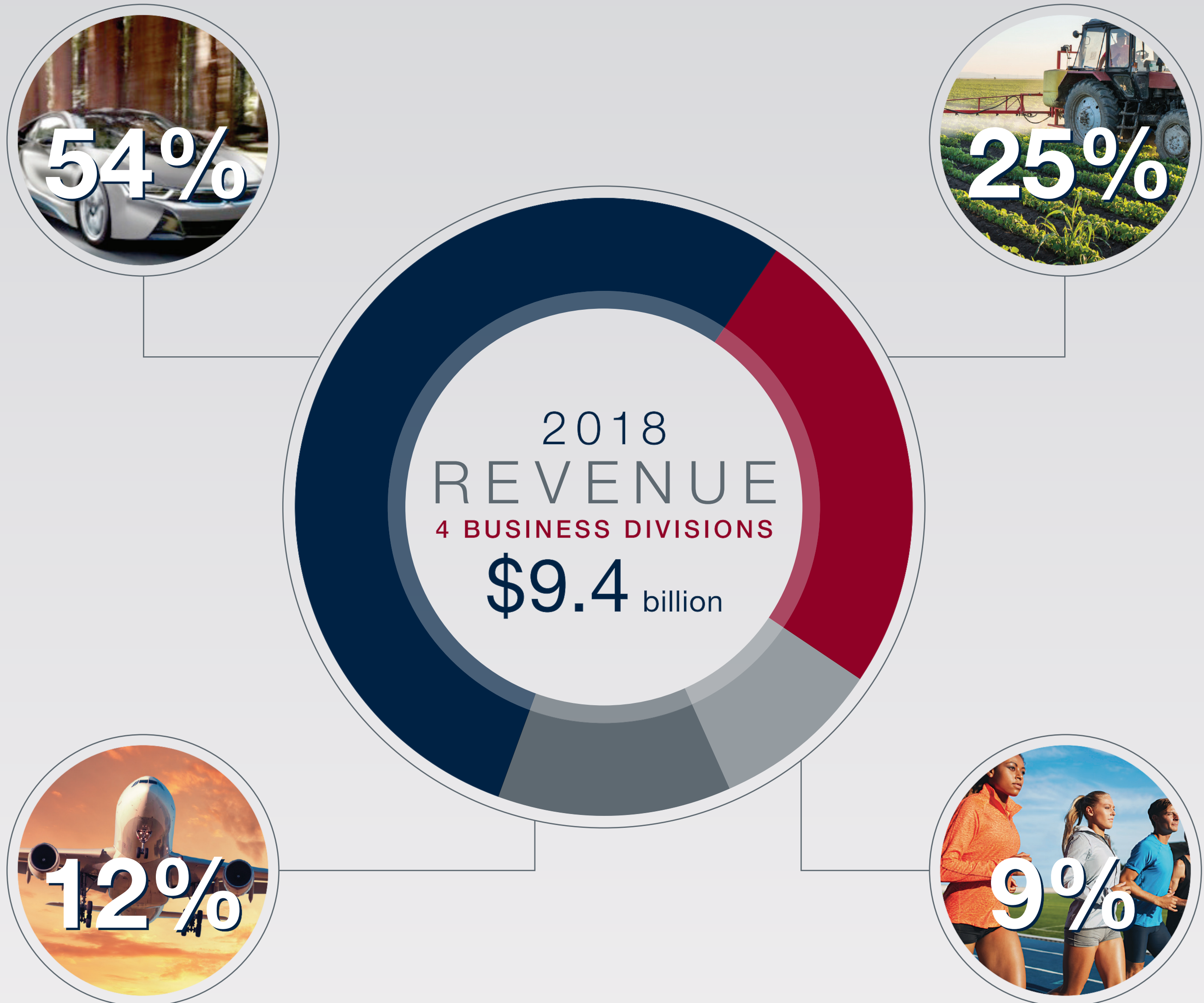
Overview of Business Divisions

Polyurethanes

We are a leading global producer of MDI-based polyurethanes focused on formulating innovative, differentiated products for key downstream markets including energy-saving insulation, light-weighting and performance materials for automotive, comfort foam for bedding and furniture, protective coatings, adhesives, and elastomers for footwear.

Performance Products

We manufacture a wide variety of chemical products that provide important properties in everyday items people want and need, such as cleansing, dispersing, emulsifying and curing. Our product categories of amines, surfactants, maleic anhydride and glycols are used in agrochemicals, detergents and soaps, oil and gas production, gas treating, coatings, composites, urethane catalysts and epoxy curing.



Advanced Materials

We provide specialty epoxy, acrylic and polyurethane-based polymer resin systems and adhesive products, which are replacing traditional materials in aircraft, automobiles and electrical power transmission. Our products are also used in coatings, construction materials, circuit boards and sports equipment.

Textile Effects

We are a major global solutions provider of textile dyes, textile chemicals and digital inks to the textile industry that enhance color and improve fabric performance such as wrinkle resistance, faster drying properties and the ability to repel water and stains in apparel, home and technical textiles.

Sustainability at Huntsman Corporation

Huntsman is dedicated to addressing sustainability challenges around the globe.

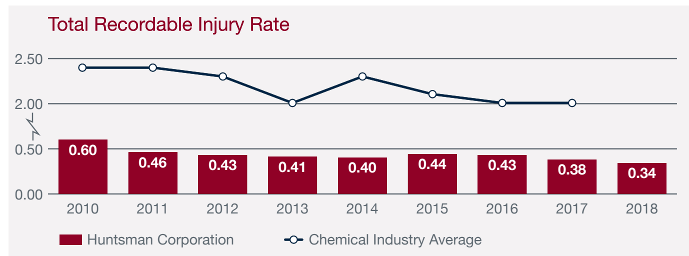
True to our motto "Enriching lives through innovation" and aligned with our vision for the future, we strive to develop world-class products that provide long-term societal and environmental solutions.

Our sustainability program is led by Corporate Sustainability Officer (CSO) Ron Gerrard and the Huntsman Sustainability Council, which comprises senior representatives from all our divisions and key functions. Our CSO reports progress to the governance committee of the Huntsman board of directors at least twice a year, and the board regularly discusses various environmental, social and governance (ESG) matters.

Huntsman is committed to the United Nations Sustainable Development Goals and to Responsible Care®, the chemical industry's environmental, health, safety and security performance initiative. Since 2010, we have published our annual Huntsman sustainability report to document our progress and demonstrate our commitment to the key pillars of sustainability: **People, Planet, Profit.**

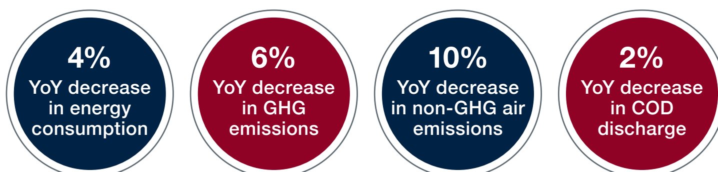
PEOPLE

Our people are the foundation of our company. We have an uncompromising focus on the health and safety of our employees and we continually improve our processes to reduce risk and leverage best-in-class manufacturing practices. These actions led Huntsman to achieve a personal safety record in 2018 that was, and consistently has been, significantly lower than the U.S. chemical industry average.



PLANET

At Huntsman, we offer innovative products that deliver sustainable solutions to our customers. We continuously seek to reduce our environmental footprint and positively contribute to the communities in which we operate. Our comprehensive environmental, health and safety management system—approved by company officers and endorsed by Chairman, President and CEO Peter Huntsman—ensures transparency and accountability by tracking our progress toward our goals.



Note: Figures represent the percent change in values between 2016 and 2017. Please see the Huntsman 2017 Sustainability Report for further information.

PROFIT

We are excited by the opportunity to build upon our legacy of positive impact through our innovative products that will help create a more sustainable future.

Some of these innovations have led to:

- in 2016, Huntsman's earning BMW Group's prestigious Supplier Innovation Award for Sustainability for our low-VOC car seating systems;
- in 2017, our durable polyurethane pipe-in-pipe insulation systems, used in district central heating systems in China, being recognized with our Chief Executive's Award for Innovation in Sustainability; and
- in 2018, our AVITERA® dyes helping save roughly one billion liters of water in our Textile Effects customers' applications.

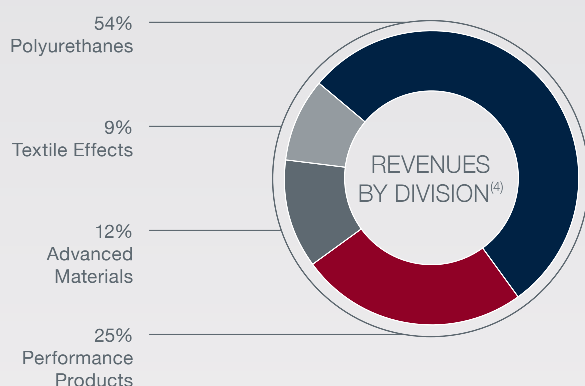
We are proud of the progress we've made in our sustainability efforts and see these strides toward a sustainable future as an opportunity for the advancement of our sustainability goals.

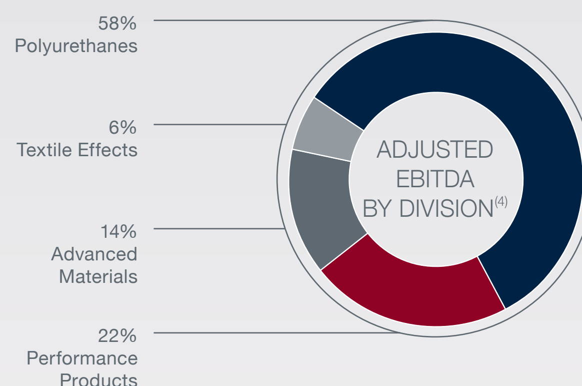
Learn more at www.huntsman.com/sustainability.

Financial Highlights—2018 At A Glance

	Year Ended December 31,		
$ in millions, except per share amounts	**2018**	2017	2016
Revenues	**$ 9,379**	$ 8,358	$ 7,518
Gross profit	**$ 2,025**	$ 1,806	$ 1,518
Interest expense, net	**$ 115**	$ 165	$ 203
Net income	**$ 650**	$ 741	$ 357
Adjusted net income(1)	**$ 808**	$ 604	$ 352
Adjusted diluted income per share(1)	**$ 3.34**	$ 2.48	$ 1.47
Adjusted EBITDA(1)	**$ 1,469**	$ 1,259	$ 997
Free cash flow(1)	**$ 651**	$ 594	$ 655
Capital expenditures(2)	**$ 305**	$ 279	$ 286

	December 31,		
$ in millions	**2018**	2017	2016
Total assets	**$ 7,953**	$ 10,244	$ 9,189
Net debt(3)	**$ 1,980**	$ 1,817	$ 3,776





Note: Our former Pigments and Additives business, now known as Venator Materials PLC, is treated as discontinued operations in all periods shown. However, beginning in December 2018, Venator was deconsolidated and our remaining ownership interest in Venator is accounted for as an equity method investment.

(1) Reconciliations of non-GAAP measures to GAAP are provided on pages 46–51 of our annual report on Form 10-K for the year ended December 31, 2018, as filed with the SEC on February 12, 2019.

(2) Net of reimbursements of $8 million, $3 million and $32 million in 2018, 2017 and 2016, respectively.

(3) Net debt calculated as total debt excluding affiliates less cash of $340 million, $481 million and $396 million in 2018, 2017 and 2016, respectively.

(4) Division allocation before Corporate and other unallocated items.

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DEFINITIONS

Each capitalized term used without definition in this report has the meaning specified in the Annual Report on Form 10-K for the year ended December 31, 2018, which was filed with the Securities and Exchange Commission on February 12, 2019.

SELECTED FINANCIAL DATA

The selected historical financial data set forth below presents our historical financial data as of and for the dates and periods indicated. You should read the selected financial data in conjunction with "Management's Discussion and Analysis of Financial Condition and Results of Operations" and our consolidated financial statements and accompanying notes.

	Year ended December 31,				
	2018	2017	2016	2015	2014
	(in millions, except per share amounts)				
Statements of Operations Data:					
Revenues	$ 9,379	$ 8,358	$ 7,518	$ 8,139	$ 10,029
Gross profit	2,025	1,806	1,518	1,734	1,853
Restructuring, impairment and plant closing (credits) costs	(5)	20	47	83	98
Operating income	1,038	845	663	717	772
Income from continuing operations	845	583	365	428	485
(Loss) income from discontinued operations, net of tax(a)	(195)	158	(8)	(302)	(140)
Net income	650	741	357	126	345
Net income attributable to noncontrolling interests	(313)	(105)	(31)	(33)	(22)
Net income attributable to Huntsman Corporation	337	636	326	93	323
Basic income (loss) per common share:					
Income from continuing operations attributable to Huntsman Corporation common stockholders	$ 3.21	$ 2.01	$ 1.41	$ 1.63	$ 1.91
(Loss) income from discontinued operations attributable to Huntsman Corporation common stockholders, net of tax(a)	(1.79)	0.66	(0.03)	(1.25)	(0.58)
Net income attributable to Huntsman Corporation common stockholders	$ 1.42	$ 2.67	$ 1.38	$ 0.38	$ 1.33
Diluted income (loss) per common share:					
Income from continuing operations attributable to Huntsman Corporation common stockholders	$ 3.16	$ 1.96	$ 1.39	$ 1.61	$ 1.88
(Loss) income from discontinued operations attributable to Huntsman Corporation common stockholders, net of tax(a)	(1.77)	0.65	(0.03)	(1.23)	(0.57)
Net income attributable to Huntsman Corporation common stockholders	$ 1.39	$ 2.61	$ 1.36	$ 0.38	$ 1.31
Other Data:					
Depreciation and amortization	$ 343	$ 319	$ 318	$ 298	$ 358
Capital expenditures	313	282	318	461	465
Dividends per share	0.65	0.50	0.50	0.50	0.50
Balance Sheet Data (at period end):					
Total assets	$ 7,953	$ 10,244	$ 9,189	$ 9,820	$ 10,923
Total debt	2,320	2,298	4,173	4,770	5,104
Total liabilities	5,204	6,873	7,722	8,191	8,972

(a) (Loss) income from discontinued operations represents the operating results of Venator Materials PLC ("Venator") through December 3, 2018 as well as our former Australian styrenics business, our former U.S. base chemicals business and our former North American polymers business. The U.S. base chemicals business was sold on November 5, 2007 and the North American polymers business was sold on August 1, 2007.

MANAGEMENT'S DISCUSSION AND ANALYSIS OF FINANCIAL CONDITION AND RESULTS OF OPERATIONS

RECENT DEVELOPMENTS

Separation and Deconsolidation of the Venator

In August 2017, we separated our Titanium Dioxide and Performance Additives business ("P&A Business") and conducted an initial public offering ("IPO") of ordinary shares of Venator, formerly a wholly-owned subsidiary of Huntsman ("the Separation"). Additionally, in December 2017, we conducted a secondary offering of Venator ordinary shares. All of such ordinary shares were sold by Huntsman, and Venator did not receive any proceeds from the offerings. Venator's ordinary shares began trading on The New York Stock Exchange under the symbol "VNTR" on August 3, 2017. On January 3, 2018, the underwriters purchased an additional 1,948,955 Venator ordinary shares pursuant to their over-allotment option, which reduced Huntsman's ownership interest in Venator to approximately 53%. Beginning in the third quarter of 2017, we reported the results of operations of Venator as discontinued operations.

During the third quarter of 2018, we recognized a net after tax valuation allowance of $270 million to adjust the carrying amount of the assets and liabilities held for sale and the amount of accumulated comprehensive income recorded in equity related to Venator to the lower of cost or estimated fair value, less cost to sell.

On December 3, 2018, we sold an additional aggregate of 4,334,389, or 4%, of Venator ordinary shares to Bank of America N.A. at a price to be determined based on the average of the daily volume weighted average price of Venator ordinary shares over an agreed period. Over this agreed period, we received aggregate proceeds of $19 million, $16 million of which was received in the first quarter of 2019. This transaction allowed us to deconsolidate Venator beginning in December 2018. Following this transaction, we retained approximately 49% ownership in Venator. In connection with the deconsolidation of Venator, we recorded a pretax loss of $427 million in discontinued operations to record our remaining ownership interest in Venator at fair value. We elected the fair value option to account for our equity method investment in Venator post deconsolidation. Accordingly, at December 31, 2018, we recorded a pretax loss of $57 million to record our equity method investment in Venator at fair value. This loss was recorded in "Fair value adjustments to Venator investment" on our consolidated statements of operations. For more information, see "Note 4. Discontinued Operations and Business Dispositions—Separation and Deconsolidation of Venator" to our consolidated financial statements.

Unsecured Revolving Credit Facility

On May 21, 2018, we entered into a new $1.2 billion senior unsecured revolving credit facility (the "2018 Revolving Credit Facility"). Borrowings under the 2018 Revolving Credit Facility will bear interest at the rates specified in the credit agreement governing the 2018 Revolving Credit Facility, which will vary based on the type of loan and our debt ratings. Unless earlier terminated, the 2018 Revolving Credit Facility will mature in May 2023. We may increase the 2018 Revolving Credit Facility commitments up to an additional $500 million, subject to the satisfaction of certain conditions. See "Note 14. Debt—Direct and Subsidiary Debt—Credit Facility" to our consolidated financial statements.

In connection with entering into the 2018 Credit Facility, we terminated all commitments and repaid all obligations under our previous $650 million senior secured revolving credit facility (the "Prior Credit Facility"). In addition, we recognized a loss of early extinguishment of debt of $3 million. Upon the termination of the Prior Credit Facility, all guarantees of the obligations under the Prior Credit Facility were terminated, and all liens granted under the Prior Credit Facility were released.

Share Repurchase Program

On February 7, 2018 and on May 3, 2018, our Board of Directors authorized us to repurchase up to an additional $950 million in shares of our common stock in addition to the $50 million remaining under our September 2015 share repurchase authorization. During the year ended December 31, 2018, we repurchased 10,405,457 shares of our common stock for approximately $276 million, excluding commissions, under the repurchase program. From January 1, 2019 through January 31, 2019, we repurchased an additional 537,018 shares of our common stock for approximately $11 million, excluding commissions.

Demilec Acquisition

On April 23, 2018, we acquired 100% of the outstanding equity interests of Demilec (USA) Inc. and Demilec Inc. (collectively, "Demilec") for approximately $353 million, including working capital adjustments, in an all-cash transaction ("Demilec Acquisition"), which was funded from our Prior Credit Facility and our U.S. accounts receivable securitization program ("U.S. A/R Program"). Demilec is a leading North American manufacturer and distributor of spray polyurethane foam formulations for residential and commercial applications. The acquired business is being integrated into our Polyurethanes segment. See "Note 3. Business Combination" to our consolidated financial statements.

RESULTS OF OPERATIONS

The following tables set forth our consolidated results of operations for the years ended December 31, 2018, 2017 and 2016 (dollars in millions, except per share amounts).

	Year ended December 31,			Percent Change	
	2018	2017	2016	2018 vs 2017	2017 vs 2016
Revenues	$ 9,379	$ 8,358	$ 7,518	12%	11%
Cost of goods sold	7,354	6,552	6,000	12%	9%
Gross profit	2,025	1,806	1,518	12%	19%
Operating expenses	982	936	909	5%	3%
Restructuring, impairment and plant closing (credits) costs	(5)	20	47	NM	(57)%
Merger costs	2	28	—	(93)%	NM
Other operating expense (income), net	8	(23)	(101)	NM	(77)%
Operating income	1,038	845	663	23%	27%
Interest expense	(115)	(165)	(203)	(30)%	(19)%
Equity in income of investment in unconsolidated affiliates	55	13	5	323%	160%
Fair value adjustments to Venator investment	(62)	—	—	NM	—
Loss on early extinguishment of debt	(3)	(54)	(3)	(94)%	NM
Other income, net	29	8	12	263%	(33)%
Income from continuing operations before income taxes	942	647	474	46%	36%
Income tax expense	(97)	(64)	(109)	52%	(41)%
Income from continuing operations	845	583	365	45%	60%
(Loss) income from discontinued operations, net of tax	(195)	158	(8)	NM	NM
Net income	650	741	357	(12)%	108%
Reconciliation of net income to adjusted EBITDA:					
Net income attributable to noncontrolling interests	(313)	(105)	(31)	198%	239%
Interest expense from continuing operations	115	165	203	(30)%	(19)%
Interest expense (income) from discontinued operations	36	19	(1)	89%	NM
Income tax expense from continuing operations	97	64	109	52%	(41)%
Income tax expense (benefit) from discontinued operations	34	67	(24)	(49)%	NM
Depreciation and amortization of continuing operations	343	319	318	8%	—
Depreciation and amortization of discontinued operations	—	68	114	(100)%	(40)%
Other adjustments:					
Business acquisition and integration expenses	5	19	12		
Purchase accounting inventory adjustments	4	—	—		
Merger costs	2	28	—		
EBITDA from discontinued operations	125	(312)	(81)		
Noncontrolling interest of discontinued operations	232	49	11		
Fair value adjustments to Venator investment	62	—	—		
Loss on early extinguishment of debt	3	54	3		
Certain legal settlements and related expenses (income)	6	(11)	1		
Gain on sale of businesses/assets	—	(9)	(97)		
Amortization of pension and postretirement actuarial losses	71	73	55		
Plant incident remediation costs	1	16	—		
U.S. Tax Reform Act impact on noncontrolling interest	—	(6)	—		
Restructuring, impairment and plant closing and transition (credits) costs(2)	(4)	20	48		
Adjusted EBITDA(1)	$ 1,469	$ 1,259	$ 997	17%	26%
Net cash provided by operating activities from continuing operations	963	$ 842	$ 974	14%	(14)%
Net cash used in investing activities from continuing operations	(677)	(265)	(120)	155%	121%
Net cash used in financing activities	(424)	(519)	(723)	(18)%	(28)%
Capital expenditures from continuing operations	(313)	(282)	(318)	11%	(11)%

	Year ended December 31, 2018			Year ended December 31, 2017			Year ended December 31, 2016		
	Gross	Tax and other(3)	Net	Gross	Tax and other(3)	Net	Gross	Tax and other(3)	Net
Reconciliation of net income to adjusted net income									
Net income			$ 650			$ 741			$ 357
Net income attributable to noncontrolling interests			(313)			(105)			(31)
Business acquisition and integration expenses	$ 5	$ (2)	3	$ 19	$ (5)	14	$ 12	$ (3)	9
Purchase accounting inventory adjustments	4	(1)	3	—	—	—	—	—	—
Merger costs	2	—	2	28	(10)	18	—	—	—
Loss (income) from discontinued operations(5)	125	70	195	(312)	154	(158)	(81)	89	8
Noncontrolling interest of discontinued operations	232	—	232	49	—	49	11	—	11
Fair value adjustments to Venator investment	62	—	62	—	—	—	—	—	—
Loss on early extinguishment of debt	3	(1)	2	54	(19)	35	3	(1)	2
Certain legal settlements and related expenses (income)	6	(2)	4	(11)	4	(7)	1	—	1
Gain on sale of assets	—	—	—	(9)	—	(9)	(97)	13	(84)
Amortization of pension and postretirement actuarial losses	71	(14)	57	73	(16)	57	55	(12)	43
Plant incident remediation costs	1	—	1	16	(6)	10	—	—	—
Release of significant income tax valuation allowances(4)	(119)	—	(119)	—	—	—	—	—	—
U.S. Tax Reform Act impact on income tax expense	—	32	32	—	(52)	(52)	—	—	—
U.S. Tax Reform Act impact on noncontrolling interest	—	—	—	(6)	—	(6)	—	—	—
Restructuring, impairment and plant closing and transition (credits) costs(2)	(4)	1	(3)	20	(3)	17	48	(12)	36
Adjusted net income(1)			$ 808			$ 604			$ 352
Weighted average shares-basic			238.1			238.4			236.3
Weighted average shares-diluted			241.6			243.9			239.6
Basic net income (loss) attributable to Huntsman Corporation per share:									
Income from continuing operations			$ 3.21			$ 2.01			$ 1.41
(Loss) income from discontinued operations			(1.79)			0.66			(0.03)
Net (loss) income			$ 1.42			$ 2.67			$ 1.38
Diluted net income (loss) attributable to Huntsman Corporation per share:									
Income from continuing operations			$ 3.16			$ 1.96			$ 1.39
(Loss) income from discontinued operations			(1.77)			0.65			(0.03)
Net (loss) income			$ 1.39			$ 2.61			$ 1.36
Other non-GAAP measures:									
Diluted adjusted net income per share(1)			$ 3.34			$ 2.48			1.47
Capital expenditures, net of reimbursements(6)			$ (305)			$ (279)			$ (286)
Net cash provided by operating activities from continuing operations			$ 963			$ 842			$ 974
Capital expenditures from continuing operations			(313)			(282)			(318)
All other investing activities from continuing operations, excluding acquisitions and disposition activities			(1)			6			(1)
Merger costs			2			28			—
Free cash flow(1)			$ 651			$ 594			$ 655

NM—Not meaningful

(1) See "—Non-GAAP Financial Measures."

(2) Includes costs associated with transition activities relating to the migration of our information system data centers and the transition of our Textile Effects segment's production from Basel, Switzerland to a tolling facility. These transition costs were included in either selling, general and administrative expenses or cost of sales on our consolidated statements of operations.

(3) The income tax impacts, if any, of each adjusting item represent a ratable allocation of the total difference between the unadjusted tax expense and the total adjusted tax expense, computed without consideration of any adjusting items using a with and without approach.

(4) During the year ended December 31, 2018, we released $119 million of significant income tax valuation allowances in Switzerland, the U.K. and Luxembourg. We eliminated the effect of this significant change in tax valuation allowances from our presentation of adjusted net income to allow investors to better compare our ongoing financial performance from period to period.

(5) In addition to income tax impacts, this adjusting item is also impacted by depreciation and amortization expense and interest expense.

(6) During 2018, 2017 and 2016, capital expenditures from continuing operations of $313 million, $282 million and $318 million, respectively, were reimbursed in part by $8 million, $3 million and $32 million, respectively.

Non-GAAP Financial Measures

Our consolidated financial statements are prepared in accordance with generally accepted accounting principles in the U.S. ("GAAP" or "U.S. GAAP"), which we supplement with certain non-GAAP financial information. These non-GAAP measures should not be considered in isolation or as a substitute for the related GAAP measures, and other companies may define such measures differently. We encourage investors to review our financial statements and the reconciliation of the non-GAAP financial measures to the most directly comparable GAAP financial measures in their entirety and not to rely on any single financial measure. These non-GAAP measures exclude the impact of certain expenses that we do not believe are indicative of our core operating results.

Adjusted EBITDA

Our management uses adjusted EBITDA to assess financial performance. Adjusted EBITDA is defined as net income of Huntsman Corporation before interest, income tax, depreciation and amortization, net income attributable to noncontrolling interests and certain Corporate and other items, as well as eliminating the following adjustments: (a) business acquisition and integration expenses; (b) purchase accounting inventory adjustments; (c) merger costs; (d) EBITDA from discontinued operations; (e) noncontrolling interest of discontinued operations; (f) fair value adjustments to Venator investment; (g) loss on early extinguishment of debt; (h) certain legal settlements and related expenses (income); (i) gain on sale of businesses/assets; (j) amortization of pension and postretirement actuarial losses; (k) plant incident remediation costs; (l) U.S. Tax Reform Act impact on noncontrolling interest; and (m) restructuring, impairment and plant closing and transition costs (credits). We believe that net income of Huntsman Corporation is the performance measure calculated and presented in accordance with U.S. GAAP that is most directly comparable to adjusted EBITDA.

We believe adjusted EBITDA is useful to investors in assessing the businesses' ongoing financial performance and provides improved comparability between periods through the exclusion of certain items that management believes are not indicative of the businesses' operational profitability and that may obscure underlying business results and trends. However, this measure should not be considered in isolation or viewed as a substitute for net income of Huntsman Corporation or other measures of performance determined in accordance with U.S. GAAP. Moreover, adjusted EBITDA as used herein is not necessarily comparable to other similarly titled measures of other companies due to potential inconsistencies in the methods of calculation. Our management believes this measure is useful to compare general operating performance from period to period and to make certain related management decisions. Adjusted EBITDA is also used by securities analysts, lenders and others in their evaluation of different companies because it excludes certain items that can vary widely across different industries or among companies within the same industry. For example, interest expense can be highly dependent on a company's capital structure, debt levels and credit ratings. Therefore, the impact of interest expense on earnings can vary significantly among companies. In addition, the tax positions of companies can vary because of their differing abilities to take advantage of tax benefits and because of the tax policies of the various jurisdictions in which they operate. As a result, effective tax rates and tax expense can vary considerably among companies. Finally, companies employ productive assets of different ages and utilize different methods of acquiring and depreciating such assets. This can result in considerable variability in the relative costs of productive assets and the depreciation and amortization expense among companies.

Nevertheless, our management recognizes that there are material limitations associated with the use of adjusted EBITDA in the evaluation of our Company as compared to net income of Huntsman Corporation, which reflects overall financial performance. For example, we have borrowed money in order to finance our operations and interest expense is a necessary element of our costs and ability to generate revenue. Our management compensates for the limitations of using adjusted EBITDA by using this measure to supplement U.S. GAAP results to provide a more complete understanding of the factors and trends affecting the business rather than U.S. GAAP results alone.

Adjusted Net Income

Adjusted net income is computed by eliminating the after tax amounts related to the following from net income attributable to Huntsman Corporation: (a) business acquisition and integration expenses; (b) purchase accounting inventory adjustments; (c) merger costs; (d) loss (income) from discontinued operations; (e) noncontrolling interest of discontinued operations; (f) fair value adjustments to Venator investment; (g) loss on early extinguishment of debt; (h) certain legal settlements and related (income) expenses; (i) gain on sale of assets; (j) amortization of pension and postretirement actuarial losses; (k) plant incident remediation costs; (l) release or establishment of significant income tax valuation allowances; (m) U.S. Tax Reform Act impact on income tax expense; (n) U.S. Tax Reform Act impact on noncontrolling interest; and (o) restructuring, impairment and plant closing and transition costs (credits). Basic adjusted net income per share excludes dilution and is computed by dividing adjusted net income by the weighted average number of shares outstanding during the period. Adjusted diluted net income per share reflects all potential dilutive common shares outstanding during the period and is computed by dividing adjusted net income by the weighted average number of shares outstanding during the period increased by the number of additional shares that would have been outstanding as dilutive securities. Adjusted net income and adjusted net income per share amounts are presented solely as supplemental information.

Capital Expenditures, Net of Reimbursements

Capital expenditures, net of reimbursements, represent cash paid for capital expenditures less payments received as reimbursements from customers and joint venture partners.

Free Cash Flow

Management internally uses a free cash flow measure: (a) to evaluate our liquidity, (b) evaluate strategic investments, (c) plan stock buyback and dividend levels, and (d) evaluate our ability to incur and service debt. Free cash flow is not a defined term under U.S. GAAP, and it should not be inferred that the entire free cash flow amount is available for discretionary expenditures. The Company defines free cash flow as cash flows provided by operating activities from continuing operations and used in investing activities from continuing operations, excluding acquisition/disposition activities and including non-recurring separation costs. Free cash flow is typically derived directly from the Company's consolidated statement of cash flows; however, it may be adjusted for items that affect comparability between periods.

