

Enriching lives through innovation



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.

2019 Milestones

- > Agreed to sell our Chemical Intermediates and Surfactants businesses to Indorama Ventures for approximately \$2 billion, which further strengthens our investment grade balance sheet and reduces our upstream footprint. (The divesture was completed on January 3, 2020.)
- > Achieved investment grade ratings from Moody's Investor Services, Inc. and Fitch Ratings, Inc. and issued \$750 million of senior notes due 2029. Proceeds were used to redeem \$650 million of our senior notes due 2020 and for general corporate purposes.
- > Generated free cash flow of \$389 million in 2019 and ended the year with net debt leverage of 1.7 times; pro forma net debt leverage considering the net proceeds from the sale of our Chemical Intermediates and Surfactants businesses that closed on January 3, 2020 is less than 0.5 times.
- > Paid out \$150 million in dividends to our shareholders and repurchased 10.1 million shares for approximately \$208 million. Total shareholder return for 2019 was approximately 29%.
- > Published our "Horizon 2025" corporate EHS strategy and set targets for our occupational safety, process safety and environmental performance over the next six years.
- > Announced an agreement in December 2019 to acquire Icynene-Lapolla for \$350 million, which will nearly double the size of Huntsman's existing spray polyurethane foam insulation business.
- > Acquired the remaining 50% interest in the Sasol-Huntsman maleic anhydride joint venture from Sasol for approximately \$100 million in September 2019.
- > Expanded our polyurethanes downstream system house network by opening a new facility in Dubai, UAE.



Peter R. Huntsman

Chairman, President and Chief Executive Officer

Dear Fellow Shareholders:

As I write this letter, Huntsman Corporation is just a few weeks beyond having closed the sale of our Chemical Intermediates and Surfactants businesses to Indorama Ventures for approximately \$2 billion, which was finalized on January 3, 2020, and which concluded a strategically eventful 2019 that left us firmly positioned to drive consistent shareholder value for years to come. This transformational divestiture significantly reduces our capital-intensive upstream asset base, further bolstering an already strong balance sheet and enabling us to more aggressively invest in and grow our downstream businesses.

Throughout the year, we continued to invest in our core downstream businesses. In September, we not only opened a new polyurethanes systems house in Dubai, strengthening our downstream capabilities in the Middle East and North Africa, but we also acquired the remaining 50% interest in the Sasol-Huntsman maleic anhydride joint venture for \$100 million, consistent with our strategy to invest in our businesses that deliver higher, more stable margins and strong free cash flow.

In December, we announced our intention to acquire lcynene-Lapolla, a leading North American manufacturer and distributor of spray polyurethane foam (SPF) insulation systems, for \$350 million. This strategic move substantially expands our energy-efficient, downstream SPF business globally.

We remain