Adjusted Effective Tax Rate

We believe that the effective tax rate of Huntsman Corporation is the performance measure calculated and presented in accordance with U.S. GAAP that is most directly comparable to adjusted effective tax rate. We believe our adjusted effective tax rate provides improved comparability between periods through the exclusion of certain items that management believes are not indicative of the businesses' operational profitability and that may obscure underlying business results and trends. We do not provide reconciliations for adjusted effective tax rate on a forward-looking basis because we are unable to provide a meaningful or accurate calculation or estimation of reconciling items and the information is not available without unreasonable effort. This is due to the inherent difficulty of forecasting the timing and amount of certain items, such as business acquisition and integration expenses, merger costs, certain legal and other settlements and related costs, gains on sale of business/assets, and amortization of pension and postretirement actuarial losses. Each of such adjustments has not yet occurred, is out of our control and/or cannot be reasonably predicted. For the same reasons, we are unable to address the probable significance of the unavailable information.

Year Ended December 31, 2018 Compared with Year Ended December 31, 2017

As discussed in "Note 4. Discontinued Operations and Business Dispositions—Separation and Deconsolidation of Venator" to our consolidated financial statements, the results from continuing operations for all periods presented

exclude the results of Venator and the results of our former polymers, base chemicals and Australian styrenics business. The decrease of $299 million in net income attributable to Huntsman Corporation was the result of the following items:

- Revenues for the year ended December 31, 2018 increased by $1,021 million, or 12%, as compared with the 2017 period. The increase was primarily due to higher average selling prices in all our segments and higher sales volumes in our Polyurethanes and Performance Products segments. See "—Segment Analysis" below.

- Our gross profit for the year ended December 31, 2018 increased by $219 million, or 12%, as compared with the 2017 period. The increase resulted from higher gross margins in all our segments. See "—Segment Analysis" below.

- Our operating expenses for the year ended December 31, 2018 increased by $46 million, or 5%, as compared with the 2017 period, primarily related to an increase in selling, general and administrative expenses and research and development costs.

- Restructuring, impairment and plant closing (credits) costs for the year ended December 31, 2018 was a credit of $5 million compared to a cost of $20 million in the 2017 period. For more information on restructuring activities, see "Note 12. Restructuring, Impairment and Plant Closing Costs" to our consolidated financial statements.

- During 2018 and 2017, we incurred $2 million and $28 million, respectively, in merger-related costs related to the terminated merger between Huntsman and Clariant.

- Other operating expense (income), net for the year ended December 31, 2018 decreased from income of $23 million for the year ended December 31, 2017 to expense of $8 million. This change resulted primarily from acquisition-related expenses incurred in 2018 compared to gains from the disposal of assets in 2017.

- Our interest expense for the year ended December 31, 2018 decreased by $50 million, or 30%, as compared with the 2017 period. The decrease was due to the early repayments on our term loans during the second half of 2017.

- Equity in income of investment in unconsolidated affiliates for the year ended December 31, 2018 was $55 million compared to $13 million in the 2017 period. The increase was primarily attributable to the PO/MTBE joint venture with Sinopec, of which we hold a 49% interest, which began commercial operations during the second half of 2017.

- We elected the fair value option to account for our equity method investment in Venator post deconsolidation. Accordingly, in December 2018, we recorded a pretax loss of $57 million to record our equity method investment in Venator at fair value. This loss was recorded in "Fair value adjustments to Venator investment" in the accompanying statements of operations. Furthermore, in connection with the December 3, 2018 sale of Venator shares to Bank of America N.A., we recorded a forward swap. At December 31, 2018, we recorded a loss of $5 million in "Fair value adjustments to Venator investment" in the accompanying statements of operations to record the forward swap at fair value. Under the fair value option to account for our equity method investment in Venator, amounts recorded in "Fair value adjustments to Venator investment" could fluctuate depending upon the change in market value of Venator common stock.

- Loss on early extinguishment of debt for the year ended December 31, 2018 decreased to $3 million from $54 million in the 2017 period. During the year ended December 31, 2017, we recorded a loss on early extinguishment of debt of $49 million related to early repayments on our term loans.

- Our other income, net for the year ended December 31, 2018 increased by $21 million as compared with the 2017 period, primarily attributable to higher pension-related credits in the 2018 period.

- Our income tax expense for the year ended December 31, 2018 increased to $97 million from $64 million in the 2017 period. The increase in tax expense was primarily due to the increase in pre-tax income and the additional finalized impact of the U.S. Tax Reform Act, resulting in an additional net $32 million tax

expense, which is partially offset by the release of valuation allowances in Switzerland, the U.K. and Luxembourg. Our income tax expense is significantly affected by the mix of income and losses in the tax jurisdictions in which we operate, as impacted by the presence of valuation allowances in certain tax jurisdictions. For further information concerning income taxes, see “Note 18. Income Taxes” to our consolidated financial statements.

- Beginning in the third quarter of 2017, we reported the results of operations Venator as discontinued operations. On December 3, 2018, we sold an additional 4% of our shares which allowed us to immediately deconsolidate Venator and we elected the fair value option to account for our equity method investment in Venator. In addition to Venator, the results of operations of our former polymers, base chemicals and Australian styrenics businesses are reported as discontinued operations for all periods presented. Our loss from discontinued operations, net of tax, for the year ended December 31, 2018 increased to $195 million from income of $158 million in the 2017 period. During the third quarter of 2018, we recognized a net after tax valuation allowance of $270 million to adjust the net carrying amount of Venator to the lower of cost or estimated fair value, less cost to sell. Following the sale of Venator ordinary shares on December 3, 2018, we retained approximately 49% ownership in Venator. In connection with the deconsolidation of Venator, we recorded a pretax loss of $427 million in discontinued operations to record our remaining ownership interest in Venator at fair value. For more information, see “Note 4. Discontinued Operations—Separation and Deconsolidation of Venator” to our consolidated financial statements.

Segment Analysis

Year Ended December 31, 2018 Compared to Year Ended December 31, 2017

(Dollars in millions)	Year ended December 31, 2018	Year ended December 31, 2017	Percent Change Favorable (Unfavorable)
Revenues			
Polyurethanes	$ 5,094	$ 4,399	16%
Performance Products	2,355	2,109	12%
Advanced Materials	1,116	1,040	7%
Textile Effects	824	776	6%
Corporate and eliminations	(10)	34	NM
Total	$ 9,379	$ 8,358	12%
Segment adjusted EBITDA(1)			
Polyurethanes	$ 946	$ 850	11%
Performance Products	367	296	24%
Advanced Materials	225	219	3%
Textile Effects	101	83	22%
Corporate and other	(170)	(189)	10%
Total	$ 1,469	$ 1,259	17%

NM—Not meaningful

(1) For more information, including reconciliation of segment adjusted EBITDA to net income of Huntsman Corporation, see “Note 26. Operating Segment Information” to our consolidated financial statements.

	Year ended December 31, 2018 vs 2017			
	Average Selling Price(1)			
	Local Currency	Foreign Currency Translation Impact	Mix & Other	Sales Volumes(2)
Period-Over-Period Increase (Decrease)				
Polyurethanes	5%	2%	—	9%
Performance Products	5%	1%	(3)%	9%
Advanced Materials	4%	2%	—	1%
Textile Effects	6%	—	—	—
Total Company	4%	1%	(2)%	9%

	Fourth Quarter 2018 vs Third Quarter 2018			
	Average Selling Price(1)			
	Local Currency	Foreign Currency Translation Impact	Mix & Other	Sales Volumes(2)
Period-Over-Period Increase (Decrease)				
Polyurethanes	(6)%	(1)%	(1)	(3)%
Performance Products	—	—	(2)%	(5)%
Advanced Materials	2%	(1)%	1%	(7)%
Textile Effects	1%	(1)%	(1)%	(4)%
Total Company	(2)%	(1)%	(1)%	(5)%

(1) Excludes revenues from tolling arrangements, byproducts and raw materials.

(2) Excludes sales volumes of byproducts and raw materials.

Polyurethanes

The increase in revenues in our Polyurethanes segment for 2018 compared to 2017 was due to higher average selling prices and higher sales volumes. MDI average selling prices increased in response to strong market conditions during the first three quarters of 2018. MTBE average selling prices increased primarily as a result of higher pricing for high octane gasoline. MDI sales volumes increased due to increased demand across most major markets as well as the start-up of our new Chinese MDI facility in 2018. MTBE sales volumes increased due to the impact of maintenance outages and hurricane related production outages during 2017. The increase in segment adjusted EBITDA was primarily due to higher MDI and MTBE margins and volumes, as well as the impact of MTBE maintenance outages and hurricane related production outages in 2017.

Performance Products

The increase in revenues in our Performance Products segment for 2018 compared to 2017 was due to higher average selling prices and higher sales volumes. Average selling prices increased primarily due to strong market conditions across several of our derivatives businesses and in response to higher raw material costs. Sales volumes increased in our amines, maleic anhydride and ethylene glycol businesses. The increase in segment adjusted EBITDA was primarily due to higher margins and the impact of hurricane related production outages during 2017.

Advanced Materials

The increase in revenues in our Advanced Materials segment for 2018 compared to 2017 was due to higher average selling prices as sales volumes remained relatively unchanged. Average selling prices increased in response to higher raw material costs and the impact of a weaker U.S. dollar against major international currencies. Sales volumes remained relatively unchanged as higher sales volumes across most markets in our core specialty business were offset by lower sales volumes in our commodity markets due to challenging industry conditions. The increase in segment adjusted EBITDA was primarily due to higher specialty sales volumes, partially offset by higher raw material and fixed costs.

Textile Effects

The increase in revenues in our Textile Effects segment for 2018 compared to 2017 was due to higher average selling prices as sales volumes remained relatively unchanged. Average selling prices increased in response to higher raw material costs. Sales volumes remained relatively unchanged as higher sales volumes in our specialty business was offset by lower sales volumes in our value business. The increase in segment adjusted EBITDA was primarily due to

higher average selling prices, partially offset by higher raw material costs and higher selling, general and administrative costs.

Corporate and other

Corporate and other includes unallocated corporate overhead, unallocated foreign currency exchange gains and losses, LIFO inventory valuation reserve adjustments, loss on early extinguishment of debt, unallocated restructuring, impairment and plant closing costs, nonoperating income and expense, benzene sales and gains and losses on the disposition of corporate assets. For 2018, adjusted EBITDA from Corporate and other increased by $19 million to a loss of $170 million from a loss of $189 million for 2017. The increase in segment adjusted EBITDA from Corporate and other resulted primarily from a decrease in unallocated corporate overhead and a decrease in LIFO inventory reserves.

Year Ended December 31, 2017 Compared with Year Ended December 31, 2016

As discussed in "Note 4. Discontinued Operations and Business Dispositions—Separation and Deconsolidation of Venator" to our consolidated financial statements, the results from continuing operations for all periods presented exclude the results of Venator and the results of our former polymers, base chemicals and Australian styrenics business. The increase of $310 million in net income attributable to Huntsman Corporation was the result of the following items:

- Revenues for the year ended December 31, 2017 increased by $840 million, or 11%, as compared with the 2016 period. The increase was primarily due to higher average selling prices in all our segments, except for our Textile Effects segment, and higher sales volumes in our Textile Effects segment. See "—Segment Analysis" below.
- Our gross profit for the year ended December 31, 2017 increased by $288 million, or 19%, as compared with the 2016 period. The increase resulted from higher gross margins in our Polyurethanes and Textile Effects segments. See "—Segment Analysis" below.
- Our operating expenses for the year ended December 31, 2017 increased by $27 million, or 3%, as compared with the 2016 period, primarily related to an increase in selling, general and administrative expenses in 2017.
- Restructuring, impairment and plant closing costs for the year ended December 31, 2017 decreased to $20 million from $47 million in the 2016 period. For more information concerning restructuring activities, see "Note 12. Restructuring, Impairment and Plant Closing Costs" to our consolidated financial statements.
- Merger costs for the year ended December 31, 2017 were $28 million as compared to nil in the 2016 period. During 2017, we incurred $28 million in merger-related costs in connection with the terminated merger between Huntsman and Clariant.
- Other operating income, net for the year ended December 31, 2017 decreased by $78 million, or 77%, as compared with the 2016 period, primarily related to a gain on the sale of our European surfactants business in the fourth quarter of 2016. For more information concerning the sale of our European surfactants business, see "Note 4. Discontinued Operations and Business Dispositions—Sale of European Surfactants Manufacturing Facilities" to our consolidated financial statements.
- Our interest expense for the year ended December 31, 2017 decreased by $38 million, or 19%, as compared with the 2016 period, primarily related to the early repayments in 2017 on our extended term loan B facility, due 2015 ("2015 Extended Term Loan B"), our term loan B facility due 2021 ("2021 Term Loan B") and our term loan B facility due 2023 ("2023 Term Loan B"). We no longer have any senior secured term loans outstanding under our Senior Credit Facilities. For more information, see "Note 14. Debt—Direct and Subsidiary Debt—Senior Credit Facilities" to our consolidated financial statements.
- Loss on early extinguishment of debt for the year ended December 31, 2017 increased to $54 million from $3 million in the 2016 period. During 2017, we recorded a loss on early extinguishment of debt of $49 million related to the early repayments on our 2015 Extended Term Loan B, our 2021 Term Loan B and our 2023 Term Loan B.
- Our income tax expense for the year ended December 31, 2017 decreased to $64 million from $109 million in the 2016 period, primarily due to the impact of the U.S. Tax Reform Act, which resulted in a net $52 million benefit—$137 million benefit is related to the corporate rate reduction, net of $85 million expense related to transition tax. Our tax expense is significantly affected by the mix of income and losses in the tax

jurisdictions in which we operate, as impacted by the presence of valuation allowances in certain tax jurisdictions. For further information concerning taxes, see “Note 18. Income Taxes” to our consolidated financial statements.

- Beginning in the third quarter of 2017, we reported the results of operations of Venator as discontinued operations. See “Note 4. Discontinued Operations and Business Dispositions—Separation and Deconsolidation of Venator” to our consolidated financial statements. In addition to Venator, the results of operations of our former polymers, base chemicals and Australian businesses are reported as discontinued operations for all periods presented. Our income from discontinued operations, net of tax for the year ended December 31, 2017 increased to $158 million from a loss of $8 million in the 2016 period. The increase was primarily due to Venator’s improved margins primarily as a result from higher average selling prices and higher sales volumes in titanium dioxide, offset in part by higher business separation expenses.

Segment Analysis

Year Ended December 31, 2017 Compared to Year Ended December 31, 2016

(Dollars in millions)	Year ended December 31, 2017	Year ended December 31, 2016	Percent Change Favorable (Unfavorable)
Revenues			
Polyurethanes	$ 4,399	$ 3,667	20%
Performance Products	2,109	2,126	(1)%
Advanced Materials	1,040	1,020	2%
Textile Effects	776	751	3%
Corporate and eliminations	34	(46)	NM
Total	$ 8,358	$ 7,518	11%
Segment adjusted EBITDA(1)			
Polyurethanes	$ 850	$ 569	49%
Performance Products	296	316	(6)%
Advanced Materials	219	223	(2)%
Textile Effects	83	73	14%
Corporate and other	(189)	(184)	(3)%
Total	$ 1,259	$ 997	26%

NM— Not meaningful

(1) For more information, including reconciliation of segment adjusted EBITDA to net income of Huntsman Corporation, see “Note 26. Operating Segment Information” to our consolidated financial statements.

	Year ended December 31, 2017 vs 2016			
	Average Selling Price(1)			
	Local Currency	Foreign Currency Translation Impact	Mix & Other	Sales Volumes(2)
Period-Over-Period Increase (Decrease)				
Polyurethanes	18%	1%	3%	(2)%
Performance Products	7%	—	3%	(11)%
Advanced Materials	1%	1%	—	—
Textile Effects	(2)%	—	(2)%	7%
Total Company	12%	—	4	(5)%

(1) Excludes revenues from tolling arrangements, byproducts and raw materials.

(2) Excludes sales volumes of byproducts and raw materials.

Polyurethanes

The increase in revenues in our Polyurethanes segment for 2017 compared to 2016 was primarily due to higher average selling prices, partially offset by lower MTBE sales volumes. MDI average selling prices increased in response to higher raw material costs and continued strong market conditions. MTBE average selling prices increased primarily as a result of higher pricing for high octane gasoline. MDI sales volumes increased due to increased demand across most major markets. MTBE sales volumes decreased due to the impact of maintenance and hurricane related production outages during the second and third quarters of 2017. The increase in segment adjusted EBITDA was primarily due to higher MDI margins, partially offset by lower MTBE margins.

Performance Products

The decrease in revenues in our Performance Products segment for 2017 compared to 2016 was due to lower sales volumes principally because of the sale of the European surfactants business to Innospec Inc. on December 30, 2016, partially offset by higher sales volumes in our remaining businesses as well as higher average selling prices. Average selling prices increased primarily in response to higher raw material costs and favorable product mix effect partially from the sale of the European surfactants business. The decrease in segment adjusted EBITDA was primarily due to the sale of the European surfactants business to Innospec Inc. in 2016 and weather-related outages offset by higher sales volumes in our remaining businesses and lower fixed costs.

Advanced Materials

The increase in revenues in our Advanced Materials segment for 2017 compared to 2016 was primarily due to higher average selling prices. Average selling prices increased in response to higher raw material costs. Sales volumes remained relatively unchanged as growth in our higher value specialty markets was offset by reduced volumes as we withdrew from certain low margin businesses. The decrease in segment adjusted EBITDA was due to lower margins resulting from higher raw material costs and higher fixed costs.

Textile Effects

The increase in revenues in our Textile Effects segment for 2017 compared to 2016 was due to higher sales volumes, partially offset by lower average selling prices. Sales volumes increased in both textile chemicals and dyes, particularly in our Asia region. Average selling prices decreased primarily due to competitive market conditions. The increase in segment adjusted EBITDA was primarily due to higher sales volumes and lower selling, general and administrative costs.

Corporate and other

Corporate and other includes unallocated corporate overhead, unallocated foreign currency exchange gains and losses, LIFO inventory valuation reserve adjustments, loss on early extinguishment of debt, unallocated restructuring, impairment and plant closing costs, nonoperating income and expense, benzene sales and gains and losses on the disposition of corporate assets. For 2017, adjusted EBITDA from Corporate and other for Huntsman Corporation decreased by $5 million to a loss of $189 million from a loss of $184 million for 2016. The decrease in adjusted EBITDA from Corporate and other resulted primarily from an increase in unallocated corporate overhead and an increase in losses from benzene sales, partially offset by a decrease in LIFO inventory valuation expense.

LIQUIDITY AND CAPITAL RESOURCES

Cash Flows for Year Ended December 31, 2018 Compared to the Year Ended December 31, 2017

Net cash provided by operating activities from continuing operations for 2018 and 2017 was $963 million and $842 million, respectively. The increase in net cash provided by operating activities from continuing operations during 2018 compared with 2017 was primarily attributable to increased operating income as described in "—Results of Operations" above, partially offset by a $45 million unfavorable variance in operating assets and liabilities for 2018 compared with 2017.

Net cash used in investing activities from continuing operations for 2018 and 2017 was $677 million and $265 million, respectively. During 2018 and 2017, we paid $313 million and $282 million, respectively, for capital expenditures and paid $366 million and $14 million, respectively, for the acquisition of businesses, net of cash acquired. For more information concerning business acquisitions, see "Note 3. Business Combination" to our consolidated financial statements. During 2018 and 2017, we received proceeds of nil and $25 million, respectively, from the sale of assets and received nil and $7 million, respectively, from the termination of cross-currency interest rate contracts.

Net cash used in financing activities for 2018 and 2017 was $424 million and $519 million, respectively. The decrease in net cash used in financing activities was primarily due to borrowings on our 2018 Revolving Credit Facility and proceeds from the secondary offering of Venator in 2018 as well as net repayments of long-term debt in the 2017 period, partially offset by our repurchase of shares of our common stock under the share repurchase program and increased dividends paid to common stockholders and noncontrolling interests in 2018 as well as proceeds from the IPO of Venator in 2017.

Free cash flow from continuing operations for 2018 and 2017 were cash proceeds of $651 million and $594 million, respectively. The improvement in free cash flow was attributable to the changes in cash flows from operating and investing activities from continuing operations, excluding merger and acquisition activities.

Cash Flows for Year Ended December 31, 2017 Compared to the Year Ended December 31, 2016

Net cash provided by operating activities from continuing operations for 2017 and 2016 was $842 million and $974 million, respectively. The decrease in net cash provided by operating activities during 2017 compared with 2016 was primarily attributable to an unfavorable variance of $424 million in operating assets and liabilities in 2017, offset in part by increased operating income as described in "—Results of Operations" above.

Net cash used in investing activities from continuing operations for 2017 and 2016 was $265 million and $120 million, respectively. During 2017 and 2016, we paid $282 million and $318 million, respectively, for capital expenditures. We paid $14 million and nil for the acquisition of a business during the year ended December 31, 2017 and 2016, respectively. During 2017 and 2016 we received proceeds from the sale of businesses and assets of $25 million and $199 million, respectively, including proceeds of $199 million from the sale of our European surfactants business during 2016. For further information, see "Note 4. Discontinued Operations and Business Dispositions—Sale of European Surfactants Manufacturing Facilities" to our consolidated financial statements. During 2017 and 2016, we received $7 million and nil, respectively, from the termination of cross-currency interest rate contracts.

Net cash used in financing activities for 2017 and 2016 was $519 million and $723 million, respectively. The decrease in net cash used in financing activities was primarily due to proceeds from the IPO and secondary offering of Venator, offset in part by an increase in net repayments of our revolving loan facility and net repayments of long-term debt during 2017 as compared with 2016.

Free cash flow from continuing operations for 2017 and 2016 were cash proceeds of $594 million and $655 million, respectively. The decrease in free cash flow was attributable to the changes in cash flows from operating and investing activities, excluding merger and acquisition activities.

Changes in Financial Condition

The following information summarizes our working capital (dollars in millions):

	December 31, 2018	Less Acquisitions(2)	Subtotal	December 31, 2017	Increase (Decrease)	Percent Change
Cash and cash equivalents	$ 340	$ (2)	$ 338	$ 470	$ (132)	(28)%
Restricted cash	—	—	—	11	(11)	(100)%
Accounts and notes receivable, net	1,272	(31)	1,241	1,283	(42)	(3)%
Inventories	1,134	(25)	1,109	1,073	36	3%
Prepaid expenses	66	(1)	65	60	5	8%
Other current assets	146	—	146	202	(56)	(28)%
Current assets held for sale(1)	—	—	—	2,880	(2,880)	(100)%
Total current assets	2,958	(59)	2,899	5,979	(3,080)	(52)%
Accounts payable	961	(17)	944	964	(20)	(2)%
Accrued liabilities	554	(4)	550	569	(19)	(3)%
Current portion of debt	96	—	96	40	56	140%
Current liabilities held for sale(1)	—	—	—	1,692	(1,692)	(100)%
Total current liabilities	1,611	(21)	1,590	3,265	(1,675)	(51)%
Working capital	$ 1,347	$ (38)	$ 1,309	$ 2,714	$ (1,405)	(52)%

(1) At December 31, 2017 we presented Venator as held for sale as a single asset and liability in our consolidated balance sheets as we were actively marketing our retained ownership in Venator at a reasonable price. On December 3, 2018, we sold an additional 4% of our shares which allowed us to immediately deconsolidate Venator and account for it as an equity method investment using the fair value option. For more information, see "Note 4. Discontinued Operations and Business Dispositions—Separation and Deconsolidation of Venator" to our consolidated financial statements.

(2) Represents amounts related to business acquisitions. For more information, see "Note 3. Business Combination" to our consolidated financial statements.

Excluding the effects of business acquisitions, our working capital decreased by $1,405 million primarily as a result of the net impact of the following significant changes:

- The decrease in cash, cash equivalents, and restricted cash of $143 million resulted from the matters identified on our consolidated statements of cash flows.
- Current portion of debt increased by $56 million primarily due to borrowings on our 2018 Revolving Credit Facility of $225 million for the Demilec Acquisition that we expect to repay within the next 12 months.
- The decrease in current assets held for sale and current liabilities held for sale was attributable to the deconsolidation of Venator. For more information, see "Note 4. Discontinued Operations – Separation and Deconsolidation of Venator" to our consolidated financial statements.

DIRECT AND SUBSIDIARY DEBT

See "Note 14. Debt—Direct and Subsidiary Debt" to our consolidated financial statements.

Debt Issuance Costs

See "Note 14. Debt—Direct and Subsidiary Debt—Debt Issuance Costs" to our consolidated financial statements.

Revolving Credit Facility

See "Note 14. Debt—Direct and Subsidiary Debt—Revolving Credit Facility" to our consolidated financial statements.

A/R Programs

See "Note 14. Debt—Direct and Subsidiary Debt—A/R Programs" to our consolidated financial statements.

Notes

See "Note 14. Debt—Direct and Subsidiary Debt—Notes" to our consolidated financial statements.

Variable Interest Entity Debt

See "Note 14. Debt—Direct and Subsidiary Debt—Variable Interest Entity Debt" to our consolidated financial statements.

Other Debt

See "Note 14. Debt—Direct and Subsidiary Debt—Other Debt" to our consolidated financial statements.

COMPLIANCE WITH COVENANTS

See "Note 14. Debt—Compliance with Covenants" to our consolidated financial statements.

MATURITIES

See "Note 14. Debt—Maturities" to our consolidated financial statements.

SHORT-TERM AND LONG-TERM LIQUIDITY

We depend upon our cash, new $1.2 billion 2018 Revolving Credit Facility, U.S. A/R Program, European accounts receivable securitization program ("EU A/R Program" and collectively with the U.S. A/R Program, "A/R Programs") and other debt instruments to provide liquidity for our operations and working capital needs. As of December 31, 2018, we had $1,525 million of combined cash and unused borrowing capacity, consisting of $340 million in cash and restricted cash, $44 million in availability under our 2018 Revolving Credit Facility and $1,141 million in availability under our A/R Programs. Our liquidity can be significantly impacted by various factors. The following matters had, or are expected to have, a significant impact on our liquidity:

- On May 21, 2018, we entered into the 2018 Revolving Credit Facility, which replaced our Prior Credit Facility. See "Note 14. Debt—Direct and Subsidiary Debt—Revolving Credit Facility" to our consolidated financial statements.

- Cash invested in our accounts receivable and inventory, net of accounts payable, was approximately $91 million for 2018, as reflected in our consolidated statements of cash flows. We expect volatility in our working capital components to continue.

- During 2018, we received a one-time net cash flow benefit of approximately $70 million from improved management of Bank Acceptance Drafts ("BADs"). BADs are widely used by customers to pay suppliers in China. We treat BADs with tenors greater than three months as other assets (not cash equivalents) on our consolidated balance sheets. The 2018 benefit to cash flow was primarily due to an internal policy change that resulted in higher cash collections (i.e., less BADs accepted), a reduction in the average tenor of BADs accepted, as well as the discounting of a portion of such BADs.

- During 2019, we expect to spend approximately $390 million on capital expenditures, including approximately $50 million for the construction of a new MDI splitting unit in Geismar, Louisiana. Our future expenditures include certain environmental, health and safety ("EHS") maintenance and upgrades and periodic maintenance and repairs applicable to major units of manufacturing facilities and cost reduction and expansion facilities. We expect to fund this spending with cash provided by operations.

- During 2018, we made contributions to our pension and postretirement benefit plans related to continuing operations of $96 million. During the 2019, we expect to contribute an additional amount of approximately $93 million to these plans.

- The payment of dividends is a business decision made by our Board of Directors from time to time based on our earnings, financial position and prospects, and such other considerations as our Board of Directors considers relevant. Historically, our Board of Directors has declared quarterly cash dividends of $0.125 per share of common stock. On February 7, 2018, the Board of Directors approved an increase to the quarterly cash dividend to $0.1625 per share of common stock beginning with the March 30, 2018 quarterly dividend. While management currently expects that we will continue to pay the quarterly cash dividend, our dividend practice may change at any time.

- On February 7, 2018 and on May 3, 2018, our Board of Directors authorized our Company to repurchase up to an additional $950 million in shares of our common stock in addition to the $50 million remaining under our September 2015 share repurchase authorization. Repurchases may be made through the open market, including through accelerated share repurchase programs, or in privately negotiated transactions, and repurchases may be commenced or suspended from time to time without prior notice. Shares of common stock acquired through the repurchase program are held in treasury at cost. During 2018, we repurchased 10,405,457 shares of our common stock for approximately $276 million, excluding commissions, under the repurchase program. From January 1, 2019 through January 31, 2019, we repurchased an additional 537,018 shares of our common stock for approximately $11 million, excluding commissions.

- On December 3, 2018, we sold an additional aggregate of 4,334,389, or 4% of Venator ordinary shares to Bank of America N.A. at a price to be determined based on the average of the daily volume weighted average price of the ordinary shares over an agreed period. Over this agreed period, we received aggregate proceeds of $19 million, $16 million of which was received in the first quarter of 2019. The transaction allowed us to deconsolidate Venator beginning in December 2018, and following this transaction, we retained approximately 49% ownership in Venator. For more information, see "Note 4. Discontinued Operations and Dispositions—Separation and Deconsolidation of Venator" to our consolidated financial statements.

- We believe that cash taxes related to our completed dispositions of Venator will be approximately $165 million, with $35 million paid in 2017, $11 million paid in 2018 and the remaining $119 million spread over the next seven years. To the extent that we receive net cash proceeds of less than $20 per share on future Venator dispositions, we will pay zero additional taxes related to the sale of our remaining 49% interest in Venator. Any net cash proceeds above $20 per share relating to the sale of our remaining 49% interest in Venator will be taxed at approximately 22%.

- As of December 31, 2018, we had indebtedness of $2.3 billion, and we believe we have achieved an investment-grade profile.

- In connection with the Demilec Acquisition on April 23, 2018, we borrowed $275 million under the Prior Credit Facility and $75 million under our U.S. A/R Program. Proceeds from $275 million of borrowings under the 2018 Revolving Credit Facility were used to repay borrowings under our Prior Credit Facility.

As of December 31, 2018, we had $96 million classified as current portion of debt, including debt at our variable interest entities of $25 million, and certain other short-term facilities and scheduled amortization payments totaling $71 million. Although we cannot provide assurances, we intend to renew, repay or extend the majority of these short-term facilities in the next twelve months.

As of December 31, 2018, we had approximately $315 million of cash and cash equivalents, including restricted cash, held by our foreign subsidiaries, including our variable interest entities. We intend to use cash held in our foreign subsidiaries to fund our local operations. Nevertheless, we could repatriate cash as dividends and the repatriation of cash as a dividend would generally not be subject to U.S. taxation as a result of the U.S. Tax Reform Act, but may potentially be subject to limited foreign withholding taxes. Cash held by certain foreign subsidiaries, including our variable interest entities, may be subject to changing monetary policies of governments and legal restrictions, including those arising from the interests of our partners, which could limit the amounts available for repatriation.

Contractual Obligations and Commercial Commitments

Our obligations under long-term debt (including the current portion), lease agreements and other contractual commitments as of December 31, 2018 are summarized below (dollars in millions):

	2019	2020 - 2021	2022 - 2023	After 2023	Total
Long-term debt, including current portion	$ 96	$ 1,466	$ 404	$ 354	$ 2,320
Interest(1)	110	155	59	25	349
Operating leases	59	105	94	234	492
Purchase commitments(2)	1,424	1,521	1,043	1,794	5,782
Total(3)(4)	$ 1,689	$ 3,247	$ 1,600	$ 2,407	$ 8,943

(1) Interest calculated using interest rates as of December 31, 2018 and contractual maturity dates assuming no refinancing or extension of debt instruments.

(2) We have various purchase commitments extending through 2039 for materials, supplies and services entered into in the ordinary course of business. Included in the purchase commitments table above are contracts which require minimum volume purchases that extend beyond one year or are renewable annually and have been renewed for 2018. Certain contracts allow for changes in minimum required purchase volumes in the event of a temporary or permanent shutdown of a facility. To the extent the contract requires a minimum notice period, such notice period has been included in the above table. The contractual purchase price for substantially all of these contracts is variable based upon market prices, subject to annual negotiations. We have estimated our contractual obligations by using the terms of our current pricing for each contract. We also have a limited number of contracts which require a minimum payment even if no volume is purchased. We believe that all of our purchase obligations will be utilized in our normal operations. For the years ended December 31, 2018, 2017 and 2016, we made minimum payments of nil, nil and $1 million, respectively, under such take or pay contracts without taking the product.

(3) Totals do not include commitments pertaining to our pension and other postretirement obligations. Our estimated future contributions to our pension and postretirement plans related to continuing operations are as follows (dollars in millions):

	2019	2020 - 2021	2022 - 2023	5-Year Average Annual
Pension plans	$ 88	$ 177	$ 202	$ 67
Other postretirement obligations	6	12	12	6

(4) The above table does not reflect expected tax payments and unrecognized tax benefits due to the inability to make reasonably reliable estimates of the timing and amount of payments. Totals also do not include installment obligations for the U.S. Tax Reform Act deemed repatriation transition tax of approximately $48 million, to be paid $7 million in 2023 and $41 million after 2023. For additional discussion on unrecognized tax benefits, see "Note 18. Income Taxes" to our consolidated financial statements.

Off-Balance Sheet Arrangements

No off-balance sheet arrangements exist.

RESTRUCTURING, IMPAIRMENT AND PLANT CLOSING COSTS

For a discussion of restructuring plans and the costs involved, see "Note 12. Restructuring, Impairment and Plant Closing Costs" to our consolidated financial statements.

RECENTLY ISSUED ACCOUNTING PRONOUNCEMENTS

For a discussion of recently issued accounting pronouncements, see "Note 2. Summary of Significant Accounting Policies—Recently Issued Accounting Pronouncements" to our consolidated financial statements.

CRITICAL ACCOUNTING POLICIES

The preparation of financial statements and related disclosures in conformity with U.S. GAAP requires management to make judgments, estimates and assumptions that affect the reported amounts in our consolidated financial statements. Our significant accounting policies are summarized in "Note 2. Summary of Significant Accounting Policies" to our consolidated financial statements. Summarized below are our critical accounting policies:

Income Taxes

We use the asset and liability method of accounting for income taxes. Deferred income taxes reflect the net tax effects of temporary differences between the carrying amounts of assets and liabilities for financial and tax reporting purposes. We evaluate deferred tax assets to determine whether it is more likely than not that they will be realized. Valuation allowances are reviewed on a tax jurisdiction basis to analyze whether there is sufficient positive or negative evidence to support a change in judgment about the realizability of the related deferred tax assets for each jurisdiction. These conclusions require significant judgment. In evaluating the objective evidence that historical results provide, we consider the cyclicality of businesses and cumulative income or losses during the applicable period. Cumulative losses incurred over the period limits our ability to consider other subjective evidence such as our projections for the future. Changes in expected future income in applicable jurisdictions could affect the realization of deferred tax assets in those jurisdictions. As of December 31, 2018, we had total valuation allowances of $227 million. See "Note 18. Income Taxes" to our consolidated financial statements for more information regarding our valuation allowances.

Accounting for uncertainty in income taxes prescribes a recognition threshold and measurement attribute for the financial statement recognition and measurement of a tax position taken or expected to be taken in a tax return. The application of income tax law is inherently complex. We are required to determine if an income tax position meets the criteria of more-likely-than-not to be realized based on the merits of the position under tax law, in order to recognize an income tax benefit. This requires us to make significant judgments regarding the merits of income tax positions and the application of income tax law. Additionally, if a tax position meets the recognition criteria of more-likely-than-not we are required to make judgments and apply assumptions in order to measure the amount of the tax benefits to recognize. These judgments are based on the probability of the amount of tax benefits that would be realized if the tax position was challenged by the taxing authorities. Interpretations and guidance surrounding income tax laws and regulations change over time. As a consequence, changes in assumptions and judgments can materially affect amounts recognized in our consolidated financial statements. We have no need for, or change in, any unrecognized tax positions due to the U.S. Tax Reform Act. For further information concerning taxes, see "Note 18. Income Taxes" to our consolidated financial statements.

Employee Benefit Programs

We sponsor several contributory and non-contributory defined benefit plans, covering employees primarily in the U.S., the U.K., The Netherlands, Belgium and Switzerland, but also covering employees in a number of other countries. We fund the material plans through trust arrangements (or local equivalents) where the assets are held separately from us. We also sponsor unfunded postretirement plans which provide medical and, in some cases, life insurance benefits covering certain employees in the U.S. and Canada. Amounts recorded in our consolidated financial statements are recorded based upon actuarial valuations performed by various independent actuaries. Inherent in these valuations are numerous assumptions regarding expected long-term rates of return on plan assets, discount rates, compensation increases, mortality rates and health care cost trends. These assumptions are described in "Note 17. Employee Benefit Plans" to our consolidated financial statements.

Management, with the advice of actuaries, uses judgment to make assumptions on which our employee pension and postretirement benefit plan obligations and expenses are based. The effect of a 1% change in three key assumptions is summarized as follows (dollars in millions):

Assumptions	Statement of Operations(1)	Balance Sheet Impact(2)
Discount rate		
—1% increase	$ (35)	$ (449)
—1% decrease	37	512
Expected long-term rates of return on plan assets		
—1% increase	(27)	—
—1% decrease	27	—
Rate of compensation increase		
—1% increase	8	93
—1% decrease	(8)	(89)

(1) Estimated increase (decrease) on 2018 net periodic benefit cost

(2) Estimated increase (decrease) on December 31, 2018 pension and postretirement liabilities and accumulated other comprehensive loss

We are subject to legal proceedings and claims arising out of our business operations. We routinely assess the likelihood of any adverse outcomes to these matters, as well as ranges of probable losses. A determination of the amount of the reserves required, if any, for these contingencies is made after analysis of each known claim. We have an active risk management program consisting of numerous insurance policies secured from many carriers. These policies often provide coverage that is intended to minimize the financial impact, if any, of the legal proceedings. The required reserves may change in the future due to new developments in each matter. For further information, see "Note 19. Commitments and Contingencies—Legal Matters" to our consolidated financial statements.

Contingent Loss Accruals

We are subject to legal proceedings and claims arising out of our business operations. We routinely assess the likelihood of any adverse outcomes to these matters, as well as ranges of probable losses. A determination of the amount of the reserves required, if any, for these contingencies is made after analysis of each known claim. We have an active risk management program consisting of numerous insurance policies secured from many carriers. These policies often provide coverage that is intended to minimize the financial impact, if any, of the legal proceedings. The required reserves may change in the future due to new developments in each matter. For further information, see "Note 19. Commitments and Contingencies—Legal Matters" to our consolidated financial statements.

Goodwill

We test our goodwill for impairment at least annually (at the beginning of the third quarter) and when events and circumstances change that would more likely than not reduce the fair value of a reporting unit below its carrying amount. Goodwill has been assigned to reporting units for purposes of impairment testing. Approximately 63% and 31% of our goodwill balance relates to our MDI urethanes reporting unit and our Advanced Materials reporting unit, respectively. The remaining goodwill relates to two other reporting units.

Fair value is estimated using the market approach, as well as the income approach based on discounted cash flow projections. The estimated fair values of our reporting units are dependent on several significant assumptions including, among others, market information, discount rates, operating results, earnings projections and anticipated future cash flows.

We tested goodwill for impairment at the beginning of the third quarter of 2018 as part of the annual impairment testing procedures and determined that no goodwill impairment existed. Our most recent fair value determination resulted in an amount that exceeded the carrying amounts of all reporting units by a significant margin.

QUANTITATIVE AND QUALITATIVE DISCLOSURES ABOUT MARKET RISK

We are exposed to market risks, such as changes in interest rates, foreign exchange rates and commodity prices. From time to time, we enter into transactions, including transactions involving derivative instruments, to manage certain of these exposures. We also hedge our net investment in certain European operations. Changes in the fair value of the hedge in the net investment of certain European operations are recorded in accumulated other comprehensive loss.

In connection with the December 3, 2018 sale of Venator ordinary shares to Bank of America N.A., we recorded a forward swap. See "Note 4. Discontinued Operations and Business Dispositions" and "Note 16. Fair Value" to our consolidated financial statements.

INTEREST RATE RISKS

Through our borrowing activities, we are exposed to interest rate risk. Such risk arises due to the structure of our debt portfolio, including the mix of fixed and floating interest rates. Actions taken to reduce interest rate risk include managing the mix and rate characteristics of various interest-bearing liabilities, as well as entering into interest rate derivative instruments.

From time to time, we may purchase interest rate swaps and/or other derivative instruments to reduce the impact of changes in interest rates on our floating-rate long-term debt. Under interest rate swaps, we agree with other parties to exchange, at specified intervals, the difference between fixed-rate and floating-rate interest amounts calculated by reference to an agreed notional principal amount.

We had entered into several interest rate contracts to hedge the variability caused by monthly changes in cash flow due to associated changes in LIBOR under our Senior Credit Facilities. These swaps were designated as cash flow hedges and the effective portion of the changes in the fair value of the swaps were recorded in other comprehensive (loss) income. These swaps expired in April 2017.

During 2018, accumulated other comprehensive loss of nil was reclassified to earnings. The actual amount that will be reclassified to earnings over the next twelve months may vary from this amount due to changing market conditions. We would be exposed to credit losses in the event of nonperformance by a counterparty to our derivative financial instruments. We anticipate, however, that the counterparties will be able to fully satisfy their obligations under the contracts. Market risk arises from changes in interest rates.

FOREIGN EXCHANGE RATE RISK

Our cash flows and earnings are subject to fluctuations due to exchange rate variation. Our revenues and expenses are denominated in various currencies. We enter into foreign currency derivative instruments to minimize the short-term impact of movements in foreign currency rates. Where practicable, we generally net multicurrency cash balances among our subsidiaries to help reduce exposure to foreign currency exchange rates. Certain other exposures may be managed from time to time through financial market transactions, principally through the purchase of spot or forward foreign exchange contracts (generally with maturities of three months or less). We do not hedge our currency exposures in a manner that would eliminate the effect of changes in exchange rates on our cash flows and earnings. As of December 31, 2018 and 2017, we had approximately $151 million and $93 million, respectively, notional amount (in U.S. dollar equivalents) outstanding in foreign currency contracts with a term of approximately one month.

In November 2014, we entered into two five-year cross-currency interest rate contracts and one eight-year cross-currency interest rate contract to swap an aggregate notional $200 million for an aggregate notional €161 million. The swap was designated as a hedge of net investment for financial reporting purposes. In August 2017, we terminated these cross-currency interest rate contracts and received $7 million from the counterparties.

A portion of our debt is denominated in euros. We also finance certain of our non-U.S. subsidiaries with intercompany loans that are, in many cases, denominated in currencies other than the entities' functional currency. We manage the net foreign currency exposure created by this debt through various means, including cross-currency swaps, the designation of certain intercompany loans as permanent loans because they are not expected to be repaid in the foreseeable future and the designation of certain debt and swaps as net investment hedges.

Foreign currency transaction gains and losses on intercompany loans that are not designated as permanent loans are recorded in earnings. Foreign currency transaction gains and losses on intercompany loans that are designated as permanent loans are recorded in other comprehensive (loss) income. From time to time, we review such designation of intercompany loans.

We review our non-U.S. dollar denominated debt and derivative instruments to determine the appropriate amounts designated as hedges. As of December 31, 2018, for our continuing operations, we have designated approximately €510 million (approximately $581 million) of euro-denominated debt as a hedge of our net investment. For the years ended December 31, 2018, 2017 and 2016, for our continuing operations, the amounts recognized on the hedge of our net investment were a gain of $35 million, a loss of $96 million and a gain of $27 million, respectively, and were recorded in other comprehensive (loss) income.

COMMODITY PRICES RISK

Inherent in our business is exposure to price changes for several commodities. However, our exposure to changing commodity prices is somewhat limited since the majority of our raw materials are acquired at posted or market related prices, and sales prices for many of our finished products are at market related prices which are largely set on a monthly or quarterly basis in line with industry practice. Consequently, we do not generally hedge our commodity exposures.

CONTROLS AND PROCEDURES

EVALUATION OF DISCLOSURE CONTROLS AND PROCEDURES

Our management, with the participation of our chief executive officer and chief financial officer, has evaluated the effectiveness of our disclosure controls and procedures (as defined in Rules 13a-15(e) and 15d-15(e) under the Exchange Act) as of December 31, 2018. Based on this evaluation, our chief executive officer and chief financial officer have concluded that, as of December 31, 2018, our disclosure controls and procedures were effective, in that they ensure that information required to be disclosed by us in the reports that we file or submit under the Exchange Act is (1) recorded, processed, summarized and reported within the time periods specified in the SEC's rules and forms, and (2) accumulated and communicated to our management, including our chief executive officer and chief financial officer, as appropriate to allow timely decisions regarding required disclosure.

CHANGES IN INTERNAL CONTROL OVER FINANCIAL REPORTING

No changes to our internal control over financial reporting occurred during the quarter ended December 31, 2018 that have materially affected, or are reasonably likely to materially affect, our internal control over financial reporting (as defined in Rules 13a-15(f) and 15d-15(f) under the Exchange Act).

MANAGEMENT'S REPORT ON INTERNAL CONTROL OVER FINANCIAL REPORTING

Management is responsible for establishing and maintaining adequate internal control over financial reporting. Our internal control framework and processes are designed to provide reasonable assurance to management and our Board of Directors regarding the reliability of financial reporting and the preparation of our consolidated financial statements in accordance with accounting principles generally accepted in the United States of America.

Our internal control over financial reporting includes those policies and procedures that:

- pertain to the maintenance of records that, in reasonable detail, accurately and fairly reflect the transactions and dispositions of the assets of our Company;
- provide reasonable assurance that transactions are recorded properly to allow for the preparation of financial statements in accordance with generally accepted accounting principles, and that receipts and expenditures are being made only in accordance with authorizations of management and Directors of our Company;
- provide reasonable assurance regarding prevention or timely detection of unauthorized acquisition, use or disposition of our assets that could have a material effect on our consolidated financial statements; and
- provide reasonable assurance as to the detection of fraud.

Because of its inherent limitations, a system of internal control over financial reporting can provide only reasonable assurance and may not prevent or detect misstatements. Further, because of changing conditions, effectiveness of internal control over financial reporting may vary over time.

Our management assessed the effectiveness of our internal control over financial reporting and concluded that, as of December 31, 2018, such internal control is effective. In making this assessment, management used the criteria set forth by the Committee of Sponsoring Organizations of the Treadway Commission in *Internal Control—Integrated Framework (2013)*.

Our independent registered public accountants, Deloitte & Touche LLP, with direct access to our Board of Directors through our Audit Committee, have audited our consolidated financial statements prepared by us and have issued attestation reports on internal control over financial reporting for our Company.

REPORT OF INDEPENDENT REGISTERED PUBLIC ACCOUNTING FIRM

To the Board of Directors and Stockholders of
Huntsman Corporation

Opinion on Internal Control over Financial Reporting

We have audited the internal control over financial reporting of Huntsman Corporation and subsidiaries (the "Company") as of December 31, 2018, based on criteria established in *Internal Control — Integrated Framework (2013)* issued by the Committee of Sponsoring Organizations of the Treadway Commission (COSO). In our opinion, the Company maintained, in all material respects, effective internal control over financial reporting as of December 31, 2018, based on criteria established in *Internal Control — Integrated Framework (2013)* issued by COSO.

We have also audited, in accordance with the standards of the Public Company Accounting Oversight Board (United States) (PCAOB), the consolidated financial statements as of and for the year ended December 31, 2018 of the Company and our report dated February 12, 2019, expressed an unqualified opinion on those financial statements.

Basis for Opinion

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

We conducted our audit in accordance with the standards of the PCAOB. Those standards require that we plan and perform the audit to obtain reasonable assurance about whether effective internal control over financial reporting was maintained in all material respects. Our audit included obtaining an understanding of internal control over financial reporting, assessing the risk that a material weakness exists, testing and evaluating the design and operating effectiveness of internal control based on the assessed risk, and performing such other procedures as we considered necessary in the circumstances. We believe that our audit provides a reasonable basis for our opinion.

Definition and Limitations of Internal Control over Financial Reporting

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

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

/s/ DELOITTE & TOUCHE LLP

Houston, Texas
February 12, 2019

REPORT OF INDEPENDENT REGISTERED PUBLIC ACCOUNTING FIRM

To the Board of Directors and Stockholders of
Huntsman Corporation

Opinion on the Financial Statements

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

We have also audited, in accordance with the standards of the Public Company Accounting Oversight Board (United States) (PCAOB), the Company's internal control over financial reporting as of December 31, 2018, based on criteria established in *Internal Control—Integrated Framework (2013)* issued by the Committee of Sponsoring Organizations of the Treadway Commission and our report dated February 12, 2019, expressed an unqualified opinion on the Company's internal control over financial reporting.

Basis for Opinion

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

We conducted our audits in accordance with the standards of the PCAOB. Those standards require that we plan and perform the audit to obtain reasonable assurance about whether the financial statements are free of material misstatement, whether due to error or fraud. Our audits included performing procedures to assess the risks of material misstatement of the financial statements, whether due to error or fraud, and performing procedures that respond to those risks. Such procedures included examining, on a test basis, evidence regarding the amounts and disclosures in the financial statements. Our audits also included evaluating the accounting principles used and significant estimates made by management, as well as evaluating the overall presentation of the financial statements. We believe that our audits provide a reasonable basis for our opinion.

/s/ DELOITTE & TOUCHE LLP

Houston, Texas
February 12, 2019

We have served as the Company's auditor since 1984.

HUNTSMAN CORPORATION AND SUBSIDIARIES
CONSOLIDATED BALANCE SHEETS
(In Millions, Except Per Share Amounts)

	December 31, 2018	December 31, 2017
ASSETS		
Current assets:		
Cash and cash equivalents(a)	$ 340	$ 470
Restricted cash(a)	—	11
Accounts and notes receivable (net of allowance for doubtful accounts of $22 and $25, respectively), ($341 and $334 pledged as collateral, respectively)(a)	1,254	1,256
Accounts receivable from affiliates	18	27
Inventories(a)	1,134	1,073
Prepaid expenses	66	60
Other current assets(a)	146	202
Current assets held for sale	—	2,880
Total current assets	2,958	5,979
Property, plant and equipment, net(a)	3,064	3,098
Investment in unconsolidated affiliates	526	266
Intangible assets, net(a)	219	56
Goodwill	275	140
Deferred income taxes	324	208
Notes receivable from affiliate	34	—
Other noncurrent assets(a)	553	497
Total assets	$ 7,953	$ 10,244
LIABILITIES AND EQUITY		
Current liabilities:		
Accounts payable(a)	$ 929	$ 946
Accounts payable to affiliates	32	18
Accrued liabilities(a)	554	569
Current portion of debt(a)	96	40
Current liabilities held for sale	—	1,692
Total current liabilities	1,611	3,265
Long-term debt(a)	2,224	2,258
Deferred income taxes	296	264
Other noncurrent liabilities(a)	1,073	1,086
Total liabilities	5,204	6,873
Commitments and contingencies (Notes 19 and 20)		
Equity		
Huntsman Corporation stockholders' equity:		
Common stock $0.01 par value, 1,200,000,000 shares authorized, 256,006,849 and 252,759,715 shares issued and 232,994,172 and 240,213,606 shares outstanding, respectively.	3	3
Additional paid-in capital	3,984	3,889
Treasury stock, 23,012,680 and 12,607,223 shares, respectively	(427)	(150)
Unearned stock-based compensation	(16)	(15)
Retained earnings	292	161
Accumulated other comprehensive loss	(1,316)	(1,268)
Total Huntsman Corporation stockholders' equity	2,520	2,620
Noncontrolling interests in subsidiaries	229	751
Total equity	2,749	3,371
Total liabilities and equity	$ 7,953	$ 10,244

(a) At December 31, 2018 and December 31, 2017, respectively, $7 and $15 of cash and cash equivalents, nil and $11 of restricted cash, 30 and $35 of accounts and notes receivable (net), $49 and $46 of inventories, $5 and $7 of other current assets, $265 and $283 of property, plant and equipment (net), $10 each of intangible assets (net), $52 and $43 of other noncurrent assets, $123 and $109 of accounts payable, $30 and $32 of accrued liabilities, $25 and $21 of current portion of debt, $61 and $86 of long-term debt, and $97 and $98 of other noncurrent liabilities from consolidated variable interest entities are included in the respective Balance Sheet captions above. See "Note 8. Variable Interest Entities."

See accompanying notes to consolidated financial statements.

HUNTSMAN CORPORATION AND SUBSIDIARIES
CONSOLIDATED STATEMENTS OF OPERATIONS
(In Millions, Except Per Share Amounts)

	Year ended December 31,		
	2018	2017	2016
Revenues:			
Trade sales, services and fees, net	$ 9,220	$ 8,208	$ 7,387
Related party sales	159	150	131
Total revenues	9,379	8,358	7,518
Cost of goods sold	7,354	6,552	6,000
Gross profit	2,025	1,806	1,518
Operating expenses:			
Selling, general and administrative	830	798	772
Research and development	152	138	137
Restructuring, impairment and plant closing (credits) costs	(5)	20	47
Merger costs	2	28	—
Other operating expense (income), net	8	(23)	(101)
Total operating expenses	987	961	855
Operating income	1,038	845	663
Interest expense	(115)	(165)	(203)
Equity in income of investment in unconsolidated affiliates	55	13	5
Fair value adjustments to Venator investment	(62)	—	—
Loss on early extinguishment of debt	(3)	(54)	(3)
Other income, net	29	8	12
Income from continuing operations before income taxes	942	647	474
Income tax expense	(97)	(64)	(109)
Income from continuing operations	845	583	365
(Loss) income from discontinued operations, net of tax	(195)	158	(8)
Net income	650	741	357
Net income attributable to noncontrolling interests	(313)	(105)	(31)
Net income attributable to Huntsman Corporation	$ 337	$ 636	$ 326
Basic income (loss) per share:			
Income from continuing operations attributable to Huntsman Corporation common stockholders	$ 3.21	$ 2.01	$ 1.41
(Loss) income from discontinued operations attributable to Huntsman Corporation common stockholders, net of tax	(1.79)	0.66	(0.03)
Net income attributable to Huntsman Corporation common stockholders	$ 1.42	$ 2.67	$ 1.38
Weighted average shares	238.1	238.4	236.3
Diluted income (loss) per share:			
Income from continuing operations attributable to Huntsman Corporation common stockholders	$ 3.16	$ 1.96	$ 1.39
(Loss) income from discontinued operations attributable to Huntsman Corporation common stockholders, net of tax	(1.77)	0.65	(0.03)
Net income attributable to Huntsman Corporation common stockholders	$ 1.39	$ 2.61	$ 1.36
Weighted average shares	241.6	243.9	239.6
Amounts attributable to Huntsman Corporation common stockholders:			
Income from continuing operations	$ 764	$ 478	$ 334
(Loss) income from discontinued operations, net of tax	(427)	158	(8)
Net income	$ 337	$ 636	$ 326

See accompanying notes to consolidated financial statements.

HUNTSMAN CORPORATION AND SUBSIDIARIES
CONSOLIDATED STATEMENTS OF COMPREHENSIVE INCOME (LOSS)
(In Millions)

	Year ended December 31,		
	2018	2017	2016
Net income	$ 650	$ 741	$ 357
Other comprehensive (loss) income, net of tax:			
Foreign currency translation adjustments	(192)	210	(171)
Pension and other postretirement benefits adjustments	(39)	86	(219)
Other, net	(9)	—	(1)
Other comprehensive (loss) income, net of tax	(240)	296	(391)
Comprehensive income (loss)	410	1,037	(34)
Comprehensive income attributable to noncontrolling interests	(266)	(127)	(23)
Comprehensive income (loss) attributable to Huntsman Corporation	$ 144	$ 910	$ (57)

See accompanying notes to consolidated financial statements.

HUNTSMAN CORPORATION AND SUBSIDIARIES
CONSOLIDATED STATEMENTS OF EQUITY
(In Millions, Except Share Amounts)

	Huntsman Corporation Stockholders' Equity								
	Shares Common stock	Common stock	Additional paid-in capital	Treasury stock	Unearned stock-based compensation	Retained earnings (accumulated deficit)	Accumulated other comprehensive loss	Noncontrolling interests in subsidiaries	Total equity
Beginning balance, January 1, 2016	237,080,026	3	$ 3,407	$ (135)	$ (17)	$ (528)	$ (1,288)	$ 187	$ 1,629
Net income	—	—	—	—	—	326	—	31	357
Other comprehensive loss	—	—	—	—	—	—	(383)	(8)	(391)
Issuance of nonvested stock awards	—	—	16	—	(16)	—	—	—	—
Vesting of stock awards	914,081	—	2	—	—	—	—	—	2
Recognition of stock-based compensation	—	—	9	—	16	—	—	—	25
Repurchase and cancellation of stock awards	(256,468)	—	—	—	—	(3)	—	—	(3)
Stock options exercised	77,477	—	1	—	—	—	—	—	1
Dividends paid to noncontrolling interests	—	—	—	—	—	—	—	(30)	(30)
Excess tax benefit related to stock-based compensation	—	—	(3)	—	—	—	—	—	(3)
Treasury stock repurchased	(1,444,769)	—	15	(15)	—	—	—	—	—
Dividends declared on common stock ($0.50 per share)	—	—	—	—	—	(120)	—	—	(120)
Balance, December 31, 2016	236,370,347	3	3,447	(150)	(17)	(325)	(1,671)	180	1,467
Net income	—	—	—	—	—	636	—	105	741
Other comprehensive income	—	—	—	—	—	—	403	(107)	296
Issuance of nonvested stock awards	—	—	18	—	(18)	—	—	—	—
Vesting of stock awards	1,316,975	—	8	—	—	—	—	—	8
Recognition of stock-based compensation	—	—	10	—	18	—	—	—	28
Repurchase and cancellation of stock awards	(402,978)	—	—	—	—	(12)	—	—	(12)
Dividends paid to noncontrolling interests	—	—	—	—	—	—	—	(34)	(34)
Contribution from noncontrolling interests	—	—	—	—	—	—	—	5	5
Disposition of a portion of Venator	—	—	413	—	—	—	—	—	413
Costs of IPO and secondary offering of Venator	—	—	(58)	—	—	—	—	—	(58)
Conversion of restricted awards to Venator awards	—	—	(2)	—	2	—	—	—	—
Noncontrolling interest from partial disposal of Venator	—	—	—	—	—	—	—	602	602
Stock options exercised	2,929,262	—	53	—	—	(18)	—	—	35
Dividends declared on common stock ($0.50 per share)	—	—	—	—	—	(120)	—	—	(120)
Balance, December 31, 2017	240,213,606	$ 3	3,889	(150)	(15)	161	(1,268)	751	3,371
Cumulative effect of changes in fair value of equity investments	—	—	—	—	—	10	(10)	—	—
Net income	—	—	—	—	—	337	—	313	650
Other comprehensive loss	—	—	—	—	—	—	(198)	(42)	(240)
Issuance of nonvested stock awards	—	—	14	—	(14)	—	—	—	—
Vesting of stock awards	1,135,003	—	11	—	—	—	—	—	11
Recognition of stock-based compensation	—	—	8	—	13	—	—	—	21
Repurchase and cancellation of stock awards	(259,643)	—	—	—	—	(30)	—	—	(30)
Dividends paid to noncontrolling interests	—	—	—	—	—	—	—	(69)	(69)
Stock options exercised	2,310,663	—	46	—	—	(29)	—	—	17
Repurchase of common stock	(10,405,457)	—	—	(277)	—	—	—	—	(277)
Disposition of a portion of Venator	—	—	18	—	—	—	—	—	18
Costs of the secondary offering of Venator	—	—	(2)	—	—	—	—	—	(2)
Noncontrolling interest from partial disposal of Venator	—	—	—	—	—	—	—	27	27
Accrued and unpaid dividends	—	—	—	—	—	(1)	—	—	(1)
Dividends declared on common stock ($0.65 per share)	—	—	—	—	—	(156)	—	—	(156)
Deconsolidation of Venator	—	—	—	—	—	—	160	(751)	(591)
Balance, December 31, 2018	232,994,172	$ 3	$ 3,984	$ (427)	$ (16)	$ 292	$ (1,316)	$ 229	$ 2,749

See accompanying notes to consolidated financial statements.

HUNTSMAN CORPORATION AND SUBSIDIARIES
CONSOLIDATED STATEMENTS OF CASH FLOWS
(In Millions)

	Year ended December 31,		
	2018	2017	2016
Operating Activities:			
Net income	$ 650	$ 741	$ 357
Less: Loss (income) from discontinued operations, net of tax	195	(158)	8
Income from continuing operations	845	583	365
Adjustments to reconcile income from continuing operations to net cash provided by operating activities from continuing operations:			
Equity in income of investment in unconsolidated affiliates	(55)	(13)	(5)
Unrealized losses on fair value adjustments to Venator investment	62	—	—
Depreciation and amortization	343	319	318
Loss (gain) on disposal of businesses/assets, net	4	(6)	(94)
Loss on early extinguishment of debt	3	54	3
Noncash interest expense	1	8	16
Noncash restructuring and impairment (credits) charges	(22)	1	(4)
Deferred income taxes	(116)	(55)	4
Noncash gain on foreign currency transactions	(3)	(5)	(2)
Stock-based compensation	27	36	32
Other, net	5	6	3
Changes in operating assets and liabilities, net of effects of acquisitions:			
Accounts and notes receivable	(13)	(183)	(25)
Inventories	(86)	(104)	177
Prepaid expenses	(9)	(11)	5
Other current assets	60	24	12
Other noncurrent assets	(76)	(60)	44
Accounts payable	8	154	46
Accrued liabilities	43	63	123
Other noncurrent liabilities	(58)	31	(44)
Net cash provided by operating activities from continuing operations	963	842	974
Net cash provided by operating activities from discontinued operations	244	377	114
Net cash provided by operating activities	1,207	1,219	1,088
Investing Activities:			
Capital expenditures	(313)	(282)	(318)
Investment in unconsolidated affiliates	—	—	(1)
Acquisition of businesses, net of cash acquired	(366)	(14)	—
Proceeds from sale of businesses/assets	—	25	199
Cash received from termination of cross-currency interest rate contracts	—	7	—
Cash received from forward swap contract related to the sale of investment in Venator	3	—	—
Other, net	(1)	(1)	—
Net cash used in investing activities from continuing operations	(677)	(265)	(120)
Net cash used in investing activities from discontinued operations	(296)	(159)	(83)
Net cash used in investing activities	(973)	(424)	(203)

(continued)

HUNTSMAN CORPORATION AND SUBSIDIARIES
CONSOLIDATED STATEMENTS OF CASH FLOWS (Continued)
(In Millions)

	Year ended December 31,		
	2018	2017	2016
Financing Activities:			
Net borrowings (repayments) under revolving loan facilities	$ 125	$ (41)	$ —
Net (repayments) borrowings on overdraft facilities	(1)	1	(1)
Repayments of short-term debt	(8)	(15)	(56)
Borrowings on short-term debt	6	8	10
Repayments of long-term debt	(68)	(2,058)	(1,070)
Proceeds from long-term debt of Venator	—	750	—
Proceeds from issuance of long-term debt	—	24	559
Repayments of notes payable	(29)	(27)	(33)
Borrowings on notes payable	27	31	31
Debt issuance costs paid	(4)	(21)	(9)
Call premiums related to early extinguishment of debt	—	—	(1)
Dividends paid to noncontrolling interests	(69)	(34)	(30)
Contribution from noncontrolling interests	—	5	—
Dividends paid to common stockholders	(156)	(120)	(120)
Repurchase and cancellation of stock awards	(30)	(12)	(3)
Proceeds from issuance of common stock	17	35	1
Repurchase of common stock	(277)	—	—
Proceeds from the IPO of Venator	—	1,012	—
Cash paid for expenses for the IPO of Venator	—	(58)	—
Proceeds from the secondary offering of Venator	44	—	—
Cash paid for expenses of the secondary offering of Venator	(2)	—	—
Other, net	1	1	(1)
Net cash used in financing activities	(424)	(519)	(723)
Effect of exchange rate changes on cash	(35)	18	(6)
(Decrease) increase in cash, cash equivalents and restricted cash	(225)	294	156
Cash, cash equivalents and restricted cash from continuing operations at beginning of period	481	396	248
Cash, cash equivalents and restricted cash from discontinued operations at beginning of period	238	29	21
Deconsolidation of cash, cash equivalents and restricted cash from Venator	(154)	—	—
Cash, cash equivalents and restricted cash at end of period	$ 340	$ 719	$ 425
Supplemental cash flow information:			
Cash paid for interest	$ 163	$ 175	$ 205
Cash paid for income taxes	179	25	40

As of December 31, 2018, 2017 and 2016, the amount of capital expenditures in accounts payable was $66 million, $51 million and $61 million, respectively. In addition, as of December 31, 2018, the amount of cash interest and cash income taxes included in our supplemental cash flow information related to cash paid for interest and cash paid for income taxes that was paid by Venator was $46 million and $38 million, respectively. As of December 31, 2017, the amount of cash interest and cash income taxes included in our supplemental cash flow information related to cash paid for interest and cash paid for income taxes that was paid by Venator after the IPO date was $6 million and $16 million, respectively.

See accompanying notes to consolidated financial statements.

HUNTSMAN CORPORATION AND SUBSIDIARIES
NOTES TO CONSOLIDATED FINANCIAL STATEMENTS

1. GENERAL

DEFINITIONS

For convenience in this report, the terms "Company," "our" or "we" may be used to refer to Huntsman Corporation and, unless the context otherwise requires, its subsidiaries and predecessors. Any references to the "Company" "we" "us" or "our" as of a date prior to October 19, 2004 (the date of our Company's formation) are to Huntsman Holdings, LLC and its subsidiaries (including their respective predecessors). In this report, "Huntsman International" refers to Huntsman International LLC (our 100% owned subsidiary) and, unless the context otherwise requires, its subsidiaries; "AAC" refers to Arabian Amines Company, our consolidated manufacturing joint venture with the Zamil Group; "HPS" refers to Huntsman Polyurethanes Shanghai Ltd. (our consolidated splitting joint venture with Shanghai Chlor-Alkali Chemical Company, Ltd); "Sasol-Huntsman" refers to Sasol-Huntsman GmbH and Co. KG (our consolidated joint venture with Sasol that owns and operates a maleic anhydride facility in Moers, Germany); and "SLIC" refers to Shanghai Liengheng Isocyanate Company (our unconsolidated manufacturing joint venture with BASF and three Chinese chemical companies).

In this report, we may use, without definition, the common names of competitors or other industry participants. We may also use the common names or abbreviations for certain chemicals or products. Each capitalized term used without definition in this report has the meaning specified in the Annual Report on Form 10-K for the year ended December 31, 2018, which was filed with the Securities and Exchange Commission on February 12, 2019.

DESCRIPTION OF BUSINESS

We are a global manufacturer of differentiated organic chemical products. We operate in four segments: Polyurethanes, Performance Products, Advanced Materials and Textile Effects. Our products comprise a broad range of chemicals and formulations, which we market globally to a diversified group of consumer and industrial customers. Our products are used in a wide range of applications, including those in the adhesives, aerospace, automotive, construction products, personal care and hygiene, durable and non-durable consumer products, digital inks, electronics, medical, packaging, coatings and construction, power generation, refining, synthetic fiber, textile chemicals and dye industries. We are a leading global producer in many of our key product lines, including MDI, amines, surfactants, maleic anhydride, epoxy-based polymer formulations, textile chemicals and dyes.

COMPANY

Our Company, a Delaware corporation, was formed in 2004 to hold the Huntsman businesses, which were founded by Jon M. Huntsman. Mr. Huntsman founded the predecessor to our Company in 1970 as a small polystyrene plastics packaging company. Since then, we have grown through a series of significant acquisitions and now own a global portfolio of businesses. Jon M. Huntsman served as the Executive Chairman of our Company until December 31, 2017, at which time Peter Huntsman, our Chief Executive Officer, was appointed to the role of Chairman of the Board. Jon M. Huntsman served as Director and Chairman Emeritus until his passing on February 2, 2018.

Currently, we operate all of our businesses through Huntsman International, our 100% owned subsidiary. Huntsman International is a Delaware limited liability company and was formed in 1999.

RECENT DEVELOPMENTS

Separation and Deconsolidation of Venator

In August 2017, we separated the P&A Business and conducted an IPO of ordinary shares of Venator, formerly a wholly-owned subsidiary of Huntsman. Additionally, in December 2017, we conducted a secondary offering of Venator ordinary shares. All of such ordinary shares were sold by Huntsman, and Venator did not receive any proceeds from the offerings. Venator's ordinary shares began trading on The New York Stock Exchange under the symbol "VNTR" on August 3, 2017. On January 3, 2018, the underwriters purchased an additional 1,948,955 Venator ordinary shares pursuant to their over-allotment option, which reduced Huntsman's ownership interest in Venator to approximately 53%. Beginning in the third quarter of 2017, we reported the results of operations of Venator as discontinued operations.

1. GENERAL (Continued)

During the third quarter of 2018, we recognized a net after tax valuation allowance of $270 million to adjust the carrying amount of the assets and liabilities held for sale and the amount of accumulated comprehensive income recorded in equity related to Venator to the lower of cost or estimated fair value, less cost to sell.

On December 3, 2018, we sold an aggregate of 4,334,389, or 4%, of Venator ordinary shares to Bank of America N.A. at a price to be determined based on the average of the daily volume weighted average price of Venator ordinary shares over an agreed period. Over this agreed period, we received aggregate proceeds of $19 million, $16 million of which was received in the first quarter of 2019. This transaction allowed us to deconsolidate Venator beginning in December 2018. Following this transaction, we retained approximately 49% ownership in Venator. In connection with the deconsolidation of Venator, we recorded a pretax loss of $427 million in discontinued operations to record our remaining ownership interest in Venator at fair value. We elected the fair value option to account for our equity method investment in Venator post deconsolidation. Accordingly, at December 31, 2018, we recorded a pretax loss of $57 million to record our equity method investment in Venator at fair value. This loss was recorded in “Fair value adjustments to Venator investment” on our consolidated statements of operations. For more information, see “Note 4. Discontinued Operations and Business Dispositions—Separation and Deconsolidation of Venator.”

Unsecured Revolving Credit Facility

On May 21, 2018, we entered into the 2018 Revolving Credit Facility. Borrowings under the 2018 Revolving Credit Facility will bear interest at the rates specified in the credit agreement governing the 2018 Revolving Credit Facility, which will vary based on the type of loan and our debt ratings. Unless earlier terminated, the 2018 Revolving Credit Facility will mature in May 2023. We may increase the 2018 Revolving Credit Facility commitments up to an additional $500 million, subject to the satisfaction of certain conditions. See “Note 14. Debt—Direct and Subsidiary Debt—Credit Facility.”

In connection with entering into the 2018 Revolving Credit Facility, we terminated all commitments and repaid all obligations under the Prior Credit Facility. In addition, we recognized a loss of early extinguishment of debt of $3 million. Upon the termination of the Prior Credit Facility, all guarantees of the obligations under the Prior Credit Facility were terminated, and all liens granted under the Prior Credit Facility were released.

Share Repurchase Program

On February 7, 2018 and on May 3, 2018, our Board of Directors authorized us to repurchase up to an additional $950 million in shares of our common stock in addition to the $50 million remaining under our September 2015 share repurchase authorization. During the year ended December 31, 2018, we repurchased 10,405,457 shares of our common stock for approximately $276 million, excluding commissions, under the repurchase program. From January 1, 2019 through January 31, 2019, we repurchased an additional 537,018 shares of our common stock for approximately $11 million, excluding commissions.

Demilec Acquisition

On April 23, 2018, we acquired 100% of the outstanding equity interests of Demilec for approximately $353 million, including working capital adjustments, in an all-cash transaction which was funded from our Prior Credit Facility and our U.S. A/R Program. Demilec is a leading North American manufacturer and distributor of spray polyurethane foam formulations for residential and commercial applications. The acquired business is being integrated into our Polyurethanes segment. See “Note 3. Business Combination.”

2. SUMMARY OF SIGNIFICANT ACCOUNTING POLICIES

ASSET RETIREMENT OBLIGATIONS

We accrue for asset retirement obligations, which consist primarily of landfill capping, closure and post-closure costs, asbestos abatement costs, demolition and removal costs and leasehold remediation costs, in the period in which the obligations are incurred. Asset retirement obligations are accrued at estimated fair value. When the liability is initially recorded, we capitalize the cost by increasing the carrying amount of the related long-lived asset. Over time, the liability

2. SUMMARY OF SIGNIFICANT ACCOUNTING POLICIES (Continued)

is accreted to its estimated settlement value and the capitalized cost is depreciated over the useful life of the related asset. Upon settlement of the liability, we will recognize a gain or loss for any difference between the settlement amount and the liability recorded. Asset retirement obligations were $11 million and $9 million at December 31, 2018 and 2017, respectively.

CARRYING VALUE OF LONG-LIVED ASSETS

We review long-lived assets and all amortizable intangible assets for impairment whenever events or changes in circumstances indicate that the carrying amount of these assets may not be recoverable. Recoverability is based upon current and anticipated undiscounted cash flows, and we recognize an impairment when such estimated cash flows are less than the carrying value of the asset. Measurement of the amount of impairment, if any, is based upon the difference between carrying value and fair value. Fair value is generally estimated by discounting estimated future cash flows using a discount rate commensurate with the risks involved or selling price of assets held for sale. See "Note 12. Restructuring, Impairment and Plant Closing Costs."

CASH AND CASH EQUIVALENTS

We consider cash in checking accounts and cash in short-term highly liquid investments with remaining maturities of three months or less at the date of purchase, to be cash and cash equivalents. Cash flows from financing activities from discontinued operations are not presented separately in our consolidated statements of cash flows.

COST OF GOODS SOLD

We classify the costs of manufacturing and distributing our products as cost of goods sold. Manufacturing costs include variable costs, primarily raw materials and energy, and fixed expenses directly associated with production. Manufacturing costs also include, among other things, plant site operating costs and overhead (including depreciation), production planning and logistics costs, repair and maintenance costs, plant site purchasing costs, and engineering and technical support costs. Distribution, freight and warehousing costs are also included in cost of goods sold.

DERIVATIVES AND HEDGING ACTIVITIES

All derivatives, whether designated in hedging relationships or not, are recorded on our balance sheet at fair value. If the derivative is designated as a fair value hedge, the changes in the fair value of the derivative and the hedged items are recognized in earnings. If the derivative is designated as a cash flow hedge, changes in the fair value of the derivative are recorded in accumulated other comprehensive loss, to the extent effective, and will be recognized in the income statement when the hedged item affects earnings. Changes in the fair value of the hedge in the net investment of certain international operations are recorded in other comprehensive income (loss), to the extent effective. The effectiveness of a cash flow hedging relationship is established at the inception of the hedge, and after inception we perform effectiveness assessments at least every three months. A derivative designated as a cash flow hedge is determined to be effective if the change in value of the hedge divided by the change in value of the hedged item is within a range of 80% to 125%. Hedge ineffectiveness in a cash flow hedge occurs only if the cumulative gain or loss on the derivative hedging instrument exceeds the cumulative change in the expected future cash flows on the hedged transaction. For a derivative that does not qualify or has not been designated as a hedge, changes in fair value are recognized in earnings.

ENVIRONMENTAL EXPENDITURES

Environmental related restoration and remediation costs are recorded as liabilities when site restoration and environmental remediation and clean-up obligations are either known or considered probable and the related costs can be reasonably estimated. Other environmental expenditures that are principally maintenance or preventative in nature are recorded when expended and incurred and are expensed or capitalized as appropriate. See "Note 20. Environmental, Health and Safety Matters."

2. SUMMARY OF SIGNIFICANT ACCOUNTING POLICIES (Continued)

EQUITY METHOD INVESTMENTS

We account for our equity investments where we own a non-controlling interest, but exercise significant influence, under the equity method of accounting. Under the equity method of accounting, our original cost of the investment is adjusted for our share of equity in the earnings of the equity investee and reduced by dividends and distributions of capital received, unless the fair value option is elected, in which case the investment balance is marked to fair value each reporting period and the impact of changes in fair value of the equity investment are reported in earnings. We elected the fair value option to account for our equity method investment in Venator. For more information, see "Note 4. Discontinued Operations and Business Dispositions." The change in the fair value related to our equity method investment in Venator is presented in "Fair value adjustments to Venator investment" on the consolidated statements of operations.

FOREIGN CURRENCY TRANSLATION

The accounts of our operating subsidiaries outside of the U.S., unless they are operating in highly inflationary economic environments, consider the functional currency to be the currency of the economic environment in which they operate. Accordingly, assets and liabilities are translated at rates prevailing at the balance sheet date. Revenues, expenses, gains and losses are translated at a weighted average rate for the period. Cumulative translation adjustments are recorded to equity as a component of accumulated other comprehensive loss.

If a subsidiary operates in an economic environment that is considered to be highly inflationary (100% cumulative inflation over a three-year period), the U.S. dollar is considered to be the functional currency and gains and losses from remeasurement to the U.S. dollar from the local currency are included in the statement of operations. Where a subsidiary's operations are effectively run, managed, financed and contracted in U.S. dollars, such as certain finance subsidiaries outside of the U.S., the U.S. dollar is considered to be the functional currency.

Foreign currency transaction gains and losses are recorded in other operating (income) expense, net in our consolidated statements of operations and were gains of $3 million, $5 million and $2 million for the years ended December 31, 2018, 2017 and 2016, respectively.

INCOME TAXES

We use the asset and liability method of accounting for income taxes. Deferred income taxes reflect the net tax effects of temporary differences between the carrying amounts of assets and liabilities for financial and tax reporting purposes. We evaluate deferred tax assets to determine whether it is more likely than not that they will be realized. Valuation allowances are reviewed on a tax jurisdiction basis to analyze whether there is sufficient positive or negative evidence to support a change in judgment about the realizability of the related deferred tax assets for each jurisdiction. These conclusions require significant judgment. In evaluating the objective evidence that historical results provide, we consider the cyclicality of businesses and cumulative income or losses during the applicable period. Cumulative losses incurred over the period limits our ability to consider other subjective evidence such as our projections for the future. Changes in expected future income in applicable jurisdictions could affect the realization of deferred tax assets in those jurisdictions.

On December 22, 2017, the U.S. Tax Reform Act was signed into law. The U.S. Tax Reform Act significantly revised the U.S. corporate income tax regime by, among other things, lowering the U.S. corporate tax rate from 35% to 21%, effective January 1, 2018, repealing the deduction for domestic production activities and imposing a repatriation tax on deemed repatriated earnings of foreign subsidiaries.

As a result of the U.S. Tax Reform Act, the Company recorded net tax benefits of $135 million (a provisional tax benefit of $137 million in 2017 offset by a final tax expense of $2 million in 2018) due to a remeasurement of deferred U.S. tax assets and liabilities and net tax expense of $115 million (a provisional tax expense of $85 million in 2017, a $29 million final federal tax expense in 2018 and a $1 million state tax expense in 2018) due to the transition tax on deemed repatriation of deferred foreign income.

2. SUMMARY OF SIGNIFICANT ACCOUNTING POLICIES (Continued)

Accounting for uncertainty in income taxes prescribes a recognition threshold and measurement attribute for the financial statement recognition and measurement of a tax position taken or expected to be taken in a tax return. The application of income tax law is inherently complex. We are required to determine if an income tax position meets the criteria of more-likely-than-not to be realized based on the merits of the position under tax law, in order to recognize an income tax benefit. This requires us to make significant judgments regarding the merits of income tax positions and the application of income tax law. Additionally, if a tax position meets the recognition criteria of more-likely-than-not we are required to make judgments and apply assumptions to measure the amount of the tax benefits to recognize. These judgments are based on the probability of the amount of tax benefits that would be realized if the tax position was challenged by the taxing authorities. Interpretations and guidance surrounding income tax laws and regulations change over time. As a consequence, changes in assumptions and judgments can materially affect amounts recognized in our consolidated financial statements. We have no need for, or change in, any unrecognized tax positions due to the U.S. Tax Reform Act. For further information concerning taxes, see "Note 18. Income Taxes."

INTANGIBLE ASSETS AND GOODWILL

Intangible assets are stated at cost (fair value at the time of acquisition) and are amortized using the straight-line method over the estimated useful lives or the life of the related agreement as follows:

Patents and technology	5 - 30 years
Trademarks	9 - 30 years
Licenses and other agreements	5 - 15 years
Other intangibles	5 - 15 years

Goodwill represents costs in excess of fair values assigned to the underlying net assets of acquired businesses. Goodwill is not subject to any method of amortization, but is tested for impairment annually (at the beginning of the third quarter) and when events and circumstances change that would more likely than not reduce the fair value of a reporting unit below its carrying amount. When the fair value is less than the carrying value of the related reporting unit, we are required to reduce the amount of goodwill through a charge to earnings. Fair value is estimated using the market approach, as well as the income approach based on discounted cash flow projections. Goodwill has been assigned to reporting units for purposes of impairment testing.

The following table summarizes the changes in the carrying amount of goodwill for year ended December 31, 2018 (dollars in millions):

	Polyurethanes	Performance Products	Advanced Materials	Total
Balance as of January 1, 2018	$ 40	$ 17	$ 83	$ 140
Goodwill acquired during year(1)	142	—	—	142
Foreign currency effect on balance	(9)	(1)	3	(7)
Balance as of December 31, 2018	$ 173	$ 16	$ 86	$ 275

(1) This reflects net amounts, including adjustments related to preliminary valuations of acquisition assets and liabilities.

INVENTORIES

Inventories are stated at the lower of cost or market, with cost determined using LIFO, first-in first-out, and average costs methods for different components of inventory.

LEGAL COSTS

We expense legal costs, including those legal costs incurred in connection with a loss contingency, as incurred.

2. SUMMARY OF SIGNIFICANT ACCOUNTING POLICIES (Continued)

NET INCOME PER SHARE ATTRIBUTABLE TO HUNTSMAN CORPORATION

Basic income per share excludes dilution and is computed by dividing net income attributable to Huntsman Corporation common stockholders by the weighted average number of shares outstanding during the period. Diluted income per share reflects all potential dilutive common shares outstanding during the period and is computed by dividing net income available to Huntsman Corporation common stockholders by the weighted average number of shares outstanding during the period increased by the number of additional shares that would have been outstanding as dilutive securities.

Basic and diluted income per share is determined using the following information (in millions):

	Year ended December 31,		
	2018	2017	2016
Numerator:			
Basic and diluted income from continuing operations:			
Income from continuing operations attributable to Huntsman Corporation	$ 764	$ 478	$ 334
Basic and diluted net income:			
Net income attributable to Huntsman Corporation	$ 337	$ 636	$ 326
Denominator:			
Weighted average shares outstanding	238.1	238.4	236.3
Dilutive shares:			
Stock-based awards	3.5	5.5	3.3
Total weighted average shares outstanding, including dilutive shares	241.6	243.9	239.6

Additional stock-based awards of 0.8 million, 0.8 million and 5.7 million weighted average equivalent shares of stock were outstanding during the years ended December 31, 2018, 2017 and 2016, respectively. However, these stock-based awards were not included in the computation of diluted earnings per share for the respective periods mentioned because the effect would be anti-dilutive.

OTHER NONCURRENT ASSETS

Periodic maintenance and repairs applicable to major units of manufacturing facilities (a "turnaround") are accounted for on the deferral basis by capitalizing the costs of the turnaround and amortizing the costs over the estimated period until the next turnaround.

PRINCIPLES OF CONSOLIDATION

Our consolidated financial statements include the accounts of our wholly owned and majority owned subsidiaries and any variable interest entities for which we are the primary beneficiary. All intercompany accounts and transactions have been eliminated.

PROPERTY, PLANT AND EQUIPMENT

Property, plant and equipment is stated at cost less accumulated depreciation. Depreciation is computed using the straight-line method over the estimated useful lives or lease term as follows:

Buildings and equipment	5 - 50 years
Plant and equipment	3 - 30 years
Furniture, fixtures and leasehold improvements	5 - 20 years

2. SUMMARY OF SIGNIFICANT ACCOUNTING POLICIES (Continued)

Interest expense capitalized as part of plant and equipment was $4 million, $9 million and $12 million for the years ended December 31, 2018, 2017 and 2016, respectively.

Normal maintenance and repairs of plant and equipment are charged to expense as incurred. Renewals, betterments and major repairs that materially extend the useful life of the assets are capitalized, and the assets replaced, if any, are retired.

RECLASSIFICATIONS

Certain amounts in the consolidated financial statements for prior periods have been reclassified to conform with the current presentation. These reclassifications include the presentation of the other components of net periodic pension cost and net periodic postretirement cost, other than service costs, within other nonoperating income in accordance with Accounting Standards Update ("ASU") No. 2017-07, *Compensation—Retirement Benefits (Topic 715): Improving the Presentation of Net Periodic Pension Cost and Net Periodic Postretirement Benefit Cost*. We previously presented these amounts within cost of goods sold and selling, general and administrative expenses. See "—Accounting Pronouncements Adopted During 2018."

Pursuant to ASU No. 2016-18, *Statement of Cash Flows (Topic 230): Restricted Cash*, we began including the change in restricted cash as part of the change in cash and equivalents when reconciling the beginning-of-period and end-of-period total amounts on the statements of cash flows beginning in 2018. We previously presented changes in restricted cash as an investing activity in the statements of cash flows. See "—Accounting Pronouncements Adopted During 2018."

REVENUE RECOGNITION

We generate substantially all of our revenue through product sales in which revenue is recognized at a point in time. We recognize revenue when control of the promised goods is transferred to our customers. Control of goods usually passes to the customer at the time shipment is made. Revenue is measured as the amount that reflects the consideration that we expect to be entitled to in exchange for those goods. See "Note 23. Revenue Recognition."

SECURITIZATION OF ACCOUNTS RECEIVABLE

Under our A/R Programs, we grant an undivided interest in certain of our trade receivables to the special purpose entities ("SPE") in the U.S. and EU. This undivided interest serves as security for the issuance of debt. The A/R Programs provide for financing in both U.S. dollars and euros. The amounts outstanding under our A/R Programs are accounted for as secured borrowings. See "Note 14. Debt—Direct and Subsidiary Debt—A/R Programs."

STOCK-BASED COMPENSATION

We measure the cost of employee services received in exchange for an award of equity instruments based on the grant-date fair value of the award. That cost, net of estimated forfeitures, will be recognized over the period during which the employee is required to provide services in exchange for the award. See "Note 22. Stock-Based Compensation Plan."

USE OF ESTIMATES

The preparation of financial statements in conformity with GAAP requires management to make estimates and assumptions that affect the reported amounts of assets and liabilities and disclosure of contingent assets and liabilities at the date of the financial statements and the reported amounts of revenues and expenses during the reporting period. Actual results could differ from those estimates.

2. SUMMARY OF SIGNIFICANT ACCOUNTING POLICIES (Continued)

ACCOUNTING PRONOUNCEMENTS ADOPTED DURING 2018

In May 2014, the Financial Accounting Standards Board ("FASB") issued ASU No. 2014-09, *Revenue from Contracts with Customers (Topic 606)*, outlining a single comprehensive model for entities to use in accounting for revenues arising from contracts with customers and supersedes most current revenue recognition guidance. In March 2016, the FASB issued ASU No. 2016-08, *Revenue from Contracts with Customers (Topic 606): Principal versus Agent Considerations (Reporting Revenue Gross versus Net)*, clarifying the implementation guidance on principal versus agent considerations, in April 2016, the FASB issued ASU No. 2016-10, *Revenue from Contracts with Customers (Topic 606): Identifying Performance Obligations and Licensing*, clarifying the implementation guidance on identifying performance obligations in a contract and determining whether an entity's promise to grant a license provides a customer with either a right to use the entity's intellectual property (which is satisfied at a point in time) or a right to access the entity's intellectual property (which is satisfied over time), in May 2016, the FASB issued ASU No. 2016-12, *Revenue from Customers (Topic 606): Narrow-Scope Improvements and Practical Expedients*, providing clarifications and practical expedients for certain narrow aspects in Topic 606, and in December 2016, the FASB issued ASU 2016-20, *Technical Corrections and Improvements to Topic 606, Revenue from Contracts with Customers*. The amendments in these ASUs are effective for annual reporting periods beginning after December 15, 2017, including interim periods within that reporting period. The amendments in ASU No. 2014-09, ASU No. 2016-08, ASU No. 2016-10, ASU No. 2016-12 and ASU No. 2016-20 should be applied retrospectively. On January 1, 2018, we adopted the amendments in ASU No. 2014-09, ASU No. 2016-08, ASU No. 2016-10, ASU No. 2016-12 and ASU No. 2016-20 to all current revenue contracts using the modified retrospective approach, and the initial adoption of these amendments did not have an impact on our consolidated financial statements. As a result of the adoption of these amendments, we revised our accounting policy for revenue recognition as detailed in "Note 23. Revenue Recognition."

In January 2016, the FASB issued ASU No. 2016-01, *Financial Instruments—Overall (Subtopic 825-10): Recognition and Measurement of Financial Assets and Liabilities*. The amendments in this ASU require equity investments (except those accounted for under the equity method of accounting or those that result in consolidation of the investee) to be measured at fair value with changes in fair value recognized in net income. The amendments allow equity investments that do not have readily determinable fair values to be remeasured at fair value either upon the occurrence of an observable price change or upon identification of an impairment. The amendments in this ASU are effective for fiscal years beginning after December 15, 2017, including interim periods within those fiscal years. An entity should apply the amendments by means of a cumulative-effect adjustment to the balance sheet as of the beginning of the fiscal year of adoption. On January 1, 2018, we adopted the amendments in ASU No. 2016-01 and upon transition recorded a cumulative-effect adjustment of approximately $10 million, net of tax, relating to prior years' changes in fair value of equity investments from other comprehensive income to retained earnings. Beginning in the first quarter of 2018, we also started recognizing the current period change in fair value of equity investments in net income.

In August 2016, the FASB issued ASU No. 2016-15, *Statement of Cash Flows (Topic 230): Classification of Certain Cash Receipts and Cash Payments*. The amendments in this ASU clarify and include specific guidance to address diversity in how certain cash receipts and cash payments are presented and classified in the statement of cash flows. The amendments in this ASU are effective for fiscal years, and interim periods within those fiscal years, beginning after December 15, 2017. The amendments in this ASU should be applied using a retrospective transition method to each period presented. We adopted the amendments in this ASU effective January 1, 2018, and the initial adoption of the amendments in this ASU did not have a significant impact on our consolidated financial statements.

In November 2016, the FASB issued ASU No. 2016-18, *Statement of Cash Flows (Topic 230): Restricted Cash*. The amendments in this ASU require that a statement of cash flows explain the change during the period in the total of cash, cash equivalents, and amounts generally described as restricted cash or restricted cash equivalents. Therefore, amounts generally described as restricted cash and restricted cash equivalents should be included with cash and cash equivalents when reconciling the beginning-of-period and end-of-period total amounts shown on the statement of cash flows. The amendments in this ASU are effective for fiscal years beginning after December 15, 2017, and interim period within those fiscal years. The amendments in this ASU were applied using a retrospective transition method to each period presented. We adopted the amendments in this ASU effective January 1, 2018, and the initial adoption of the amendments in this ASU did not have a significant impact on our consolidated financial statements.

2. SUMMARY OF SIGNIFICANT ACCOUNTING POLICIES (Continued)

In January 2017, the FASB issued ASU No. 2017-01, *Business Combinations (Topic 805): Clarifying the Definition of a Business*. The amendments in this ASU clarify the definition of a business with the objective of adding guidance to assist entities with evaluating whether transactions should be accounted for as acquisitions or disposals of assets or businesses. The amendments in this ASU are effective for fiscal years beginning after December 15, 2017, including interim periods within those fiscal years. The amendments in this ASU should be applied prospectively on or after the effective date. No disclosures are required at transition. We adopted the amendments in this ASU effective January 1, 2018, and the initial adoption of this ASU did not have a significant impact on our consolidated financial statements.

In March 2017, the FASB issued ASU No. 2017-07, *Compensation—Retirement Benefits (Topic 715): Improving the Presentation of Net Periodic Pension Cost and Net Periodic Postretirement Benefit Cost*. The amendments in this ASU require that an employer report the service cost component of net periodic pension cost and net periodic postretirement benefit cost in the same line items as other compensation costs arising from services rendered by the pertinent employees during the period. The other components of net benefit cost are required to be presented in the income statement separately from the service cost component and outside of income from operations. The amendments in this ASU also allow only the service cost component to be eligible for capitalization when applicable (for example, as a cost of internally manufactured inventory or a self-constructed asset). The amendments in this ASU are effective for fiscal years beginning after December 15, 2017, including interim periods within those fiscal years. The amendments in this ASU should be applied retrospectively for the presentation of the service cost component and the other components of net periodic pension cost and net periodic postretirement benefit cost in the income statement and prospectively, on and after the effective date, for the capitalization of the service cost component of net periodic pension cost and net periodic postretirement benefit cost in assets. We adopted the amendments in this ASU effective January 1, 2018, which impacted the presentation of our consolidated financial statements. Our previous presentation of service cost components was consistent with the amendments in this ASU. However, we now present the other components within other income, net, whereas we previously presented these within cost of goods sold and selling, general and administrative expenses.

In August 2018, the FASB issued ASU No. 2018-13, *Fair Value Measurement (Topic 820): Disclosure Framework—Changes to the Disclosure Requirements for Fair Value Measurement*. The amendments in this ASU modify certain disclosure requirements on fair value measurements in Topic 820 to improve the effectiveness of such disclosures. The amendments in this ASU are effective for fiscal years beginning after December 15, 2019, including interim periods within those fiscal years. The amendments on changes in unrealized gains and losses, the range and weighted average of significant unobservable inputs used to develop Level 3 fair value measurements and the narrative description of measurement uncertainty should be applied prospectively for only the most recent interim or annual period presented in the initial fiscal year of adoption. All other amendments should be applied retrospectively to all periods presented upon their effective date. Early adoption is permitted upon issuance of this ASU. An entity is permitted to early adopt any removed or modified disclosures upon issuance of this ASU and delay adoption of the additional disclosures until their effective date. We early adopted the removed and modified disclosures in this ASU for the year ended December 31, 2018, and they did not have a significant impact on our consolidated financial statements. We elected to delay the adoption of the additional disclosures in this ASU until their effective date, but do not expect the adoption of the additional disclosures in this ASU to have a significant impact on our consolidated financial statements.

ACCOUNTING PRONOUNCEMENTS PENDING ADOPTION IN FUTURE PERIODS

In February 2016, the FASB issued ASU No. 2016-02, *Leases (Topic 842)*. The amendments in this ASU will increase transparency and comparability among entities by recognizing lease assets and lease liabilities on the balance sheet and disclosing key information about leasing arrangements. The amendments in this ASU will require lessees to recognize in the statement of financial position a liability to make lease payments (the lease liability) and a right-of-use asset representing its right to use the underlying asset for the lease term. In January 2018, the FASB issued ASU No. 2018-01, *Leases (Topic 842): Land Easement Practical Expedient for Transition to Topic 842*, providing an optional transition practical expedient to not evaluate under Topic 842 existing or expired land easements that were not previously accounted for as leases under the current leases guidance in Topic 840, and in July 2018, the FASB issued ASU No. 2018-11, *Leases (Topic 842): Targeted Improvements*, providing an optional transition method allowing

2. SUMMARY OF SIGNIFICANT ACCOUNTING POLICIES (Continued)

entities to initially apply the new lease standard at the adoption date and recognize a cumulative-effect adjustment to the opening balance of retained earnings in the period of adoption. The amendments in these ASUs are effective for fiscal years, and interim periods within those fiscal years, beginning after December 15, 2018. Early application of the amendments in these ASUs is permitted for all entities. Reporting entities can elect to recognize and measure leases under these amendments at the beginning of the earliest period presented using a modified retrospective approach or otherwise elect the transition method provided under ASU No. 2018-11. We are currently evaluating the impact of the adoption of the amendments in these ASUs on our consolidated financial statements. Based on our preliminary assessment the estimated right-of-use asset and lease liability that we will recognize on our balance sheet upon adoption will be approximately $400 million to $450 million. This estimate could change pending the finalization of the incremental borrowing rate for certain leases. We are evaluating key policy elections and considerations under the amendments in these ASUs and are developing internal policies to address these amendments.

In August 2017, the FASB issued ASU No. 2017-12, *Derivatives and Hedging (Topic 815): Targeted Improvements to Accounting for Hedging Activities*. The amendments in this ASU better align an entity's risk management activities and financial reporting for hedging relationships through changes to both the designation and measurement guidance for qualifying hedging relationships as well as the recognition and presentation of the effects of the hedging instrument and the hedged item in the financial statements to increase the understandability of the results of an entity's intended hedging strategies. The amendments in this ASU also include certain targeted improvements to ease the application of current guidance related to the assessment of hedge effectiveness. The amendments in this ASU are effective for fiscal years beginning after December 15, 2018, including interim periods within those fiscal years. Early application is permitted in any interim period after the issuance of this ASU. Transition requirements and elections should be applied to hedging relationships existing on the date of adoption. For cash flow and net investment hedges, an entity should apply a cumulative-effect adjustment related to eliminating the separate measurement of ineffectiveness, and the amended presentation and disclosure guidance is required only prospectively. We do not expect the adoption of the amendments in this ASU to have a significant impact on our consolidated financial statements.

In August 2018, the FASB issued ASU No. 2018-14, *Compensation—Retirement Benefits—Defined Benefit Plans—General (Topic 820): Disclosure Framework—Changes to the Disclosure Requirements for Defined Benefit Plans*. The amendments in this ASU modify certain disclosure requirements for employers that sponsor defined benefit pension or other postretirement plans by removing disclosures that no longer are considered cost beneficial, clarifying the specific requirements of disclosures and adding disclosure requirements identified as relevant. The amendments in this ASU are effective for fiscal years ending after December 15, 2020 and should be applied on a retrospective basis to all periods presented. Early adoption is permitted. We do not expect the adoption of the amendments in this ASU to have a significant impact on our consolidated financial statements.

In August 2018, the FASB issued ASU No. 2018-15, *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*. The amendments in this ASU align 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 amendments in this ASU are effective for fiscal years beginning after December 15, 2019, including interim periods within those fiscal years. Early adoption is permitted in any interim period after the issuance of this ASU. We do not expect the adoption of the amendments in this ASU to have a significant impact on our consolidated financial statements.

In August 2018, the SEC issued a final rule, SEC Final Rule Release No. 33-10532, *Disclosure Update and Simplification*, that amends certain of its disclosure requirements that have become redundant, duplicative, overlapping, outdated or superseded, in light of other SEC disclosure requirements or U.S. GAAP. For filings on Form 10-Q, the final rule, amongst other items, extends to interim periods the annual requirement to disclose changes in stockholders' equity. As amended by the final rule, registrants must now analyze changes in stockholders' equity, in the form of a reconciliation, for the then current and comparative year-to-date interim periods, with subtotals for each interim period. The final rule became effective on November 5, 2018, that date being 30 days after its publication in the Federal

2. SUMMARY OF SIGNIFICANT ACCOUNTING POLICIES (Continued)

Register. As such, we will apply these changes in the presentation of stockholders' equity beginning with our March 31, 2019 Form 10-Q.

3. BUSINESS COMBINATION

On April 23, 2018, we acquired 100% of the outstanding equity interests of Demilec for approximately $353 million, including working capital adjustments, in an all-cash transaction, which was funded from our Prior Credit Facility and our U.S. A/R Program. Demilec is a leading North American manufacturer and distributor of spray polyurethane foam formulations for residential and commercial applications. The acquired business was integrated into our Polyurethanes segment. Transaction costs charged to expense related to this acquisition were approximately $5 million in 2018 and were recorded in other operating expense (income), net in our consolidated statements of operations. The Demilec Acquisition was aligned with our stated strategy to grow our downstream polyurethanes business and leverage our global platform to expand Demilec's portfolio of spray polyurethane foam formulations into international markets.

We have accounted for the Demilec Acquisition using the acquisition method. As such, we analyzed the fair value of tangible and intangible assets acquired and liabilities assumed. The preliminary allocation of acquisition cost to the assets acquired and liabilities assumed is summarized as follows (dollars in millions):

Fair value of assets acquired and liabilities assumed:	
Cash paid for Demilec Acquisition in Q2 2018	$ 357
Purchase price adjustment received in Q3 2018	(4)
Net acquisition cost	$ 353
Cash	$ 1
Accounts receivable	31
Inventories	23
Prepaid expenses and other current assets	1
Property, plant and equipment, net	21
Intangible assets	177
Goodwill	142
Accounts payable	(16)
Accrued liabilities	(3)
Deferred income taxes	(22)
Other noncurrent liabilities	(2)
Total fair value of net assets acquired	$ 353

The acquisition cost allocation is preliminary pending final determination of the fair value of assets acquired and liabilities assumed, primarily related to the final valuation of deferred taxes. As a result of a preliminary valuation of the assets and liabilities, reallocations were made in certain property, plant and equipment, intangible asset, goodwill and deferred tax balances. Intangible assets acquired included in this preliminary allocation consist primarily of trademarks, trade secrets and customer relationships, all of which are being amortized over 15 years. For purposes of this preliminary allocation of fair value, we have assigned any excess of the acquisition cost of historical carrying values to goodwill. During the third quarter of 2018, we received $4 million related to the settlement of certain purchase price adjustments. These purchase price adjustments were allocated to goodwill in the preliminary acquisition cost allocation. The estimated goodwill recognized is attributable primarily to projected future profitable growth, penetration into downstream markets, and synergies. It is possible that material changes to this preliminary purchase price allocation could occur.

The acquired business had revenues and net income of $142 million and $5 million, respectively, for the period from the date of acquisition to December 31, 2018.

3. BUSINESS COMBINATION (Continued)

If this acquisition were to have occurred on January 1, 2017, the following estimated pro forma revenues, net income, net income attributable to Huntsman Corporation and income per share would have been reported (dollars in millions):

	Pro Forma (Unaudited) Year ended December 31,	
	2018	2017
Revenues	$ 9,437	$ 8,523
Net income	639	728
Net income attributable to Huntsman Corporation	326	623
Income per share:		
Basic	1.37	2.61
Diluted	1.35	2.55

4. DISCONTINUED OPERATIONS AND BUSINESS DISPOSITIONS

Separation and Deconsolidation of Venator

In August 2017, we separated the P&A Business and conducted an IPO of ordinary shares of Venator, formerly a wholly-owned subsidiary of Huntsman. Additionally, in December 2017, we conducted a secondary offering of Venator ordinary shares. All of such ordinary shares were sold by Huntsman, and Venator did not receive any proceeds from the offerings. On January 3, 2018, the underwriters purchased an additional 1,948,955 Venator ordinary shares pursuant to their over-allotment option, which reduced Huntsman's ownership interest in Venator to approximately 53%. Beginning in the third quarter of 2017, we reported the results of operations of Venator as discontinued operations.

During the third quarter of 2018, we recognized a net after tax valuation allowance of $270 million to adjust the carrying amount of the assets and liabilities held for sale and the amount of accumulated comprehensive income recorded in equity related to Venator to the lower of cost or estimated fair value, less cost to sell.

On December 3, 2018, we sold an aggregate of 4,334,389, or 4%, of Venator ordinary shares to Bank of America N.A. at a price to be determined based on the average of the daily volume weighted average price of Venator ordinary shares over an agreed period. Over this agreed period, we received aggregate proceeds of $19 million, $16 million of which was received in the first quarter of 2019. This transaction allowed us to deconsolidate Venator beginning in December 2018. Following this transaction, we retained approximately 49% ownership in Venator. In connection with the deconsolidation of Venator, we recorded a pretax loss of $427 million in discontinued operations to record our remaining ownership interest in Venator at fair value. We elected the fair value option to account for our equity method investment in Venator post deconsolidation. Accordingly, at December 31, 2018, we recorded a pretax loss of $57 million to record our equity method investment in Venator at fair value. This loss was recorded in "Fair value adjustments to Venator investment" on our consolidated statements of operations. Furthermore, in connection with the December 3, 2018 sale of Venator ordinary shares to Bank of America N.A., we recorded a forward swap. At December 31, 2018, we recorded a loss of $5 million in "Fair value adjustments to Venator investment" on our consolidated statements of operations to record the forward swap at fair value.

In August 2017, we entered into a separation agreement, a transition services agreement ("TSA") and a registration rights agreement with Venator to effect the Separation and provide a framework for a short term set of transition services as well as a tax matters agreement and an employee matters agreement. Pursuant to the TSA, we will, for a limited time following the Separation, provide Venator with certain services and functions that the parties have historically shared, including administrative, payroll, human resources, data processing, environmental, health and safety, financial audit support, financial transaction support, marketing support, information technology systems and various other corporate and support services. We may also provide Venator with additional services that Venator and Huntsman may identify from time to time in the future. In general, the services began following the Separation and cover a period not expected to exceed 24 months; however, Venator may terminate individual services provided by us under the TSA early, as it becomes able to operate its business without such services.

4. DISCONTINUED OPERATIONS AND BUSINESS DISPOSITIONS (Continued)

The following table summarizes the major classes of assets and liabilities constituting assets and liabilities held for sale as of December 31, 2017:

Carrying amounts of major classes of assets held for sale:	
Accounts receivable	$ 380
Inventories	454
Other current assets	318
Property, plant and equipment, net	1,424
Deferred income taxes	158
Other noncurrent assets	146
Total assets held for sale	$ 2,880
Carrying amounts of major classes of liabilities held for sale:	
Accounts payable	$ 385
Accrued liabilities	236
Other current liabilities	25
Long-term debt	746
Other noncurrent liabilities	300
Total liabilities held for sale	$ 1,692

The following table summarizes major classes of line items constituting pretax and after-tax income of discontinued operations.

	Year ended December 31,		
	2018(1)	2017	2016
Major classes of line items constituting pretax income of discontinued operations:			
Trade sales, services and fees, net	$ 2,148	$ 2,234	$ 2,168
Cost of goods sold	1,333	1,840	2,012
Other expense items, net that are not major	279	169	188
Income (loss) from discontinued operations before income taxes	536	225	(32)
Income tax (expense) benefit	(34)	(67)	24
Loss on disposal	(427)	—	—
Valuation allowance	(270)	—	—
(Loss) income from discontinued operations, net of tax	(195)	158	(8)
Net income attributable to noncontrolling interests	(6)	(10)	(10)
Net (loss) income attributable to discontinued operations	$ (201)	$ 148	$ (18)

(1) We began accounting for our investment in Venator as an equity method investment on December 3, 2018. Therefore, the summarized financial data only includes information for Venator applicable to the period from January 1, 2018 through December 2, 2018.

Sale of European Surfactants Manufacturing Facilities

On December 30, 2016, our Performance Products segment completed the sale of its European surfactants business to Innospec Inc. for $199 million in cash plus our retention of trade receivables and payables for an enterprise value of $225 million. Under the terms of the transaction, Innospec acquired our manufacturing facilities located in Saint-Mihiel, France; Castiglione delle Stiviere, Italy; and Barcelona, Spain. We remain committed to our global surfactants business, including in the U.S. and Australia, where our differentiated surfactants businesses are backward integrated into essential feedstocks. Upon closing, we entered into supply and long-term tolling arrangements with Innospec in order to continue marketing certain core products strategic to our global agrochemicals, lubes and certain other businesses. In connection with this sale, we recognized a pre-tax gain in the fourth quarter of 2016 of $98 million which was reflected in other operating income, net on the consolidated statements of operations. This business is not presented as discontinued operations as it was not considered a strategic shift in our operations.

5. INVENTORIES

Inventories consisted of the following (dollars in millions):

	December 31, 2018	December 31, 2017
Raw materials and supplies	$ 215	$ 189
Work in progress	51	48
Finished goods	927	897
Total	1,193	1,134
LIFO reserves	(59)	(61)
Net inventories	$ 1,134	$ 1,073

For December 31, 2018 and 2017, approximately 13% and 12% of inventories were recorded using the LIFO cost method, respectively.

6. PROPERTY, PLANT AND EQUIPMENT

The cost and accumulated depreciation of property, plant and equipment were as follows (dollars in millions):

	December 31,	
	2018	2017
Land	$ 142	$ 150
Buildings	660	644
Plant and equipment	6,100	5,929
Construction in progress	307	360
Total	7,209	7,083
Less accumulated depreciation	(4,145)	(3,985)
Net	$ 3,064	$ 3,098

Depreciation expense for 2018, 2017 and 2016 was $310 million, $298 million and $289 million, respectively.

7. INVESTMENT IN UNCONSOLIDATED AFFILIATES

Investments in companies in which we exercise significant influence, but do not control, are accounted for using the equity method. Investments in companies in which we do not exercise significant influence are accounted for using the cost method.

Our ownership percentage and investment in unconsolidated affiliates were as follows (dollars in millions):

	December 31,	
	2018	2017
Equity Method:		
Venator Materials PLC (49%)(1)	$ 219	$ —
BASF Huntsman Shanghai Isocyanate Investment BV (50%)(2)	120	116
Nanjing Jinling Huntsman New Material Co., Ltd. (49%)	163	124
Jurong Ningwu New Material Development Co., Ltd. (30%)	24	21
Total equity method investments	526	261
Cost Method:		
International Diol Company (4%)	—	5
Total investments	$ 526	$ 266

(1) We account for our remaining investment in Venator as an equity method investment using the fair value option. For more information see "Note 4. Discontinued Operations and Business Dispositions—Separation and Deconsolidation of Venator."

(2) We own 50% of BASF Huntsman Shanghai Isocyanate Investment BV. BASF Huntsman Shanghai Isocyanate Investment BV owns a 70% interest in SLIC, thus giving us an indirect 35% interest in SLIC.

7. INVESTMENT IN UNCONSOLIDATED AFFILIATES (Continued)

SUMMARIZED FINANCIAL INFORMATION OF UNCONSOLIDATED AFFILIATES

Summarized financial information of our unconsolidated affiliates as of December 31, 2018 and 2017 and for the years ended December 31, 2018, 2017 and 2016 is as follows (dollars in millions):

	December 31,	
	2018	2017
Current assets	$ 1,548	$ 391
Non-current assets	2,444	1,138
Current liabilities	781	358
Non-current liabilities	1,683	567
Noncontrolling interests	8	—

	December 31,		
	2018(1)	2017	2016
Revenues	$ 2,181	$ 1,109	$ 645
Gross profit	221	112	49
Income from continuing operations	124	34	16
Net income	124	34	16

(1) We began accounting for our investment in Venator as an equity method investment on December 3, 2018. Therefore, the summarized financial data only includes information for Venator applicable to the period from December 3, 2018 through December 31, 2018.

8. VARIABLE INTEREST ENTITIES

We evaluate our investments and transactions to identify variable interest entities for which we are the primary beneficiary. We hold a variable interest in the following joint ventures for which we are the primary beneficiary:

- Rubicon LLC is our 50%-owned joint venture with Lanxess that manufactures products for our Polyurethanes and Performance Products segments. The structure of the joint venture is such that the total equity investment at risk is not sufficient to permit the joint venture to finance its activities without additional financial support. By virtue of the operating agreement with this joint venture, we purchase a majority of the output, absorb a majority of the operating costs and provide a majority of the additional funding.
- AAC is our 50%-owned joint venture with Zamil group that manufactures products for our Performance Products segment. As required in the operating agreement governing this joint venture, we purchase all of AAC's production and sell it to our customers. Substantially all of the joint venture's activities are conducted on our behalf.
- Sasol-Huntsman is our 50%-owned joint venture with Sasol that owns and operates a maleic anhydride facility in Moers, Germany. This joint venture manufactures products for our Performance Products segment. The joint venture uses our technology and expertise, and we bear a disproportionate amount of risk of loss due to a related-party loan to Sasol-Huntsman for which we bear the default risk.

8. VARIABLE INTEREST ENTITIES (Continued)

Creditors of these entities have no recourse to our general credit. See "Note 14. Debt—Direct and Subsidiary Debt." As the primary beneficiary of these variable interest entities at December 31, 2018, the joint ventures' assets, liabilities and results of operations are included in our consolidated financial statements.

The following table summarizes the carrying amount of our variable interest entities' assets and liabilities included in our consolidated balance sheets as of December 31, 2018 and 2017 (dollars in millions):

	December 31,	
	2018	2017
Current assets	$ 92	$ 114
Property, plant and equipment, net	265	283
Other noncurrent assets	136	116
Deferred income taxes	32	33
Intangible assets	10	10
Goodwill	14	14
Total assets	$ 549	$ 570
Current liabilities	$ 178	$ 163
Long-term debt	61	86
Deferred income taxes	11	12
Other noncurrent liabilities	97	98
Total liabilities	$ 347	$ 359

The revenues, income from continuing operations before income taxes and net cash provided by operating activities for our variable interest entities are as follows (dollars in millions):

	Year ended December 31,		
	2018	2017	2016
Revenues	$ 154	$ 132	$ 97
Income from continuing operations before income taxes	40	25	15
Net cash provided by operating activities	65	51	50

Prior to the separation of Venator, we held variable interests in two additional joint ventures for which we were the primary beneficiary: Pacific Iron Products Sdn Bhd and Viance, LLC. In connection with the separation of Venator, these variable interests were held by Venator at December 31, 2017, and as such, the assets and liabilities of these variable interest entities were included as part of assets and liabilities held for sale. See "Note 4. Discontinued Operations and Business Dispositions—Separation and Deconsolidation of Venator."

9. INTANGIBLE ASSETS

The gross carrying amount and accumulated amortization of intangible assets were as follows (dollars in millions):

	December 31, 2018			December 31, 2017		
	Carrying Amount	Accumulated Amortization	Net	Carrying Amount	Accumulated Amortization	Net
Patents, trademarks and technology	$ 424	$ 333	$ 91	$ 350	$ 332	$ 18
Licenses and other agreements	135	31	104	40	25	15
Non-compete agreements	3	2	1	4	2	2
Other intangibles	83	60	23	82	61	21
Total	$ 645	$ 426	$ 219	$ 476	$ 420	$ 56

9. INTANGIBLE ASSETS (Continued)

Amortization expense was $11 million, $6 million and $12 million for the years ended December 31, 2018, 2017 and 2016, respectively.

Our estimated future amortization expense for intangible assets over the next five years is as follows (dollars in millions):

Year ending December 31,	
2019	$ 19
2020	17
2021	16
2022	16
2023	16

10. OTHER NONCURRENT ASSETS

Other noncurrent assets consisted of the following (dollars in millions):

	December 31, 2018	December 31, 2017
Capitalized turnaround costs, net	$ 280	$ 233
Catalyst assets, net	56	46
Other	217	218
Total	$ 553	$ 497

Amortization expense of catalyst assets for the years ended December 31, 2018, 2017 and 2016 was $22 million, $15 million and $17 million, respectively.

11. ACCRUED LIABILITIES

Accrued liabilities consisted of the following (dollars in millions):

	December 31, 2018	December 31, 2017
Payroll and related accruals	$ 150	$ 172
Income taxes	86	62
Volume and rebate accruals	66	58
Taxes other than income taxes	60	77
Restructuring and plant closing reserves	23	15
Interest	19	20
Pension liabilities	11	15
Other postretirement benefits	6	7
Environmental accruals	2	6
Other miscellaneous accruals	131	137
Total	$ 554	$ 569

12. RESTRUCTURING, IMPAIRMENT AND PLANT CLOSING COSTS

As of December 31, 2018, 2017 and 2016, accrued restructuring costs of continuing operations by type of cost and initiative consisted of the following (dollars in millions):

	Workforce reductions(1)	Demolition and decommissioning	Non-cancelable lease and contract termination costs	Other restructuring costs	Total(2)
Accrued liabilities as of January 1, 2016	$ 19	$ 16	$ 37	$ 5	$ 77
2016 charges for 2015 and prior initiatives	1	24	9	13	47
2016 charges for 2016 initiatives	1	—	—	5	6
Reversal of reserves no longer required	(2)	—	—	—	(2)
Distribution of prefunded restructuring costs	(5)	(5)	—	(1)	(11)
2016 payments for 2015 and prior initiatives	(8)	(15)	(4)	(13)	(40)
2016 payments for 2016 initiatives	(1)	—	—	(4)	(5)
Foreign currency effect on liability balance	(1)	(1)	(2)	—	(4)
Accrued liabilities as of December 31, 2016	4	19	40	5	68
2017 (credits) charges for 2016 and prior initiatives	(1)	3	2	2	6
2017 charges for 2017 initiatives	10	—	—	2	12
2017 payments for 2016 and prior initiatives	(1)	(21)	(2)	(2)	(26)
2017 payments for 2017 initiatives	(8)	—	—	(2)	(10)
Foreign currency effect on liability balance	1	1	1	—	3
Accrued liabilities as of December 31, 2017	5	2	41	5	53
2018 charges for 2017 and prior initiatives	—	—	2	—	2
2018 charges for 2018 initiatives	5	—	—	10	15
2018 payments for 2017 and prior initiatives	(2)	(1)	(2)	—	(5)
2018 payments for 2018 initiatives	(1)	—	—	(5)	(6)
Reversal of reserves no longer required	(1)	—	(29)	—	(30)
Accrued liabilities as of December 31, 2018	$ 6	$ 1	$ 12	$ 10	$ 29

(1) The total workforce reduction reserves of $6 million relate to the termination of 50 positions, of which 8 positions had not been terminated as of December 31, 2018.

Accrued liabilities remaining at December 31, 2018 and 2017 by year of initiatives were as follows (dollars in millions):

	December 31, 2018	December 31, 2017
2016 and prior initiatives	$ 19	$ 51
2017 initiatives	1	2
2018 initiatives	9	—
Total	$ 29	$ 53

12. RESTRUCTURING, IMPAIRMENT AND PLANT CLOSING COSTS (Continued)

Details with respect to our reserves for restructuring, impairment and plant closing costs are provided below by segment and initiative (dollars in millions):

	Polyurethanes	Performance Products	Advanced Materials	Textile Effects	Corporate and other	Total
Accrued liabilities as of January 1, 2016	$ 5	$ 9	$ 4	$ 55	$ 4	$ 77
2016 charges for 2015 and prior initiatives	—	16	—	28	3	47
2016 charges for 2016 initiatives	4	—	—	1	1	6
Reversal of reserves no longer required	(1)	—	—	—	(1)	(2)
Distribution of prefunded restructuring costs	—	(6)	—	(5)	—	(11)
2016 payments for 2015 and prior initiatives	(3)	(19)	—	(14)	(4)	(40)
2016 payments for 2016 initiatives	(3)	—	—	(1)	(1)	(5)
Foreign currency effect on liability balance	—	—	(1)	(3)	—	(4)
Accrued liabilities as of December 31, 2016	2	—	3	61	2	68
2017 charges for 2016 and prior initiatives	—	—	—	6	—	6
2017 charges for 2017 initiatives	—	1	—	7	4	12
2017 payments for 2016 and prior initiatives	(1)	—	—	(25)	—	(26)
2017 payments for 2017 initiatives	—	—	—	(5)	(5)	(10)
Foreign currency effect on liability balance	—	—	—	3	—	3
Accrued liabilities as of December 31, 2017	1	1	3	47	1	53
2018 charges (credits) for 2017 and prior initiatives	—	1	—	(4)	5	2
2018 charges for 2018 initiatives	—	2	3	—	10	15
2018 payments for 2017 and prior initiatives	(1)	(1)	—	—	(3)	(5)
2018 payments for 2018 initiatives	—	(1)	—	—	(5)	(6)
Reversal of reserves no longer required	—	—	—	(29)	(1)	(30)
Accrued liabilities as of December 31, 2018	$ —	$ 2	$ 6	$ 14	$ 7	$ 29
Current portion of restructuring reserves	$ —	$ 2	$ 4	$ 10	$ 7	$ 23
Long-term portion of restructuring reserves	—	—	2	4	—	6

12. RESTRUCTURING, IMPAIRMENT AND PLANT CLOSING COSTS (Continued)

Details with respect to cash and noncash restructuring charges for the years ended December 31, 2018, 2017 and 2016 by initiative are provided below (dollars in millions):

Cash charges:	
2018 charges for 2017 and prior initiatives	$ 2
2018 charges for 2018 initiatives	15
Noncash charges:	
Reversal of reserves no longer required	(30)
Other noncash charges	8
Total 2018 restructuring, impairment and plant closing credits	$ (5)
Cash charges:	
2017 charges for 2016 and prior initiatives	$ 6
2017 charges for 2017 initiatives	12
Pension-related charges	1
Noncash charges:	
Accelerated depreciation	2
Other noncash credits	(1)
Total 2017 restructuring, impairment and plant closing costs	$ 20
Cash charges:	
2016 charges for 2015 and prior initiatives	$ 47
2016 charges for 2016 initiatives	6
Noncash charges:	
Reversal of reserves no longer required	(2)
Gain on sale of land	(4)
Total 2016 restructuring, impairment and plant closing costs	$ 47

2018 RESTRUCTURING ACTIVITIES

In 2011, we implemented a significant restructuring of our Textile Effects segment (the "Textile Effects Restructuring Plan"), including the closure of our production facilities and business support offices in Basel, Switzerland. In connection with this plan, we recorded restructuring reserves covering, among other things, a non-cancelable long-term service agreement. In the fourth quarter of 2018, we settled this agreement in exchange for the payment of $10 million, $8 million of which will be paid in 2019 and $2 million will be paid in 2023. In connection with this settlement, we reversed the related restructuring reserve and recorded a net credit of $29 million in the fourth quarter of 2018. In addition, during 2018, we recorded a credit of $4 million primarily related to a gain on the sale of land at the Basel, Switzerland site.

Our Corporate and other segment recorded restructuring expense of $15 million in 2018 related to corporate initiatives.

2017 RESTRUCTURING ACTIVITIES

In September 2011, we implemented the Textile Effects Restructuring Plan. In connection with this restructuring plan, during the year ended December 31, 2017, our Textile Effects segment recorded restructuring expense of approximately $6 million associated with this initiative, including $2 million for non-cancelable long-term contract termination costs and $4 million for decommissioning.

During the first quarter of 2017, we implemented a restructuring program to improve competitiveness in our Textile Effects segment. In connection with this restructuring program, we recorded restructuring expense of $7 million in the year ended December 31, 2017 related primarily to workforce reductions.

12. RESTRUCTURING, IMPAIRMENT AND PLANT CLOSING COSTS (Continued)

2016 Restructuring Activities

In December 2015, our Performance Products segment announced plans for a reorganization of its commercial and technical functions and a refocused divisional business strategy to better position the segment for growth in coming years. In addition, a program was launched to capture growth opportunities, improve manufacturing cost efficiency and reduce inventories. In connection with this restructuring program, we recorded restructuring expense of $16 million in 2016. All expected charges have been incurred as of the end of 2016.

In connection with the Textile Effects Restructuring Plan during 2016, our Textile Effects segment recorded charges of $9 million for non-cancelable long-term contract termination costs and $20 million for decommissioning associated with this initiative.

13. OTHER NONCURRENT LIABILITIES

Other noncurrent liabilities consisted of the following (dollars in millions):

	December 31,	
	2018	2017
Pension liabilities	$ 718	$ 715
Other postretirement benefits	65	73
Employee benefit accrual	32	34
Other	258	264
Total	$ 1,073	$ 1,086

14. DEBT

Outstanding debt, net of debt issuance costs, of consolidated entities consisted of the following (dollars in millions):

	December 31,	
	2018	2017
Revolving credit facility	$ 50	$ —
Amounts outstanding under A/R programs	252	180
Senior notes	1,892	1,927
Variable interest entities	86	107
Other	40	84
Total debt	$ 2,320	$ 2,298
Total current portion of debt	$ 96	$ 40
Long-term portion of debt	2,224	2,258
Total debt	$ 2,320	$ 2,298

Direct and Subsidiary Debt

Our direct debt and guarantee obligations consist of a guarantee of certain indebtedness incurred from time to time to finance certain insurance premiums. Substantially all of our other debt, including the facilities described below, has been incurred by our subsidiaries (primarily Huntsman International); we are not a guarantor of such subsidiary debt.

Certain of our subsidiaries are designated as nonguarantor subsidiaries and have third-party debt agreements. These debt agreements contain certain restrictions with regard to dividends, distributions, loans or advances. In certain circumstances, the consent of a third party would be required prior to the transfer of any cash or assets from these subsidiaries to us.

14. DEBT (Continued)

Debt Issuance Costs

We record debt issuance costs related to a debt liability on the balance sheet as a reduction in the face amount of that debt liability. As of December 31, 2018 and 2017, the amount of debt issuance costs directly reducing the debt liability was $8 million and $11 million, respectively. We record the amortization of debt issuance costs as interest expense.

Revolving Credit Facility

On May 21, 2018, we entered into the 2018 Revolving Credit Facility. Borrowings under the 2018 Revolving Credit Facility will bear interest at the rates specified in the credit agreement governing the 2018 Revolving Credit Facility, which will vary based on the type of loan and our debt ratings. Unless earlier terminated, the 2018 Revolving Credit Facility will mature in May 2023. We may increase the 2018 Revolving Credit Facility commitments up to an additional $500 million, subject to the satisfaction of certain conditions.

In connection with entering into the 2018 Revolving Credit Facility, we terminated all commitments and repaid all obligations under the Prior Credit Facility. In addition, we recognized a loss of early extinguishment of debt of $3 million. Upon the termination of the Prior Credit Facility, all guarantees of the obligations under the Prior Credit Facility were terminated, and all liens granted under the Prior Credit Facility were released. As of December 31, 2018, our 2018 Revolving Credit Facility was as follows (dollars in millions):

Facility	Committed Amount	Principal Outstanding	Unamortized Discounts and Debt Issuance Costs	Carrying Value	Interest Rate(2)	Maturity
2018 Revolving Credit Facility	$ 1,200	$ 50 (1)	$ — (1)	$ 50 (1)	LIBOR plus 1.75%	2023

(1) On December 31, 2018, we had an additional $9 million (U.S. dollar equivalents) of letters of credit and bank guarantees issued and outstanding under our 2018 Revolving Credit Facility.

(2) Interest rates on borrowings under the 2018 Revolving Credit Facility vary based on the type of loan and our debt ratings. The then applicable interest rate as of December 31, 2018 was 1.75% above LIBOR.

In connection with the Demilec Acquisition on April 23, 2018, we borrowed $275 million under the Prior Credit Facility and $75 million under our U.S. A/R Program. In connection with our entry into the 2018 Revolving Credit Facility on May 21, 2018, we borrowed $275 million under the 2018 Revolving Credit Facility and repaid all obligations under our Prior Credit Facility. During 2018, we repaid an aggregate $225 million under our 2018 Revolving Credit Facility.

A/R Programs

Our A/R Programs are structured so that we grant a participating undivided interest in certain of our trade receivables to the U.S. SPE and the EU SPE. We retain the servicing rights and a retained interest in the securitized

14. DEBT (Continued)

receivables. Information regarding our A/R Programs as of December 31, 2018 was as follows (monetary amounts in millions):

Facility	Maturity	Maximum Funding Availability(1)	Amount Outstanding	Interest Rate(2)
U.S. A/R Program	April 2020	$ 250	$ 165(3)	Applicable rate plus 0.95%
EU A/R Program	April 2020	€ 150	€ 76	Applicable rate plus 1.30%
		(approximately $171)	(approximately $87)	

(1) The amount of actual availability under our A/R Programs may be lower based on the level of eligible receivables sold, changes in the credit ratings of our customers, customer concentration levels and certain characteristics of the accounts receivable being transferred, as defined in the applicable agreements.

(2) Applicable rate for our U.S. A/R Program is defined by the lender as USD LIBOR. Applicable rate for our EU A/R Program is either GBP LIBOR, USD LIBOR or EURIBOR.

(3) As of December 31, 2018, we had approximately $5 million (U.S. dollar equivalents) of letters of credit issued and outstanding under our U.S. A/R Program.

On April 21, 2017, we entered into amendments to our A/R Programs that, among other things, extend the scheduled termination dates to April 2020. As of December 31, 2018 and December 31, 2017, $341 million and $334 million, respectively, of accounts receivable were pledged as collateral under our A/R Programs from continuing operations.

Notes

As of December 31, 2018, we had outstanding the following notes (monetary amounts in millions):

Notes	Maturity	Interest Rate	Amount Outstanding	Unamortized Premiums/ Discounts and Debt Issuance Costs
2020 Senior Notes	November 2020	4.875 %	$650 ($648 carrying value)	$ (2)
2021 Senior Notes	April 2021	5.125 %	€445 (€444 carrying value ($507))	—
2022 Senior Notes	November 2022	5.125 %	$400 ($398 carrying value)	(2)
2025 Senior Notes	April 2025	4.250 %	€300 (€298 carrying value ($339))	(3)

The 2020, 2021, 2022 and 2025 Senior Notes are general unsecured senior obligations of ours. The indentures impose certain limitations on our ability to, among other things, incur additional indebtedness secured by any principal properties, incur indebtedness of nonguarantor subsidiaries, enter into sale and leaseback transactions with respect to any principal properties and consolidate or merge with or into any other person or lease, sell or transfer all or substantially all of our properties and assets. Upon the occurrence of certain change of control events, holders of the 2020, 2021, 2022 and 2025 Senior Notes will have the right to require that we purchase all or a portion of such holder's notes in cash at a purchase price equal to 101% of the principal amount thereof plus accrued and unpaid interest to the date of repurchase.

Variable Interest Entity Debt

As of December 31, 2018, AAC, our consolidated 50%-owned joint venture, had $86 million outstanding under its loan commitments and debt financing arrangements. As of December 31, 2018, we have $25 million classified as current debt and $61 million as long-term debt on our consolidated balance sheets. We do not guarantee these loan commitments, and AAC is not a guarantor of any of our other debt obligations.

14. DEBT (Continued)

Other Debt

On July 5, 2018, Huntsman Polyurethanes Shanghai, one of our majority-owned subsidiaries, made an early repayment of RMB 277 million (approximately $42 million) of term loans. Following the repayment, there are no borrowings outstanding.

COMPLIANCE WITH COVENANTS

Our 2018 Revolving Credit Facility contains a financial covenant regarding the leverage ratio of Huntsman International and its subsidiaries. The 2018 Revolving Credit Facility also contains other customary covenants and events of default for credit facilities of this type. Upon an event of default that is not cured or waived within any applicable cure periods, in addition to other remedies that may be available to the lenders, the obligations under the 2018 Revolving Credit Facility may be accelerated.

The agreements governing our A/R Programs also contain certain receivable performance metrics. Any material failure to meet the applicable A/R Programs' metrics could lead to an early termination event under the A/R Programs, which could require us to cease our use of such facilities, prohibiting us from additional borrowings against our receivables or, at the discretion of the lenders, requiring that we repay the A/R Programs in full. An early termination event under the A/R Programs would also constitute an event of default under our 2018 Revolving Credit Facility, which could require us to pay off the balance of the 2018 Revolving Credit Facility in full and could result in the loss of our 2018 Revolving Credit Facility.

We believe that we are in compliance with the covenants governing our material debt instruments, including our 2018 Revolving Credit Facility, our A/R Programs and our notes.

MATURITIES

The scheduled maturities of our debt (excluding debt to affiliates) by year as of December 31, 2018 are as follows (dollars in millions):

Year ending December 31,	
2019	$ 96
2020	933
2021	533
2022	402
2023	2
Thereafter	354
	$ 2,320

15. DERIVATIVE INSTRUMENTS AND HEDGING ACTIVITIES

We are exposed to market risks, such as changes in interest rates, foreign exchange rates and commodity prices. From time to time, we enter into transactions, including transactions involving derivative instruments, to manage certain of these exposures. We also hedge our net investment in certain European operations. Changes in the fair value of the hedge in the net investment of certain European operations are recorded in accumulated other comprehensive loss.

In connection with the December 3, 2018 sale of Venator ordinary shares to Bank of America N.A., we recorded a forward swap. See "Note 4. Discontinued Operations and Business Dispositions" and "Note 16. Fair Value."

INTEREST RATE RISK

Through our borrowing activities, we are exposed to interest rate risk. Such risk arises due to the structure of our debt portfolio, including the mix of fixed and floating interest rates. Actions taken to reduce interest rate risk include managing the mix and rate characteristics of various interest-bearing liabilities, as well as entering into interest rate derivative instruments.

15. DERIVATIVE INSTRUMENTS AND HEDGING ACTIVITIES (Continued)

From time to time, we may purchase interest rate swaps and/or other derivative instruments to reduce the impact of changes in interest rates on our floating-rate long-term debt. Under interest rate swaps, we agree with other parties to exchange, at specified intervals, the difference between fixed-rate and floating-rate interest amounts calculated by reference to an agreed notional principal amount.

We had entered into several interest rate contracts to hedge the variability caused by monthly changes in cash flow due to associated changes in LIBOR under our Senior Credit Facilities. These swaps were designated as cash flow hedges and the effective portion of the changes in the fair value of the swaps were recorded in other comprehensive (loss) income. These swaps expired in April 2017.

During 2018, accumulated other comprehensive loss of nil was reclassified to earnings. The actual amount that will be reclassified to earnings over the next twelve months may vary from this amount due to changing market conditions. We would be exposed to credit losses in the event of nonperformance by a counterparty to our derivative financial instruments. We anticipate, however, that the counterparties will be able to fully satisfy their obligations under the contracts. Market risk arises from changes in interest rates.

FOREIGN EXCHANGE RATE RISK

Our cash flows and earnings are subject to fluctuations due to exchange rate variation. Our revenues and expenses are denominated in various currencies. We enter into foreign currency derivative instruments to minimize the short-term impact of movements in foreign currency rates. Where practicable, we generally net multicurrency cash balances among our subsidiaries to help reduce exposure to foreign currency exchange rates. Certain other exposures may be managed from time to time through financial market transactions, principally through the purchase of spot or forward foreign exchange contracts (generally with maturities of three months or less). We do not hedge our currency exposures in a manner that would eliminate the effect of changes in exchange rates on our cash flows and earnings. As of December 31, 2018 and 2017, we had approximately $151 million and $93 million, respectively, notional amount (in U.S. dollar equivalents) outstanding in foreign currency contracts with a term of approximately one month.

In November 2014, we entered into two five-year cross-currency interest rate contracts and one eight-year cross-currency interest rate contract to swap an aggregate notional $200 million for an aggregate notional €161 million. The swap was designated as a hedge of net investment for financial reporting purposes. In August 2017, we terminated these cross-currency interest rate contracts and received $7 million from the counterparties.

A portion of our debt is denominated in euros. We also finance certain of our non-U.S. subsidiaries with intercompany loans that are, in many cases, denominated in currencies other than the entities' functional currency. We manage the net foreign currency exposure created by this debt through various means, including cross-currency swaps, the designation of certain intercompany loans as permanent loans because they are not expected to be repaid in the foreseeable future and the designation of certain debt and swaps as net investment hedges.

Foreign currency transaction gains and losses on intercompany loans that are not designated as permanent loans are recorded in earnings. Foreign currency transaction gains and losses on intercompany loans that are designated as permanent loans are recorded in other comprehensive (loss) income. From time to time, we review such designation of intercompany loans.

We review our non-U.S. dollar denominated debt and derivative instruments to determine the appropriate amounts designated as hedges. As of December 31, 2018, we have designated approximately €510 million (approximately $581 million) of euro-denominated debt as a hedge of our net investment. For the years ended December 31, 2018, 2017 and 2016, the amounts recognized on the hedge of our net investment were a gain of $35 million, a loss of $96 million and a gain of $27 million, respectively, and were recorded in other comprehensive (loss) income.

15. DERIVATIVE INSTRUMENTS AND HEDGING ACTIVITIES (Continued)

COMMODITY PRICES RISK

Inherent in our business is exposure to price changes for several commodities. However, our exposure to changing commodity prices is somewhat limited since the majority of our raw materials are acquired at posted or market related prices, and sales prices for many of our finished products are at market related prices which are largely set on a monthly or quarterly basis in line with industry practice. Consequently, we do not generally hedge our commodity exposures.

16. FAIR VALUE

The fair values of our financial instruments were as follows (dollars in millions):

	December 31, 2018		December 31, 2017	
	Carrying Value	Estimated Fair Value	Carrying Value	Estimated Fair Value
Non-qualified employee benefit plan investments	$ 23	$ 23	$ 33	$ 33
Forward swap contract related to the sale of investment in Venator	14	14	—	—
Long-term debt (including current portion)	(2,320)	(2,403)	(2,298)	(2,483)

The carrying amounts reported in the balance sheets of cash and cash equivalents, accounts receivable and accounts payable approximate fair value because of the immediate or short-term maturity of these financial instruments. We elected the fair value option to account for our equity method investment in Venator post deconsolidation. The fair value of our remaining investment in Venator reported in investment in unconsolidated affiliates is obtained through market observable pricing using prevailing market prices. See “Note 7. Investment in Unconsolidated Investments.” The fair values of non-qualified employee benefit plan investments are obtained through market observable pricing using prevailing market prices. The fair value of the forward swap contract related to the sale of investment in Venator is determined based on the average of the daily volume weighted average price of Venator ordinary shares over an agreed period. The estimated fair values of our long-term debt are based on quoted market prices for the identical liability when traded as an asset in an active market (Level 1).

The fair value estimates presented herein are based on pertinent information available to management as of December 31, 2018 and 2017. Although management is not aware of any factors that would significantly affect the estimated fair value amounts, such amounts have not been comprehensively revalued for purposes of these financial statements since December 31, 2018, and current estimates of fair value may differ significantly from the amounts presented herein.

The following assets are measured at fair value on a recurring basis (dollars in millions):

		Fair Value Amounts Using		
Description	December 31, 2018	Quoted prices in active markets for identical assets (Level 1)	Significant other observable inputs (Level 2)	Significant unobservable inputs (Level 3)
Assets:				
Equity securities:				
Non-qualified employee benefit plan investments	$ 23	$ 23	$ —	$ —
Derivatives:				
Forward swap contract related to the sale of investment in Venator	14	—	14	—
	$ 37	$ 23	$ 14	$ —

16. FAIR VALUE (Continued)

Description	December 31, 2017	Fair Value Amounts Using: Quoted prices in active markets for identical assets (Level 1)	Fair Value Amounts Using: Significant other observable inputs (Level 2)	Fair Value Amounts Using: Significant unobservable inputs (Level 3)
Assets:				
Equity securities:				
Non-qualified employee benefit plan investments	$ 33	$ 33	$ —	$ —

The following table shows a reconciliation of beginning and ending balances for the year ended December 31, 2017 for instruments measured at fair value on a recurring basis using significant unobservable inputs (Level 3) (dollars in millions). During the year ended December 31, 2018, there were no instruments categorized as Level 3 within the fair value hierarchy.

Fair Value Measurements Using Significant Unobservable Inputs (Level 3)	Cross-Currency Interest Rate Contracts
Beginning balance, January 1, 2017	$ 29
Transfers into Level 3	—
Transfers out of Level 3	—
Total (losses) gains:	
Included in earnings	—
Included in other comprehensive (loss) income	(22)
Purchases, sales, issuances and settlements	(7)
Ending balance, December 31, 2017	$ —
The amount of total gains (losses) for the period included in earnings attributable to the change in unrealized gains (losses) relating to assets still held at December 31, 2017	$ —

There were no gains or losses (realized or unrealized) included in earnings for instruments measured at fair value on a recurring basis using significant unobservable inputs (Level 3).

17. EMPLOYEE BENEFIT PLANS

DEFINED BENEFIT AND OTHER POSTRETIREMENT BENEFIT

We provide a trusteed, non contributory defined benefit pension plan (the "Plan") that covers the majority of our U.S. employees. Effective July 1, 2004, the Plan formula for employees not covered by a collective bargaining agreement was converted to a cash balance design. For represented employees, participation in the cash balance design was subject to the terms of negotiated contracts. For participating employees, benefits accrued under the prior formula were converted to opening cash balance accounts. The cash balance benefit formula provides annual pay credits from 6% to 12% of eligible pay, depending on age and service, plus accrued interest. The conversion to the cash balance plan did not have a significant impact on the accrued benefit liability, the funded status or ongoing pension expense.

Beginning July 1, 2014, the Huntsman Defined Benefit Pension Plan was closed to new non-union entrants and as of April 1, 2015, it was closed to new union entrants. In addition, as of January 1, 2015, Rubicon LLC closed its defined benefit plan to new entrants. Following the closure of these plans, new hires have been provided with a defined contribution plan with a non-discretionary employer contribution of 6% of pay and a company match of up to 4% of pay, for a total company contribution of up to 10% of pay. We also sponsor unfunded postretirement benefit plans other than pensions, which provide medical and life insurance benefits. Effective August 1, 2015, the post retirement benefit plans were closed to new entrants.

17. EMPLOYEE BENEFIT PLANS (Continued)

Our postretirement benefit plans provide access to two fully insured Medicare Part D plans including prescription drug benefits affected by the Medicare Prescription Drug, Improvement and Modernization Act of 2003 (the "Act"). We cannot determine whether the medical benefits provided by our postretirement benefit plans are actuarially equivalent to those provided by the Act. We do not collect a subsidy and our net periodic postretirement benefits cost, and related benefit obligation, do not reflect an amount associated with the subsidy. We do not subsidize the premium cost of these plans; the premiums are entirely paid by the retirees.

We sponsor defined benefit plans in a number of countries outside of the U.S. The availability of these plans, and their specific design provisions, are consistent with local competitive practices and regulations.

17. EMPLOYEE BENEFIT PLANS (Continued)

The following table sets forth the funded status of our plans and the amounts recognized in our consolidated balance sheets at December 31, 2018 and 2017 (dollars in millions):

	Defined Benefit Plans				Other Postretirement Benefit Plans			
	2018		2017		2018		2017	
	U.S. Plans	Non-U.S. Plans	U.S. Plans	Non-U.S. Plans	U.S. Plans	Non-U.S. Plans	U.S. Plans	Non-U.S. Plans
Change in benefit obligation								
Benefit obligation at beginning of year	$ 1,153	$ 2,259	$ 1,049	$2,064	$ 80	$ —	$ 93	$ —
Service cost	32	32	30	33	2	—	3	—
Interest cost	44	37	44	35	3	—	3	—
Participant contributions	—	5	—	5	2	—	2	—
Plan amendments	—	4	—	(1)	—	—	—	—
Foreign currency exchange rate changes	—	(74)	—	207	—	—	—	—
Special termination benefits	—	—	—	1	—	—	—	—
Settlements/transfers/divestitures	(6)	(3)	—	—	—	—	—	—
Actuarial (gain) loss	(81)	(30)	91	(10)	(9)	—	(12)	—
Benefits paid	(62)	(73)	(61)	(75)	(7)	—	(9)	—
Benefit obligation at end of year	$ 1,080	$ 2,157	$ 1,153	$2,259	$ 71	$ —	$ 80	$ —
Change in plan assets								
Fair value of plan assets at beginning of year	$ 821	$ 1,883	$ 721	$1,639	$ —	$ —	$ —	$ —
Actual return on plan assets	(38)	(38)	104	109	—	—	—	—
Foreign currency exchange rate changes	—	(62)	—	166	—	—	—	—
Participant contributions	—	5	—	5	2	—	2	—
Settlements/transfers/divestitures	(6)	(3)	—	—	—	—	—	—
Company contributions	52	39	57	39	5	—	7	—
Benefits paid	(62)	(73)	(61)	(75)	(7)	—	(9)	—
Fair value of plan assets at end of year	$ 767	$ 1,751	$ 821	$1,883	$ —	$ —	$ —	$ —
Funded status								
Fair value of plan assets	$ 767	$ 1,751	$ 821	$1,883	$ —	$ —	$ —	$ —
Benefit obligation	1,080	2,157	1,153	2,259	71	—	80	—
Accrued benefit cost	$ (313)	$ (406)	$ (332)	$ (376)	$ (71)	$ —	$ (80)	$ —
Amounts recognized in balance sheet:								
Noncurrent asset	$ —	$ 10	$ —	$ 22	$ —	$ —	$ —	$ —
Current liability	(5)	(6)	(10)	(5)	(6)	—	(7)	—
Noncurrent liability	(308)	(410)	(322)	(393)	(65)	—	(73)	—
	$ (313)	$ (406)	$ (332)	$ (376)	$ (71)	$ —	$ (80)	$ —

17. EMPLOYEE BENEFIT PLANS (Continued)

	Defined Benefit Plans				Other Postretirement Benefit Plans			
	2018		2017		2018		2017	
	U.S. Plans	Non-U.S. Plans	U.S. Plans	Non-U.S. Plans	U.S. Plans	Non-U.S. Plans	U.S. Plans	Non-U.S. Plans
Amounts recognized in accumulated other comprehensive loss:								
Net actuarial loss	$ 401	$ 784	$ 419	$ 1,000	$ 21	$ —	$ 30	$ —
Prior service credit	(13)	(27)	(15)	(29)	(38)	—	(45)	—
	$ 388	$ 757	$ 404	$ 971	$ (17)	$ —	$ (15)	$ —

The amounts in accumulated other comprehensive loss that are expected to be recognized as components of net periodic benefit cost of continuing operations during the next fiscal year are as follows (dollars in millions):

	Defined Benefit Plans		Other Postretirement Benefit Plans	
	U.S. Plans	Non-U.S. Plans	U.S. Plans	Non-U.S. Plans
Actuarial loss	$ 26	$ 45	$ 1	$ —
Prior service credit	(2)	(4)	(5)	—
Total	$ 24	$ 41	$ (4)	$ —

Components of net periodic benefit costs of continuing operations for the years ended December 31, 2018, 2017 and 2016 were as follows (dollars in millions):

	Defined Benefit Plans					
	U.S. plans			Non-U.S. plans		
	2018	2017	2016	2018	2017	2016
Service cost	$ 32	$ 30	$ 30	$ 32	$ 33	$ 29
Interest cost	44	44	47	37	35	41
Expected return on plan assets	(61)	(55)	(54)	(109)	(100)	(93)
Amortization of prior service credit	(2)	(2)	(5)	(5)	(5)	(4)
Amortization of actuarial loss	34	30	25	38	45	31
Settlement loss	2	—	—	—	—	—
Special termination benefits	—	—	—	—	1	—
Net periodic benefit cost	$ 49	$ 47	$ 43	$ (7)	$ 9	$ 4

	Other Postretirement Benefit Plans					
	U.S. plans			Non-U.S. plans		
	2018	2017	2016	2018	2017	2016
Service cost	$ 2	$ 3	$ 2	$ —	$ —	$ —
Interest cost	3	3	4	—	—	—
Amortization of prior service credit	(6)	(6)	(7)	—	—	—
Amortization of actuarial loss	2	3	2	—	—	—
Net periodic benefit cost	$ 1	$ 3	$ 1	$ —	$ —	$ —

17. EMPLOYEE BENEFIT PLANS (Continued)

The amounts recognized in net periodic benefit cost and other comprehensive income (loss) as of December 31, 2018, 2017 and 2016 were as follows (dollars in millions):

	Defined Benefit Plans					
	U.S. plans			Non-U.S. plans		
	2018	2017	2016	2018	2017	2016
Current year actuarial loss (gain)	$ 18	$ 42	$ 74	$ 117	$ (42)	$ 235
Amortization of actuarial loss	(34)	(30)	(25)	(38)	(61)	(42)
Current year prior service (credit) cost	—	—	—	4	(2)	—
Amortization of prior service credit	2	2	5	5	4	4
Settlements	(2)	—	—	—	—	—
Curtailment (gain)/loss	—	—	—	—	3	—
Total recognized in other comprehensive income (loss)	(16)	14	54	88	(98)	197
Amounts related to discontinued operations	—	3	—	—	37	(65)
Total recognized in other comprehensive income (loss) in continuing operations	(16)	17	54	88	(61)	132
Net periodic benefit cost	49	47	43	(7)	9	4
Total recognized in net periodic benefit cost and other comprehensive income (loss)	$ 33	$ 64	$ 97	$ 81	$ (52)	$ 136

	Other Postretirement Benefit Plans					
	U.S. plans			Non-U.S. plans		
	2018	2017	2016	2018	2017	2016
Current year actuarial (gain) loss	$ (10)	$ (12)	$ 9	$ —	$ —	$ —
Amortization of actuarial loss	(2)	(3)	(2)	—	(1)	—
Current year prior service credit	—	—	—	—	—	(2)
Amortization of prior service credit	6	6	7	—	2	—
Total recognized in other comprehensive income (loss)	(6)	(9)	14	—	1	(2)
Amounts related to discontinued operations	—	—	(1)	—	(1)	3
Total recognized in other comprehensive income (loss) in continuing operations	(6)	(9)	13	—	—	1
Net periodic benefit cost	1	3	1	—	—	—
Total recognized in net periodic benefit cost and other comprehensive income (loss)	$ (5)	$ (6)	$ 14	$ —	$ —	$ 1

The following weighted-average assumptions were used to determine the projected benefit obligation at the measurement date and the net periodic pension cost for the year:

	Defined Benefit Plans					
	U.S. plans			Non-U.S. plans		
	2018	2017	2016	2018	2017	2016
Projected benefit obligation						
Discount rate	4.39 %	3.74 %	4.24 %	1.75 %	1.65 %	1.61 %
Rate of compensation increase	4.13 %	4.13 %	4.17 %	2.64 %	3.38 %	3.37 %
Net periodic pension cost						
Discount rate	3.74 %	4.24 %	4.90 %	1.65 %	1.61 %	2.15 %
Rate of compensation increase	4.13 %	4.17 %	4.17 %	3.38 %	3.37 %	3.28 %
Expected return on plan assets	7.55 %	7.55 %	7.54 %	5.88 %	5.68 %	5.91 %

17. EMPLOYEE BENEFIT PLANS (Continued)

	Other Postretirement Benefit Plans					
	U.S. plans			Non-U.S. plans		
	2018	2017	2016	2018	2017	2016
Projected benefit obligation						
Discount rate	4.26 %	3.57 %	4.03 %	3.50 %	3.30 %	3.50 %
Net periodic pension cost						
Discount rate	3.57 %	4.03 %	4.68 %	3.30 %	3.50 %	3.70 %

At December 31, 2018 and 2017 the health care trend rate used to measure the expected increase in the cost of benefits was assumed to be 6.75%, decreasing to 5% in 2025 and after. Assumed health care cost trend rates can have a significant effect on the amounts reported for the postretirement benefit plans. A one-percent point change in assumed health care cost trend rates would have the following effects (dollars in millions):

	Increase	Decrease
Asset category		
Effect on total of service and interest cost	$ —	$ —
Effect on postretirement benefit obligation	1	(2)

The projected benefit obligation and fair value of plan assets for the defined benefit plans with projected benefit obligations in excess of plan assets as of December 31, 2018 and 2017 were as follows (dollars in millions):

	U.S. plans		Non-U.S. plans	
	2018	2017	2018	2017
Projected benefit obligation in excess of plan assets				
Projected benefit obligation	$ 1,080	$ 1,153	$ 1,790	$ 1,213
Fair value of plan assets	767	821	1,375	815

The projected benefit obligation, accumulated benefit obligation and fair value of plan assets for the defined benefit plans with an accumulated benefit obligation in excess of plan assets as of December 31, 2018 and 2017 were as follows (dollars in millions):

	U.S. plans		Non-U.S. plans	
	2018	2017	2018	2017
Accumulated benefit obligation in excess of plan assets				
Projected benefit obligation	$ 1,080	$ 1,153	$ 986	$ 1,026
Accumulated benefit obligation	1,057	1,127	919	957
Fair value of plan assets	767	821	608	638

17. EMPLOYEE BENEFIT PLANS (Continued)

Expected future contributions and benefit payments related to continuing operations are as follows (dollars in millions):

	U.S. Plans		Non-U.S. Plans	
	Defined Benefit Plans	Other Postretirement Benefit Plans	Defined Benefit Plans	Other Postretirement Benefit Plans
2019 expected employer contributions				
To plan trusts	$ 50	$ 6	$ 38	$ —
Expected benefit payments				
2019	72	6	69	—
2020	63	6	69	—
2021	63	6	73	—
2022	67	6	75	—
2023	114	6	80	—
2024 - 2028	376	30	428	—

Our investment strategy with respect to pension assets is to pursue an investment plan that, over the long term, is expected to protect the funded status of the plan, enhance the real purchasing power of plan assets, and not threaten the plan's ability to meet currently committed obligations. Additionally, our investment strategy is to achieve returns on plan assets, subject to a prudent level of portfolio risk. Plan assets are invested in a broad range of investments. These investments are diversified in terms of domestic and international equities, both growth and value funds, including small, mid and large capitalization equities; short-term and long-term debt securities; real estate; and cash and cash equivalents. The investments are further diversified within each asset category. The portfolio diversification provides protection against a single investment or asset category having a disproportionate impact on the aggregate performance of the plan assets.

Our pension plan assets are managed by outside investment managers. The investment managers value our plan assets using quoted market prices, other observable inputs or unobservable inputs. For certain assets, the investment managers obtain third-party appraisals at least annually, which use valuation techniques and inputs specific to the applicable property, market, or geographic location. During 2018, there were no transfers into or out of Level 3 assets.

We have established target allocations for each asset category. Our pension plan assets are periodically rebalanced based upon our target allocations.

17. EMPLOYEE BENEFIT PLANS (Continued)

The fair value of plan assets for the pension plans was $2.5 billion and $2.7 billion at December 31, 2018 and 2017, respectively. The following plan assets are measured at fair value on a recurring basis (dollars in millions):

Asset category	December 31, 2018	Fair Value Amounts Using: Quoted prices in active markets for identical assets (Level 1)	Significant other observable inputs (Level 2)	Significant unobservable inputs (Level 3)
U.S. pension plans:				
Equities	$ 382	$ 275	$ 107	$ —
Fixed income	311	240	71	—
Real estate/other	74	—	—	74
Cash	—	—	—	—
Total U.S. pension plan assets	$ 767	$ 515	$ 178	$ 74
Non-U.S. pension plans:				
Equities	$ 471	$ 161	$ 310	$ —
Fixed income	747	496	251	—
Real estate/other	497	93	348	56
Cash	36	36	—	—
Total Non-U.S. pension plan assets	$ 1,751	$ 786	$ 909	$ 56

Asset category	December 31, 2017	Fair Value Amounts Using: Quoted prices in active Markets for identical assets (Level 1)	Significant other Observable inputs (Level 2)	Significant Unobservable inputs (Level 3)
U.S. pension plans:				
Equities	$ 440	$ 318	$ 122	$ —
Fixed income	311	239	72	—
Real estate/other	70	—	—	70
Cash	—	—	—	—
Total U.S. pension plan assets	$ 821	$ 557	$ 194	$ 70
Non-U.S. pension plans:				
Equities	$ 602	$ 230	$ 372	$ —
Fixed income	739	477	262	—
Real estate/other	508	104	349	55
Cash	34	33	1	—
Total Non-U.S. pension plan assets	$ 1,883	$ 844	$ 984	$ 55

The following table reconciles the beginning and ending balances of plan assets measured at fair value using unobservable inputs (Level 3) (dollars in millions):

	Real Estate/Other Year ended December 31, 2018	2017
Fair Value Measurements of Plan Assets Using Significant Unobservable Inputs (Level 3)		
Balance at beginning of period	$ 125	$ 106
Return on pension plan assets	5	14
Purchases, sales and settlements	—	5
Transfers into (out of) Level 3	—	—
Balance at end of period	$ 130	$ 125

17. EMPLOYEE BENEFIT PLANS (Continued)

Based upon historical returns, the expectations of our investment committee and outside advisors, the expected long-term rate of return on the pension assets is estimated to be between 5.68% and 7.55%. The asset allocation for our pension plans at December 31, 2018 and 2017 and the target allocation for 2019, by asset category are as follows:

Asset category	Target Allocation 2019	Allocation at December 31, 2018	2017
U.S. pension plans:			
Equities	53 %	50 %	54 %
Fixed income	39 %	41 %	38 %
Real estate/other	8 %	9 %	8 %
Cash	— %	— %	— %
Total U.S. pension plans	100 %	100 %	100 %
Non-U.S. pension plans:			
Equities	37 %	27 %	32 %
Fixed income	41 %	43 %	39 %
Real estate/other	13 %	28 %	27 %
Cash	9 %	2 %	2 %
Total non-U.S. pension plans	100 %	100 %	100 %

Equity securities in our pension plans did not include any direct investments in equity securities of our Company or our affiliates at the end of 2018.

DEFINED CONTRIBUTION PLANS—U.S.

We had a money purchase pension plan that covered substantially all of our domestic employees who were hired prior to January 1, 2004. Employer contributions were made based on a percentage of employees' earnings (ranging up to 8%). During 2014, we closed this plan to non-union participants, and in 2015, we closed this plan to union associates. We continue to provide equivalent benefits to those who were covered under this plan into their salary deferral account.

We have a salary deferral plan covering substantially all U.S. employees. Plan participants may elect to make voluntary contributions to this plan up to a specified amount of their compensation. We contribute an amount equal to the participant's contribution, not to exceed 4 % of the participant's compensation. For new hires who are not eligible for the cash balance plan, and associates who were covered by the money purchase pension plan prior to its closure, we contribute an additional amount into their salary deferral accounts, not to exceed 6% of the participant's compensation.

Our total combined expense for the above defined contribution plans for each of the years ended December 31, 2018, 2017 and 2016 was $21 million, $22 million and $20 million, respectively.

DEFINED CONTRIBUTION PLANS—NON-U.S.

We have defined contribution plans in a variety of non-U.S. locations.

All UK associates are eligible to participate in the Huntsman UK Pension Plan, a contract-based arrangement with a third party. Company contributions vary by business during a five-year transition period. Plan participants elect to make voluntary contributions to this plan up to a specified amount of their compensation. We contribute a matching amount not to exceed 12% of the participant's salary for new hires and 15% of the participant's salary for all other participants.

Our total combined expense for these defined contribution plans for the years ended December 31, 2018, 2017 and 2016 was $4 million, $5 million and $4 million, respectively, primarily related to the Huntsman UK Pension Plan.

17. EMPLOYEE BENEFIT PLANS (Continued)

SUPPLEMENTAL SALARY DEFERRAL PLAN AND SUPPLEMENTAL EXECUTIVE RETIREMENT PLAN

The Huntsman Supplemental Savings Plan (the "SSP") is a non-qualified plan covering key management employees and allows participants to defer amounts that would otherwise be paid as compensation. The participant can defer up to 75% of their salary and bonus each year. This plan also provides benefits that would be provided under the Huntsman Salary Deferral Plan if that plan were not subject to legal limits on the amount of contributions that can be allocated to an individual in a single year. The SSP was amended and restated effective as of January 1, 2005 to allow eligible executive employees to comply with Section 409A of the Internal Revenue Code of 1986.

The Huntsman Supplemental Executive Retirement Plan (the "SERP") is an unfunded non-qualified pension plan established to provide certain executive employees with benefits that could not be provided, due to legal limitations, under the Huntsman Defined Benefit Pension Plan, a qualified defined benefit pension plan, and the Huntsman Money Purchase Pension Plan, a qualified money purchase pension plan.

Assets of these plans are included in other noncurrent assets and as of December 31, 2018 and 2017 were $32 million and $33 million, respectively. During each of the years ended December 31, 2018, 2017 and 2016, we expensed a total of $1 million as contributions to the SSP and the SERP.

STOCK-BASED INCENTIVE PLAN

On May 5, 2016, our stockholders approved a new Huntsman Corporation 2016 Stock Incentive Plan (the "2016 Stock Incentive Plan"), which reserved 8.2 million shares for issuance. The Huntsman Corporation Stock Incentive Plan, as amended and restated (the "Prior Plan"), remains in effect for outstanding awards granted pursuant to the Prior Plan, but no further awards may be granted under the Prior Plan. Under the 2016 Stock Incentive Plan, we may grant nonqualified stock options, incentive stock options, stock appreciation rights, restricted stock, phantom stock, performance share units and other stock-based awards to our employees, directors and consultants and to employees and consultants of our subsidiaries, provided that incentive stock options may be granted solely to employees. The terms of the grants under both the 2016 Stock Incentive Plan and the Prior Plan are fixed at the grant date. As of December 31, 2018, we had approximately 9.5 million shares remaining under the 2016 Stock Incentive Plan available for grant. See "Note 22. Stock-Based Compensation Plan."

INTERNATIONAL PLANS

International employees are covered by various post-employment arrangements consistent with local practices and regulations. Such obligations are included in other long-term liabilities in our consolidated balance sheets.

18. INCOME TAXES

The following is a summary of U.S. and non-U.S. provisions for current and deferred income taxes (dollars in millions):

	Year ended December 31,		
	2018	2017	2016
Income tax expense (benefit):			
U.S.			
Current	$ 57	$ 23	$ 50
Deferred	19	(95)	(15)
Non-U.S.			
Current	155	94	55
Deferred	(134)	42	19
Total	$ 97	$ 64	$ 109

18. INCOME TAXES (Continued)

The following schedule reconciles the differences between the U.S. federal income taxes at the U.S. statutory rate to our provision for income taxes (dollars in millions):

	Year ended December 31,		
	2018	2017	2016
Income from continuing operations before income taxes	$ 942	$ 647	$ 474
Expected tax expense at U.S. statutory rate of 21%, 35% and 35% respectively	$ 198	$ 227	$ 166
Change resulting from:			
State tax expense net of federal benefit	5	(2)	(1)
Non-U.S. tax rate differentials	29	(64)	(32)
Non-taxable portion of gain on sale of European surfactants business	—	—	(23)
U.S. Tax Reform Act impact	32	(52)	—
Currency exchange gains/losses (net)	(10)	15	(5)
Non-U.S. income subject to U.S. tax not offset by U.S. foreign tax credits	16	—	—
Tax authority audits and dispute resolutions	5	9	2
Share-based compensation excess tax benefits	(14)	(10)	—
Change in valuation allowance	(185)	(72)	(38)
Fair value adjustments to Venator investment	18	—	—
Impact of equity method investments	(14)	(3)	(1)
Other non-U.S. tax effects, including nondeductible expenses, tax effect of rate changes, transfer pricing adjustments and various withholding taxes	17	7	31
Other U.S. tax effects, including nondeductible expenses and other credits	—	9	10
Total income tax expense	$ 97	$ 64	$ 109

We operate in many non-U.S. tax jurisdictions with no specific country earning a predominant amount of our off-shore earnings. The vast majority of these countries have income tax rates that are lower than the U.S. statutory rate. During 2018, the average statutory rate for countries with pre-tax income was higher than the average statutory rate for countries with pre-tax losses, resulting in a net expense of $29 million, as compared to the 21% U.S. statutory rate reflected in the reconciliation above. During 2017 and 2016, the average statutory rate for countries with pre-tax income was lower than the average statutory rate for countries with pre-tax losses, almost all of which had statutory rates lower than the U.S. of 35%, resulting in net benefits as compared to the U.S. statutory rate of $64 million and $32 million, respectively, reflected in the reconciliation above. In 2018, the $29 million net expense relates primarily to our operations in China, Germany, India and Luxembourg. In 2017, the $64 million net benefit relates primarily to our Polyurethanes business in The Netherlands, China and the U.K., as well as our Advanced Materials business in Switzerland and our Corporate function in Luxembourg. In 2016, the $32 million net benefit relates primarily to our Polyurethanes business in The Netherlands and China and our Advanced Materials business in Switzerland.

In certain non-U.S. tax jurisdictions, our U.S. GAAP functional currency is different than the local tax currency. As a result, foreign exchange gains and losses will impact our effective tax rate. For 2018, 2017 and 2016, this resulted in a $10 million tax benefit, a $15 million tax expense and a $5 million tax benefit, respectively.

The U.S. Tax Cuts and Jobs Act (the "U.S. Tax Reform Act") established new tax laws that affected 2018, including, but not limited to, (1) a reduction of the U.S. federal corporate tax rate; (2) the creation of the base erosion anti-abuse tax (BEAT); (3) a general elimination of U.S. federal income taxes on dividends from foreign subsidiaries; (4) a new provision designed to tax global intangible low-taxed income ("GILTI"); (5) a new limitation on deductible interest expense; and (6) the repeal of the domestic production activity deduction. We have included the effects of these provisions in 2018.

18. INCOME TAXES (Continued)

Our accounting for the enactment of the U.S. Tax Reform Act is complete for the year ended December 31, 2018. We recorded total tax benefit of $20 million over 2017 and 2018 related to enactment of the U.S. Tax Reform Act. As a result of the U.S. Tax Reform Act, we recorded net tax benefits of $135 million (a provisional tax benefit of $137 million in 2017 offset by a final tax expense of $2 million in 2018) due to a remeasurement of deferred U.S. tax assets and liabilities, and net tax expense of $115 million (a provisional tax expense of $85 million in 2017, a $29 million final federal tax expense in 2018 and a $1 million state tax expense in 2018) due to the transition tax on deemed repatriation of deferred foreign income.

Under U.S. GAAP regarding the new GILTI tax rules, we are allowed to make an accounting policy choice of either (1) treating taxes due on future U.S. inclusions in taxable income related to GILTI as a current-period expense when incurred (the “period cost method”) or (2) factoring such amounts into our measurement of deferred taxes (the “deferred method”). We have selected the “period cost method” as our accounting policy related to the new GILTI tax rules.

The stated purpose of the GILTI rules is to generate additional U.S. tax related to shifting income to non-U.S. jurisdictions which incur less than a blended 13.125% non-U.S. tax rate. Our non-U.S. income is subject to a blended rate greater than 13.125% and so we would have expected no GILTI tax impact. In practice, the GILTI regulations result in additional tax liability as a result of expense allocations which limit the ability to utilize foreign tax credits against the GILTI inclusion. For 2018 we have incurred $16 million of tax expense resulting from these expense allocations.

The components of income (loss) from continuing operations before income taxes were as follows (dollars in millions):

	Year ended December 31,		
	2018	2017	2016
U.S.	$ 165	$ (39)	$ 91
Non-U.S.	777	686	383
Total	$ 942	$ 647	$ 474

Components of deferred income tax assets and liabilities were as follows (dollars in millions):

	December 31,	
	2018	2017
Deferred income tax assets:		
Net operating loss carryforwards	$ 359	$ 411
Pension and other employee compensation	198	205
Property, plant and equipment	20	29
Intangible assets	79	88
Unrealized currency gains	—	8
Other, net	45	46
Total	$ 701	$ 787
Deferred income tax liabilities:		
Property, plant and equipment	$ (363)	$ (351)
Pension and other employee compensation	—	(3)
Intangible assets	(34)	(7)
Unrealized currency losses	(37)	(27)
Other, net	(12)	(31)
Total	$ (446)	$ (419)
Net deferred tax asset before valuation allowance	$ 255	$ 368
Valuation allowance—net operating losses and other	(227)	(424)
Net deferred tax asset (liability)	$ 28	$ (56)
Non-current deferred tax asset	324	208
Non-current deferred tax liability	(296)	(264)
Net deferred tax asset (liability)	$ 28	$ (56)

18. INCOME TAXES (Continued)

We have gross NOLs of $1,449 million in various non-U.S. jurisdictions. While the majority of the non-U.S. NOLs have no expiration date, $330 million have a limited life (of which $259 million are subject to a valuation allowance) and $156 million are scheduled to expire in 2019 (of which $138 million are subject to a valuation allowance). We had $91 million of NOLs expire unused in 2018, all of which were subject to a valuation allowance.

Included in the $1,449 million of gross non-U.S. NOLs is $670 million attributable to our Luxembourg entities. As of December 31, 2018, due to the uncertainty surrounding the realization of the benefits of these losses, there is a valuation allowance of $102 million against these net tax-effected NOLs of $174 million.

We evaluate deferred tax assets to determine whether it is more likely than not that they will be realized. Valuation allowances are reviewed each period on a tax jurisdiction by jurisdiction basis to analyze whether there is sufficient positive or negative evidence to support a change in judgment about the realizability of the related deferred tax assets. These conclusions require significant judgment. In evaluating the objective evidence that historical results provide, we consider the cyclicality of businesses and cumulative income or losses during the applicable period. Cumulative losses incurred over the period limits our ability to consider other subjective evidence such as our projections for the future. Our judgments regarding valuation allowances are also influenced by the costs and risks associated with any tax planning idea associated with utilizing a deferred tax asset.

During 2018, we released valuation allowances of $132 million. We released significant valuation allowances on certain net deferred tax assets in Switzerland based upon the increased and sustained profitability in our Advanced Materials and Textile Effects businesses. Given Switzerland's limited seven-year carryover of net operating losses ("NOLs"), we expect that some of our NOLs will expire unused. Therefore, we recorded a partial release of the valuation allowance of $80 million in the second quarter of 2018. In addition, based upon the separation of Venator from our U.K. combined group and the increased and sustained profitability in our Polyurethanes business in the U.K., we released significant valuation allowances on certain net deferred tax assets in the U.K. Because the U.K. places limitations on the utilization of certain NOLs and limitations on other deferred tax assets, we recorded a partial valuation allowance release of $15 million in the second quarter of 2018. We also released $24 million of significant valuation allowances on certain net deferred tax assets in Luxembourg in the third quarter of 2018 as a result of changes in estimated future taxable income resulting from increased intercompany receivables and, therefore, increased income in Luxembourg, our primary treasury center outside of the U.S. We also had miscellaneous non-significant valuation allowance releases totaling $13 million in 2018.

During 2017, we released valuation allowances of $22 million. In Italy, we released valuation allowances of $7 million on certain net deferred assets of our Polyurethanes business. On March 1, 2017 and April 1, 2017, we de-merged the Italian legal entities containing our Polyurethanes business from our combined Italian tax group. The historical and expected continued profitability of those Polyurethanes businesses resulted in the release of the associated valuation allowance. In Luxembourg, we released valuation allowances of $15 million as a result of changes in estimated future taxable income resulting from increased intercompany receivables and, therefore, increased income in Luxembourg, our primary treasury center outside of the U.S.

During 2016, we established valuation allowances of $12 million and released valuation allowances of $19 million. In Italy we established $9 million of valuation allowances on certain net deferred tax assets as a result of the sale of our European surfactants business, and in China we established $3 million of valuation allowances as a result of the closure of our Qingdao, China plant. We released valuation allowances of $12 million in Spain as a result of cumulative profitability and $7 million in The Netherlands as a result of tax planning to utilize losses that would have otherwise expired.

Uncertainties regarding expected future income in certain jurisdictions could affect the realization of deferred tax assets in those jurisdictions and result in additional valuation allowances in future periods, or, in the case of unexpected pre-tax earnings, the release of valuation allowances in future periods.

18. INCOME TAXES (Continued)

The following is a summary of changes in the valuation allowance (dollars in millions):

	2018	2017	2016
Valuation allowance as of January 1	$ 424	$ 496	$ 526
Valuation allowance as of December 31	227	424	496
Net (increase) decrease	197	72	30
Foreign currency movements	3	11	(11)
(Decrease) increase to deferred tax assets with no impact on operating tax expense, including an offsetting (decrease) increase to valuation allowances	(15)	(11)	19
Change in valuation allowance per rate reconciliation	$ 185	$ 72	$ 38
Components of change in valuation allowance affecting tax expense:			
Pre-tax income and losses in jurisdictions with valuation allowances resulting in no tax expense or benefit	$ 53	$ 50	$ 31
Releases of valuation allowances in various jurisdictions	132	22	19
Establishments of valuation allowances in various jurisdictions	—	—	(12)
Change in valuation allowance per rate reconciliation	$ 185	$ 72	$ 38

The following is a reconciliation of our unrecognized tax benefits (dollars in millions):

	2018	2017
Unrecognized tax benefits as of January 1	$ 23	$ 17
Gross increases and decreases—tax positions taken during a prior period	1	3
Gross increases and decreases—tax positions taken during the current period	3	4
Decreases related to settlements of amounts due to tax authorities	—	—
Reductions resulting from the lapse of statutes of limitation	—	(2)
Foreign currency movements	(1)	1
Unrecognized tax benefits as of December 31	$ 26	$ 23

As of December 31, 2018 and 2017, the amount of unrecognized tax benefits which, if recognized, would affect the effective tax rate is $23 million and $19 million, respectively.

During 2018 we concluded and settled tax examinations in various jurisdictions including but not limited to, Egypt and the U.S. (federal and various states). During 2017, we concluded and settled tax examinations in various jurisdictions, including, but not limited to, China and the U.S. (various states). During 2016, we concluded and settled tax examinations in various non-U.S. jurisdictions including, but not limited to, China, Germany, Indonesia, The Netherlands, Spain and the U.K.

During 2018 for unrecognized tax benefits that impact tax expense, we recorded a net increase in unrecognized tax benefits with a corresponding income tax expenses (not including interest and penalty expense) of $5 million. During 2017, for unrecognized tax benefits that impact tax expense, we recorded a net increase in unrecognized tax benefits with a corresponding income tax expense (not including interest and penalty expense) of $9 million. During 2016, we recorded a net increase in unrecognized tax benefits with a corresponding income tax expense (not including interest and penalty expense) of $2 million. Additional decreases in unrecognized tax benefits were offset by cash settlements or by a decrease in net deferred tax assets and, therefore, did not affect income tax expense.

18. INCOME TAXES (Continued)

In accordance with our accounting policy, we continue to recognize interest and penalties accrued related to unrecognized tax benefits in income tax expense.

	Year ended December 31,		
	2018	2017	2016
Interest expense included in tax expense	$ —	$ —	$ 1
Penalties expense included in tax expense	—	—	—

	December 31,	
	2018	2017
Accrued liability for interest	$ 3	$ 3
Accrued liability for penalties	—	—

We conduct business globally and, as a result, we file income tax returns in U.S. federal, various U.S. state and various non-U.S. jurisdictions. The following table summarizes the tax years that remain subject to examination by major tax jurisdictions:

Tax Jurisdiction	Open Tax Years
China	2009 and later
Hong Kong	2015 and later
Germany	2013 and later
India	2004 and later
Italy	2014 and later
Mexico	2013 and later
Switzerland	2011 and later
Thailand	2012 and later
The Netherlands	2015 and later
United Kingdom	2017 and later
United States federal	2017 and later

Certain of our U.S. and non-U.S. income tax returns are currently under various stages of audit by applicable tax authorities and the amounts ultimately agreed upon in resolution of the issues raised may differ materially from the amounts accrued.

We estimate that it is reasonably possible that certain of our non-U.S. unrecognized tax benefits could change within 12 months of the reporting date with a resulting decrease in the unrecognized tax benefits within a reasonably possible range of nil to $7 million. For the 12-month period from the reporting date, we would expect that a substantial portion of the decrease in our unrecognized tax benefits would result in a corresponding benefit to our income tax expense.

We have determined that our valuation allowance will not be impacted by the various aspects of the U.S. Tax Reform Act (e.g., deemed repatriation of deferred foreign income, GILTI inclusions, new categories of foreign tax credits), and therefore, we have made no related changes in any valuation allowance. Similarly, we have determined that our uncertain tax positions are not affected by the various aspects of the U.S Tax Reform Act (e.g., deemed repatriation of deferred foreign income, GILTI inclusions, new categories of foreign tax credits) and therefore, we have made no related recognition or change in any unrecognized tax positions.

The U.S. Tax Reform Act includes a mandatory one-time tax on accumulated earnings of foreign subsidiaries, and as a result, all previously unremitted earnings for which no U.S. deferred tax liability had been accrued have now been subject to U.S. tax. For subsidiaries with local withholding taxes, we intend to continue to invest most of these earnings indefinitely within the local country and do not expect to incur any significant, additional taxes related to such amounts.

19. COMMITMENTS AND CONTINGENCIES

PURCHASE COMMITMENTS

We have various purchase commitments extending through 2039 for materials, supplies and services entered into in the ordinary course of business. Included in the purchase commitments table below are contracts which require minimum volume purchases that extend beyond one year or are renewable annually and have been renewed for 2018. Certain contracts allow for changes in minimum required purchase volumes in the event of a temporary or permanent shutdown of a facility. To the extent the contract requires a minimum notice period, such notice period has been included in the table below. The contractual purchase prices for substantially all of these contracts are variable based upon market prices, subject to annual negotiations. We have estimated our contractual obligations by using the terms of our current pricing for each contract. We also have a limited number of contracts which require a minimum payment even if no volume is purchased. We believe that all of our purchase obligations will be utilized in our normal operations. We made minimum payments of nil, nil and $1 million for the years ended December 31, 2018, 2017 and 2016, respectively, under such take or pay contracts without taking the product.

Total purchase commitments as of December 31, 2018 are as follows (dollars in millions):

Year ending December 31,	
2019	$ 1,424
2020	855
2021	666
2022	629
2023	414
Thereafter	1,794
	$ 5,782

OPERATING LEASES

We lease certain railcars, aircraft, equipment and facilities under long-term lease agreements. The total expense recorded under operating lease agreements in our consolidated statements of operations is approximately $76 million, $80 million and $81 million for 2018, 2017 and 2016, respectively, net of sublease rentals of approximately $2 million each for the years ended December 31, 2018, 2017 and 2016.

Future minimum lease payments under operating leases as of December 31, 2018 are as follows (dollars in millions):

Year ending December 31,	
2019	$ 59
2020	53
2021	52
2022	49
2023	45
Thereafter	234
	$ 492

LEGAL MATTERS

Indemnification Matter

On July 14, 2014, Deutsche Bank Securities Inc. and Credit Suisse Securities (USA) LLC demanded that we indemnify them for claims brought against them by certain other former Company stockholders in litigation filed June 14, 2014 in the United States District Court for the Eastern District of Wisconsin (the "Wisconsin Litigation"). We denied the Banks' indemnification demand for the Wisconsin Litigation and have made no accrual with respect to this matter. The stockholders in the Wisconsin Litigation made claims for misrepresentation and conspiracy to defraud in

19. COMMITMENTS AND CONTINGENCIES (Continued)

connection with the failed acquisition by and merger with Hexion and, additionally, have named Apollo Global Management LLC and Apollo Management Holdings, L.P. as defendants. On June 30, 2016, the plaintiffs voluntarily dismissed the Apollo defendants and on December 5, 2016, the court dismissed Deutsche Bank for lack of personal jurisdiction, but denied Credit Suisse's motion to dismiss. Subsequently, Credit Suisse asked the court to reconsider its decision or certify its judgment to the Seventh Circuit Court of Appeals for an immediate appeal, which remains pending. Subsequent to discovery, Credit Suisse filed a motion for summary judgment on August 25, 2017 and a decision is pending. The court has suspended the current scheduling order, including the trial date.

Other Proceedings

We are a party to various other proceedings instituted by private plaintiffs, governmental authorities and others arising under provisions of applicable laws, including various environmental, products liability and other laws. Except as otherwise disclosed in this report, we do not believe that the outcome of any of these matters will have a material effect on our financial condition, results of operations or liquidity.

20. ENVIRONMENTAL, HEALTH AND SAFETY MATTERS

EHS Capital Expenditures

We may incur future costs for capital improvements and general compliance under EHS laws, including costs to acquire, maintain and repair pollution control equipment. For the years ended December 31, 2018, 2017 and 2016, our capital expenditures for EHS matters totaled $44 million, $47 million and $55 million, respectively. Because capital expenditures for these matters are subject to evolving regulatory requirements and depend, in part, on the timing, promulgation and enforcement of specific requirements, our capital expenditures for EHS matters have varied significantly from year to year and we cannot provide assurance that our recent expenditures are indicative of future amounts we may spend related to EHS and other applicable laws.

Environmental Reserves

We have accrued liabilities relating to anticipated environmental cleanup obligations, site reclamation and closure costs and known penalties. Liabilities are recorded when potential liabilities are either known or considered probable and can be reasonably estimated. Our liability estimates are calculated using present value techniques as appropriate and are based upon requirements placed upon us by regulators, available facts, existing technology and past experience. The environmental liabilities do not include amounts recorded as asset retirement obligations. We had accrued $7 million and $21 million for environmental liabilities as of December 31, 2018 and 2017, respectively. Of these amounts, $2 million and $6 million were classified as accrued liabilities in our consolidated balance sheets as of December 31, 2018 and 2017, respectively, and $5 million and $15 million were classified as other noncurrent liabilities in our consolidated balance sheets as of December 31, 2018 and 2017, respectively. In certain cases, our remediation liabilities may be payable over periods of up to 30 years. We may incur losses for environmental remediation in excess of the amounts accrued; however, we are not able to estimate the amount or range of such potential excess.

Environmental Matters

Under the Comprehensive Environmental Response, Compensation, and Liability Act (“CERCLA”) and similar state laws, a current or former owner or operator of real property in the U.S. may be liable for remediation costs regardless of whether the release or disposal of hazardous substances was in compliance with law at the time it occurred, and a current owner or operator may be liable regardless of whether it owned or operated the facility at the time of the release. Outside the U.S., analogous contaminated property laws, such as those in effect in France and Australia, can hold past owners and/or operators liable for remediation at former facilities. Currently, there are approximately six former facilities or third-party sites in the U.S. for which we have been notified of potential claims against us for cleanup liabilities, including, but not limited to, sites listed under CERCLA. Based on current information and past experiences at other CERCLA sites, we do not expect these third-party claims to have a material impact on our consolidated financial statements.

20. ENVIRONMENTAL, HEALTH AND SAFETY MATTERS (Continued)

Under the Resource Conservation and Recovery Act ("RCRA") in the U.S. and similar state laws, we may be required to remediate contamination originating from our properties as a condition to our hazardous waste permit. Some of our manufacturing sites have an extended history of industrial chemical manufacturing and use, including on-site waste disposal. We are aware of soil, groundwater or surface contamination from past operations at some of our sites, and we may find contamination at other sites in the future. For example, our Port Neches, Texas, and Geismar, Louisiana, facilities are the subject of ongoing remediation requirements imposed under RCRA. Similar laws exist in a number of locations in which we currently operate, or previously operated, manufacturing facilities, such as Australia, India, France, Hungary and Italy.

North Maybe Mine Remediation

The North Maybe Canyon Mine site is a CERCLA site and involves a former phosphorous mine near Soda Springs, Idaho, which is believed to have been operated by several companies, including a predecessor company to us. In 2004, the U.S. Forest Service notified us that we are a CERCLA potentially responsible party ("PRP") for contamination originating from the site. In February 2010, we and Wells Cargo (another PRP) agreed to conduct a Remedial Investigation/Feasibility Study of a portion of the site and are currently engaged in that process. At this time, we are unable to reasonably estimate our potential liabilities at this site.

21. HUNTSMAN CORPORATION STOCKHOLDERS' EQUITY

SHARE REPURCHASE PROGRAM

On September 29, 2015, our Board of Directors authorized our Company to repurchase up to $150 million in shares of our common stock. Repurchases under this program may be made through open market transactions, in privately negotiated transactions, accelerated share repurchase programs or by other means. The timing and actual number of any shares repurchased depends on a variety of factors, including market conditions. The share repurchase authorization does not have an expiration date and repurchases may be commenced, suspended or discontinued from time to time without prior notice. On October 27, 2015, we entered into and funded an accelerated share repurchase agreement with Citibank, N.A. to repurchase $100 million of our common stock. Citibank, N.A. made an initial delivery of approximately 7.1 million shares of Huntsman Corporation common stock based on the closing price of $11.94 on October 27, 2015. The accelerated share repurchase agreement was completed in January 2016 with the delivery of an additional approximately 1.5 million shares of Huntsman Corporation common stock. On February 7, 2018 and on May 3, 2018, our Board of Directors authorized us to repurchase up to an additional $950 million in shares of our common stock in addition to the $50 million remaining under our September 2015 share repurchase authorization. The share repurchase program will be supported by our free cash flow generation and by the monetization of Venator shares. Repurchases may be made through the open market, including through accelerated share repurchase programs, or in privately negotiated transactions, and repurchases may be commenced or suspended from time to time without prior notice. Shares of common stock acquired through the repurchase program are held in treasury at cost. During the year ended December 31, 2018, we repurchased 10,405,457 shares of our common stock for approximately $276 million, excluding commissions, under the repurchase program. From January 1, 2019 through January 31, 2019, we repurchased an additional 537,018 shares of our common stock for approximately $11 million, excluding commissions.

21. HUNTSMAN CORPORATION STOCKHOLDERS' EQUITY (Contiuned)

DIVIDENDS ON COMMON STOCK

The following tables represent dividends on common stock for our Company for the years ended December 31, 2018 and 2017 (dollars in millions, except per share payment amounts):

	2018	
Quarter ended	Per share payment amount	Approximate amount paid
March 31, 2018	$ 0.1625	$ 39
June 30, 2018	0.1625	39
September 30, 2018	0.1625	39
December 31, 2018	0.1625	39

	2017	
Quarter ended	Per share payment amount	Approximate amount paid
March 31, 2017	$ 0.125	$ 30
June 30, 2017	0.125	30
September 30, 2017	0.125	30
December 31, 2017	0.125	30

On February 7, 2018, the Board of Directors approved an increase to the quarterly cash dividend to $0.1625 per share of common stock beginning with the March 30, 2018 quarterly dividend.

22. STOCK-BASED COMPENSATION PLAN

Under the 2016 Stock Incentive Plan, we may grant nonqualified stock options, incentive stock options, stock appreciation rights, restricted stock, phantom stock, performance share units and other stock-based awards to our employees, directors and consultants and to employees and consultants of our subsidiaries, provided that incentive stock options may be granted solely to employees. The terms of the grants under both the 2016 Stock Incentive Plan and the Prior Plan are fixed at the grant date. Initially, there were approximately 8.2 million shares available for issuance under the 2016 Stock Incentive Plan. However, the number of shares available for issuance may be adjusted to include any shares surrendered, exchanged, forfeited or settled in cash pursuant to the Prior Plan. As of December 31, 2018, we had approximately 9.5 million shares remaining under the 2016 Stock Incentive Plan available for grant. Option awards have a maximum contractual term of 10 years and generally must have an exercise price at least equal to the market price of our common stock on the date the option award is granted. Outstanding stock-based awards generally vest over a three-year period.

The compensation cost under the 2016 Stock Incentive Plan and the Prior Plan was as follows (dollars in millions):

	Year ended December 31,		
	2018	2017	2016
Compensation cost	$ 27	$ 36	$ 32

The total income tax benefit recognized in the statement of operations for stock-based compensation arrangements was $18 million, $18 million and $7 million for the years ended December 31, 2018, 2017 and 2016, respectively.

22. STOCK-BASED COMPENSATION PLAN (Continued)

STOCK OPTIONS

The fair value of each stock option award is estimated on the date of grant using the Black-Scholes valuation model that uses the assumptions noted in the following table. Expected volatilities are based on the historical volatility of our common stock through the grant date. The expected term of options granted was estimated based on the contractual term of the instruments and employees' expected exercise and post-vesting employment termination behavior. The risk-free rate for periods within the contractual life of the option was based on the U.S. Treasury yield curve in effect at the time of grant. The assumptions noted below represent the weighted averages of the assumptions utilized for all stock options granted during the year.

	Year ended December 31,		
	2018	2017	2016
Dividend yield	1.6 %	2.4 %	5.6 %
Expected volatility	55.2 %	56.9 %	57.9 %
Risk-free interest rate	2.6 %	2.0 %	1.4 %
Expected life of stock options granted during the period	5.9 years	5.9 years	5.9 years

A summary of stock option activity under the 2016 Stock Incentive Plan and the Prior Plan as of December 31, 2018 and changes during the year then ended is presented below:

Option Awards	Shares	Weighted Average Exercise Price	Weighted Average Remaining Contractual Term	Aggregate Intrinsic Value
	(in thousands)		(years)	(in millions)
Outstanding at January 1, 2018	7,988	$ 13.99		
Granted	509	32.51		
Exercised	(3,873)	11.85		
Forfeited	(79)	18.70		
Outstanding at December 31, 2018	4,545	17.81	6.5	$ 18
Exercisable at December 31, 2018	2,816	17.02	5.6	10

The weighted-average grant-date fair value of stock options granted during 2018, 2017 and 2016 was $15.20, $9.26 and $3.15 per option, respectively. As of December 31, 2018, there was $8 million of total unrecognized compensation cost related to nonvested stock option arrangements granted under the 2016 Stock Incentive Plan and the Prior Plan. That cost is expected to be recognized over a weighted-average period of approximately 1.8 years.

During the years ended December 31, 2018, 2017 and 2016, the total intrinsic value of stock options exercised was approximately $78 million, $48 million and $1 million, respectively. Cash received from stock options exercised during the years ended December 31, 2018, 2017 and 2016 was approximately $17 million, $35 million and $1 million, respectively. The cash tax benefit from stock options exercised during the years ended December 31, 2018, 2017 and 2016 was approximately $17 million, $15 million, and nil, respectively.

NONVESTED SHARES

Nonvested shares granted under the 2016 Stock Incentive Plan and the Prior Plan consist of restricted stock and performance share unit awards, which are accounted for as equity awards, and phantom stock, which is accounted for as a liability award because it can be settled in either stock or cash.

The fair value of each performance share unit award is estimated using a Monte Carlo simulation model that uses various assumptions, including an expected volatility rate and a risk-free interest rate. For the years ended December 31, 2018, 2017 and 2016, the weighted-average expected volatility rate was 44.3%. 45.0% and 39.3%, respectively, and the weighted average risk-free interest rate was 2.3%, 1.5% and 0.9%, respectively. For the performance share unit awards granted during the years ended December 31, 2018, 2017 and 2016, the number of shares

22. STOCK-BASED COMPENSATION PLAN (Continued)

earned varies based upon the Company achieving certain performance criteria over a three-year performance period. The performance criteria are total stockholder return of our common stock relative to the total stockholder return of a specified industry peer group for the three-year performance periods.

A summary of the status of our nonvested shares as of December 31, 2018 and changes during the year then ended is presented below:

	Equity Awards		Liability Awards	
	Shares (in thousands)	Weighted Average Grant-Date Fair Value	Shares (in thousands)	Weighted Average Grant-Date Fair Value
Nonvested at January 1, 2018	2,457	$ 14.93	696	$ 14.69
Granted	435	35.04	169	32.77
Vested	(840)(1)	15.67	(337)	14.70
Forfeited	(129)	16.22	(24)	16.66
Nonvested at December 31, 2018	1,923	19.08	504	20.66

(1) As of December 31, 2018, a total of 358,609 restricted stock units were vested but not yet issued, of which 15,922 vested during 2018. These shares have not been reflected as vested shares in this table because, in accordance with the restricted stock unit agreements, shares of common stock are not issued for vested restricted stock units until termination of employment.

As of December 31, 2018, there was $19 million of total unrecognized compensation cost related to nonvested share compensation arrangements granted under the Stock Incentive Plan and the Prior Plan. That cost is expected to be recognized over a weighted-average period of approximately 1.7 years. The value of share awards that vested during the years ended December 31, 2018, 2017 and 2016 was $24 million, $22 million and $16 million, respectively.

23. REVENUE RECOGNITION

We generate substantially all of our revenues through sales in the open market and long-term supply agreements. We recognize revenue when control of the promised goods is transferred to our customers. Control of goods usually passes to the customer at the time shipment is made. Revenue is measured as the amount that reflects the consideration that we expect to be entitled to in exchange for those goods. Sales, value add, and other taxes we collect concurrent with revenue-producing activities are excluded from revenue. Incidental items that are immaterial in the context of the contract are recognized as expense. We have elected to account for all shipping and handling activities as fulfillment costs. We have also elected to expense commissions when incurred as the amortization period of the commission asset that we would have otherwise recognized is less than one year.

23. REVENUE RECOGNITION (Continued)

The following table disaggregates our revenue by major source for the year ended December 31, 2018 (dollars in millions):

	Polyurethanes	Performance Products	Advanced Materials	Textile Effects	Eliminations	Total
Primary Geographic Markets(1)						
U.S. and Canada	$ 1,700	$ 1,305	285	$ 68	$ 31	$ 3,389
Europe	1,278	423	445	135	(17)	2,264
Asia Pacific	1,236	432	301	485	(23)	2,431
Rest of world	880	195	85	136	(1)	1,295
	$ 5,094	$ 2,355	$ 1,116	$ 824	$ (10)	$ 9,379
Major Product Groupings						
MDI urethanes	$ 4,525					$ 4,525
MTBE	569					569
Differentiated		$ 2,120				2,120
Upstream		235				235
Specialty			$ 932			932
Non-specialty			184			184
Textile chemicals and dyes and digital inks				$ 824		824
Eliminations					$ (10)	(10)
	$ 5,094	$ 2,355	$ 1,116	$ 824	$ (10)	$ 9,379

(a) Geographic information for revenues is based upon countries into which product is sold.

Substantially all of our revenue is generated through product sales in which revenue is recognized at a point in time. At contract inception, we assess the goods and services, if any, promised in our contracts and identify a performance obligation for each promise to transfer to the customer a good or service that is distinct. In substantially all cases, a contract has a single performance obligation to deliver a promised good to the customer. Revenue is recognized when control of the product is transferred to the customer (i.e., when our performance obligation is satisfied), which typically occurs at shipment. Further, in determining whether control has transferred, we consider if there is a present right to payment and legal title, along with risks and rewards of ownership having transferred to the customer.

The amount of consideration we receive and revenue we recognize is based upon the terms stated in the sales contract, which may contain variable consideration such as discounts or rebates. We allocate the transaction price to each distinct product based on their relative standalone selling price. The product price as specified on the purchase order or in the sales contract is considered the standalone selling price as it is an observable input that depicts the price as if sold to a similar customer in similar circumstances. In order to estimate the applicable variable consideration, we use historical and current trend information to estimate the amount of discounts or rebates to which customers are likely to be entitled. Historically, actual discount or rebate adjustments relative to those estimated and included when determining the transaction price have not materially differed. Payment terms vary but are generally less than one year. As our standard payment terms are less than one year, we have elected to not assess whether a contract has a significant financing component. In the normal course of business, we do not accept product returns unless the item is defective as manufactured. We establish provisions for estimated returns based on an analysis of historical experience.

24. OTHER COMPREHENSIVE INCOME (LOSS)

Other comprehensive loss consisted of the following (dollars in millions):

	Foreign currency translation adjustment(a)	Pension and other postretirement benefits adjustments(b)	Other comprehensive income of unconsolidated affiliates	Other, net	Total	Amounts attributable to noncontrolling interests	Amounts attributable to Huntsman Corporation
Beginning balance, January 1, 2018	$ (249)	$ (1,189)	$ 3	$ 24	$ (1,411)	$ 143	$ (1,268)
Cumulative effect of changes in fair value of equity investments	—	—	—	(10)	(10)	—	(10)
Revised beginning balance, January 1, 2018	(249)	(1,189)	3	14	(1,421)	143	(1,278)
Other comprehensive (loss) income before reclassifications, gross	(186)	(130)	—	—	(316)	47	(269)
Tax (expense) benefit	(6)	27	—	(3)	18	—	18
Amounts reclassified from accumulated other comprehensive loss, gross(c)	—	77	—	—	77	—	77
Tax expense	—	(13)	—	(6)	(19)	—	(19)
Net current-period other comprehensive (loss) income	(192)	(39)	—	(9)	(240)	47	(193)
Disposition of a portion of Venator	—	—	—	—	—	(5)	(5)
Deconsolidation of Venator	70	285	5	—	360	(149)	211
Tax expense	—	(51)	—	—	(51)	—	(51)
Ending balance, December 31, 2018	$ (371)	$ (994)	$ 8	$ 5	$ (1,352)	$ 36	$ (1,316)

(a) Amounts are net of tax of $71 and $65 as of December 31, 2018 and January 1, 2018, respectively.

(b) Amounts are net of tax of $135 and $172 as of December 31, 2018 and January 1, 2018, respectively.

(c) See table below for details about these reclassifications.

	Foreign currency translation adjustment(a)	Pension and other postretirement benefits adjustments(b)	Other comprehensive income of unconsolidated affiliates	Other, net	Total	Amounts attributable to noncontrolling interests	Amounts attributable to Huntsman Corporation
Beginning balance, January 1, 2017	$ (459)	$ (1,275)	$ 4	$ 23	$ (1,707)	$ 36	$ (1,671)
Other comprehensive income (loss) before reclassifications, gross	175	11	(1)	9	194	(22)	172
Tax benefit	35	9	—	2	46	—	46
Amounts reclassified from accumulated other comprehensive loss, gross(c)	—	80	—	(10)	70	—	70
Tax expense	—	(14)	—	—	(14)	—	(14)
Net current-period other comprehensive income (loss)	210	86	(1)	1	296	(22)	274
Disposition of a portion of Venator	—	—	—	—	—	129	129
Ending balance, December 31, 2017	$ (249)	$ (1,189)	$ 3	$ 24	$ (1,411)	$ 143	$ (1,268)

(a) Amounts are net of tax of $65 and $100 as of December 31, 2017 and January 1, 2017, respectively.

(b) Amounts are net of tax of $172 and $177 as of December 31, 2017 and January 1, 2017, respectively.

(c) See table below for details about these reclassifications.

24. OTHER COMPREHENSIVE INCOME (LOSS) (Continued)

Details about Accumulated Other Comprehensive Loss Components(a):	Year ended December 31, 2018 Amounts reclassified from accumulated other comprehensive loss	2017 Amounts reclassified from accumulated other comprehensive loss	2016 Amounts reclassified from accumulated other comprehensive loss	Affected line item in the statement where net income is presented
Amortization of pension and other postretirement benefits:				
Prior service credit	$ (12)	$ (15)	$ (16)	(b)
Settlement loss	2	—	—	(b)
Actuarial loss	87	95	69	(b)(c)
	77	80	53	Total before tax
	(13)	(14)	(15)	Income tax expense
Total reclassifications for the period	$ 64	$ 66	$ 38	Net of tax

(a) Pension and other postretirement benefits amounts in parentheses indicate credits on our consolidated statements of operations.

(b) These accumulated other comprehensive loss components are included in the computation of net periodic pension costs. See “Note 17. Employee Benefit Plans.”

(c) Amounts contain approximately $16 million, $19 million and $14 million of prior service credit and actuarial loss related to discontinued operations for the years ended December 31, 2018, 2017 and 2016, respectively.

Items of other comprehensive income (loss) of our Company and our consolidated affiliates have been recorded net of tax, with the exception of the foreign currency translation adjustments related to subsidiaries with earnings permanently reinvested. The tax effect is determined based upon the jurisdiction where the income or loss was recognized and is net of valuation allowances.

25. RELATED PARTY TRANSACTIONS

Our consolidated financial statements include the following transactions with our affiliates not otherwise disclosed (dollars in millions):

	Year ended December 31, 2018	2017	2016
Sales to:			
Unconsolidated affiliates	$ 159	$ 150	$ 131
Inventory purchases from:			
Unconsolidated affiliates	417	280	243

26. OPERATING SEGMENT INFORMATION

We derive our revenues, earnings and cash flows from the manufacture and sale of a wide variety of differentiated and commodity chemical products. We have four operating segments, which are also our reportable segments: Polyurethanes, Performance Products, Advanced Materials and Textile Effects. We have organized our business and derived our operating segments around differences in product lines. In connection with the Venator IPO in August 2017, we separated Venator and, beginning in the third quarter of 2017, we reported the results of operations of Venator as discontinued operations in our consolidated financial statements. On December 3, 2018, we further reduced our remaining investment in Venator by the sale of Venator ordinary shares which allowed us to deconsolidate Venator. See “Note 4. Discontinued Operations and Business Dispositions—Separation and Deconsolidation of Venator.”

26. OPERATING SEGMENT INFORMATION (Continued)

The major products of each reportable operating segment are as follows:

Segment	Products
Polyurethanes	MDI, PO, polyols, PG, TPU, aniline and MTBE
Performance Products	Amines, surfactants, LAB, maleic anhydride, other performance chemicals, EG, olefins and technology licenses
Advanced Materials	Basic liquid and solid epoxy resins; specialty resin compounds; cross-linking, matting and curing agents; epoxy, acrylic and polyurethane-based formulations
Textile Effects	Textile chemicals, dyes and digital inks

26. OPERATING SEGMENT INFORMATION (Continued)

Sales between segments are generally recognized at external market prices and are eliminated in consolidation. We use adjusted EBITDA to measure the financial performance of our global business units and for reporting the results of our operating segments. This measure includes all operating items relating to the businesses. The adjusted EBITDA of operating segments excludes items that principally apply to our Company as a whole. The revenues and adjusted EBITDA for each of our reportable operating segments are as follows (dollars in millions):

	Year ended December 31,		
	2018	2017	2016
Revenues:			
Polyurethanes	$ 5,094	$ 4,399	$ 3,667
Performance Products	2,355	2,109	2,126
Advanced Materials	1,116	1,040	1,020
Textile Effects	824	776	751
Corporate and eliminations	(10)	34	(46)
Total	$ 9,379	$ 8,358	$ 7,518
Segment adjusted EBITDA(1):			
Polyurethanes	$ 946	$ 850	$ 569
Performance Products	367	296	316
Advanced Materials	225	219	223
Textile Effects	101	83	73
Corporate and other(2)	(170)	(189)	(184)
Total	1,469	1,259	997
Reconciliation of adjusted EBITDA to net income:			
Interest expense—continuing operations	(115)	(165)	(203)
Interest (expense) income—discontinued operations	(36)	(19)	1
Income tax expense—continuing operations	(97)	(64)	(109)
Income tax (expense) benefit—discontinued operations	(34)	(67)	24
Depreciation and amortization—continuing operations	(343)	(319)	(318)
Depreciation and amortization—discontinued operations	—	(68)	(114)
Net income attributable to noncontrolling interests	313	105	31
Other adjustments:			
Business acquisition and integration expenses	(5)	(19)	(12)
Purchase accounting inventory adjustments	(4)	—	—
Merger costs	(2)	(28)	—
EBITDA from discontinued operations	(125)	312	81
Noncontrolling interest of discontinued operations	(232)	(49)	(11)
Fair value adjustments to Venator investment	(62)	—	—
Loss on early extinguishment of debt	(3)	(54)	(3)
Certain legal settlements and related (expenses) income	(6)	11	(1)
Gain on sale of assets	—	9	97
Amortization of pension and postretirement actuarial losses	(71)	(73)	(55)
Plant incident remediation costs	(1)	(16)	—
U.S. Tax Reform Act impact on noncontrolling interest	—	6	—
Restructuring, impairment and plant closing and transition credits (costs)	4	(20)	(48)
Net income	$ 650	$ 741	$ 357

26. OPERATING SEGMENT INFORMATION (Continued)

	Year ended December 31,		
	2018	2017	2016
Depreciation and Amortization:			
Polyurethanes	$ 129	$ 116	$ 114
Performance Products	145	137	132
Advanced Materials	37	33	35
Textile Effects	16	14	15
Corporate and other	16	19	22
Total	$ 343	$ 319	$ 318

	Year ended December 31,		
	2018	2017	2016
Capital Expenditures:			
Polyurethanes	$ 163	$ 162	$ 143
Performance Products	100	79	131
Advanced Materials	20	21	16
Textile Effects	20	16	19
Corporate and other	10	4	9
Total	$ 313	$ 282	$ 318

	December 31,		
	2018	2017	2016
Total Assets:			
Polyurethanes	$ 3,427	$ 3,112	$ 2,677
Performance Products	2,088	2,069	2,046
Advanced Materials	796	796	728
Textile Effects	571	564	523
Corporate and other	1,071	823	975
Total	$ 7,953	$ 7,364	$ 6,949

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(1) We use segment adjusted EBITDA as the measure of each segment's profit or loss. We believe that segment adjusted EBITDA more accurately reflects what management uses to make decisions about resources to be allocated to the segments and assess their financial performance. Segment adjusted EBITDA is defined as net income of Huntsman Corporation before interest, income tax, depreciation and amortization, net income attributable to noncontrolling interests and certain Corporate and other items, as well as eliminating the following adjustments: (a) business acquisition and integration expenses; (b) merger costs; (c) EBITDA from discontinued operations; (d) noncontrolling interest of discontinued operations; (e) fair value adjustments to Venator investment; (f) loss on early extinguishment of debt; (g) certain legal settlements and related income (expenses); (h) gain (loss) on sale of assets; (i) amortization of pension and postretirement actuarial losses; (j) plant incident remediation costs; (k) U.S. Tax Reform Act impact on noncontrolling interest; and (l) restructuring, impairment, plant closing and transition credits (costs).

(2) Corporate and other includes unallocated corporate overhead, unallocated foreign exchange gains and losses, LIFO inventory valuation reserve adjustments, nonoperating income and expense, benzene sales and gains and losses on the disposition of corporate assets.

26. OPERATING SEGMENT INFORMATION (Continued)

	Year ended December 31,		
	2018	2017	2016
Revenues by geographic area(1):			
United States	$ 3,160	$ 2,729	$ 2,514
China	1,281	1,147	908
Mexico	587	481	433
Germany	537	508	466
Other nations	3,814	3,493	3,197
Total	$ 9,379	$ 8,358	$ 7,518

	December 31,		
	2018	2017	2016
Long-lived assets(2):			
United States	$ 1,637	$ 1,597	$ 1,570
The Netherlands	331	343	294
China	247	268	235
Saudi Arabia	161	172	185
Germany	143	163	136
Switzerland	108	112	110
Singapore	96	100	110
Other nations	341	343	394
Total	$ 3,064	$ 3,098	$ 3,034

(1) Geographic information for revenues is based upon countries into which product is sold.

(2) Long-lived assets consist of property, plant and equipment, net.

27. SELECTED UNAUDITED QUARTERLY FINANCIAL DATA

A summary of selected unaudited quarterly financial data for the years ended December 31, 2018 and 2017 is as follows (dollars in millions, except per share amounts):

	Three months ended			
	March 31, 2018	June 30, 2018	September 30, 2018(1)	December 31, 2018(2)
Revenues	$ 2,295	$ 2,404	$ 2,444	$ 2,236
Gross profit	540	555	524	406
Restructuring, impairment and plant closing costs (credits)	2	1	5	(13)
Income from continuing operations	236	289	229	91
Net income (loss)	350	623	(8)	(315)
Net income attributable to noncontrolling interests(3)	76	209	3	25
Net income (loss) attributable to Huntsman Corporation	274	414	(11)	(340)
Basic income (loss) per share(4):				
Income from continuing operations attributable to Huntsman Corporation common stockholders	0.66	1.12	0.86	0.32
Net income (loss) attributable to Huntsman Corporation common stockholders	1.14	1.73	(0.05)	(1.45)
Diluted income (loss) per share(4):				
Income from continuing operations attributable to Huntsman Corporation common stockholders	0.65	1.11	0.85	0.32
Net income (loss) attributable to Huntsman Corporation common stockholders	1.11	1.71	(0.05)	(1.43)

	Three months ended			
	March 31, 2017	June 30, 2017	September 30, 2017	December 31, 2017(5)
Revenues	$ 1,932	$ 2,054	$ 2,169	$ 2,203
Gross profit	390	436	472	508
Restructuring, impairment and plant closing costs	9	3	1	7
Income from continuing operations	99	138	116	230
Net income	92	183	179	287
Net income attributable to noncontrolling interests(3)	16	16	32	41
Net income attributable to Huntsman Corporation	76	167	147	246
Basic income per share(4):				
Income from continuing operations attributable to Huntsman Corporation common stockholders	0.35	0.51	0.36	0.79
Net income attributable to Huntsman Corporation common stockholders	0.32	0.70	0.62	1.03
Diluted income per share(4):				
Income from continuing operations attributable to Huntsman Corporation common stockholders	0.34	0.50	0.34	0.77
Net income attributable to Huntsman Corporation common stockholders	0.31	0.69	0.60	1.00

(1) During the third quarter of 2018, we recognized a net after tax valuation allowance of $270 million to adjust the carrying amount of the assets and liabilities held for sale and the amount of accumulated comprehensive income recorded in equity related to Venator to the lower of cost or estimated fair value, less cost to sell. This loss was recorded in discontinued operations on our consolidated statements of operations. For more information see "Note 4. Discontinued Operations and Dispositions – Separation and Deconsolidation of Venator."

(2) In connection with the deconsolidation of Venator, we recorded a pretax loss of $427 million during the fourth quarter of 2018 to record our remaining ownership interest in Venator at fair value. This loss was recorded in

27. SELECTED UNAUDITED QUARTERLY FINANCIAL DATA (Continued)

discontinued operations on our consolidated statements of operations. We elected the fair value option to account for our equity method investment in Venator post deconsolidation. Accordingly, at December 31, 2018, we recorded a pretax loss of $57 million to record our equity method investment in Venator at fair value. This loss was recorded in "Fair value adjustments to Venator investment" on our consolidated statements of operations. Furthermore, in connection with the December 3, 2018 sale of Venator shares to Bank of America N.A., we recorded a forward swap. During December 2018, we recorded a loss of $5 million in "Fair value adjustments to Venator investment" on our consolidated statements of operations to record the forward swap at fair value. For more information, see "Note 4. Discontinued Operations and Dispositions – Separation and Deconsolidation of Venator."

(3) In connection with the Venator IPO in August 2017, we separated the P&A Business and, beginning in the third quarter of 2017, we reported the results of operations of Venator as discontinued operations on our consolidated financial statements. On December 3, 2018, we further reduced our investment in Venator by the sale of Venator ordinary shares which allowed us to deconsolidate Venator beginning in December 2018. See "Note 4. Discontinued Operations and Business Dispositions—Separation of Venator."

(4) Basic and diluted income per share are computed independently for each of the quarters presented based on the weighted average number of common shares outstanding during that period. Therefore, the sum of quarterly basic and diluted per share information may not equal annual basic and diluted earnings per share.

(5) On December 22, 2017, the U.S. enacted the U.S. Tax Reform Act. During the fourth quarter of 2017, we recorded the impact of the U.S. Tax Reform Act which resulted in a net $52 million income tax benefit.

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MARKET FOR REGISTRANT'S COMMON EQUITY, RELATED STOCKHOLDER MATTERS AND ISSUER PURCHASES OF EQUITY SECURITIES

MARKET INFORMATION AND HOLDERS

Our common stock is listed on the New York Stock Exchange under the symbol "HUN." As of January 31, 2019, there were approximately 54 stockholders of record and the closing price of our common stock on the New York Stock Exchange was $21.97 per share.

DIVIDENDS

The payment of dividends is a business decision made by our Board of Directors from time to time based on our earnings, financial position and prospects, and such other considerations as our Board of Directors considers relevant. Accordingly, while management currently expects that the Company will continue to pay the quarterly cash dividend, its dividend practice may change at any time. On February 7, 2018, the Board of Directors approved an increase to the quarterly cash dividend to $0.1625 per share of common stock beginning with the March 30, 2018 quarterly dividend.

PURCHASES OF EQUITY SECURITIES BY THE COMPANY

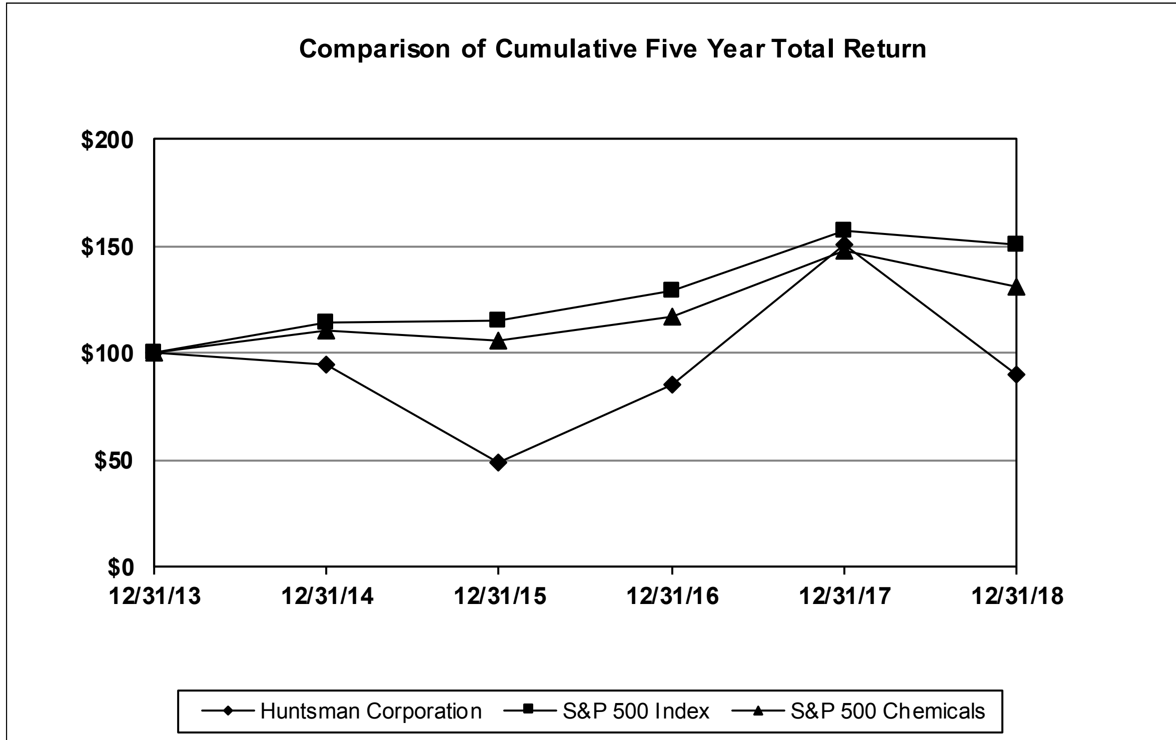
The following table provides information with respect to shares of our common stock that we repurchased as part of our share repurchase program and shares of restricted stock granted under our stock incentive plans that we withheld upon vesting to satisfy our tax withholding obligations during the three months ended December 31, 2018.

	Total number of shares purchased	Average price paid per share(1)	Total number of shares purchased as part of publicly announced plans or programs(2)	Approximate dollar value of shares that may yet be purchased under the plans or programs(2)
October	460,000	$ 21.87	460,000	$ 815,000,000
November	3,801,102	22.66	3,800,954	729,000,000
December	248,838	19.39	248,838	724,000,000
Total	4,509,940	$ 22.40		

(1) Represents net purchase price per share, exclusive of any fees or commissions.

(2) On February 7, 2018 and on May 3, 2018, our Board of Directors authorized our Company to repurchase up to an additional $950 million in shares of our common stock in addition to the $50 million remaining under our September 2015 share repurchase authorization. The share repurchase program will be supported by our free cash flow generation and by the monetization of Venator shares. Repurchases may be made in the open market, including through accelerated share repurchase programs, or in privately negotiated transactions, and repurchases may be commenced or suspended from time to time without prior notice. Shares of common stock acquired through the repurchase program are held in treasury at cost.

STOCK PERFORMANCE GRAPH



Huntsman Corporation—Corporate Information

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Tel.: +1-281-719-6000

INDEPENDENT REGISTERED PUBLIC ACCOUNTING FIRM
Deloitte & Touche LLP

STOCKHOLDER INQUIRIES
Inquiries from stockholders and other interested parties regarding our company are always welcome. Please direct your requests to:

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Toll Free: 1-866-210-6997
International: +1-201-680-6578

Website:
www.computershare.com/investor

STOCK LISTING
Our common stock is listed on the New York Stock Exchange under the symbol HUN.

HUN
LISTED
NYSE

ANNUAL MEETING
The 2019 annual meeting of stockholders will take place on Thursday, May 2, 2019 at 8:30 a.m., local time, at the following location:

The Westin At The Woodlands
2 Waterway Square Place
The Woodlands, Texas 77380 USA
Tel.: +1-281-419-4300

WEBSITE
www.huntsman.com

FORWARD-LOOKING STATEMENTS
Statements in this report that are not historical are forward-looking statements. These statements are based on management's current beliefs and expectations. The forward-looking statements in this release are subject to uncertainty and changes in circumstances and involve risks and uncertainties that may affect the company's operations, markets, products, services, prices and other factors as discussed in the Huntsman companies' filings with the U.S. Securities and Exchange Commission. Significant risks and uncertainties may relate to, but are not limited to, volatile global economic conditions, cyclical and volatile product markets, disruptions in production at manufacturing facilities, reorganization or restructuring of Huntsman's operations, the ability to implement cost reductions and manufacturing optimization improvements in Huntsman businesses, and other financial, economic, competitive, environmental, political, legal, regulatory and technological factors. The company assumes no obligation to provide revisions to any forward-looking statements should circumstances change, except as otherwise required by applicable laws.

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HUNTSMAN

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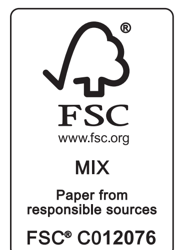

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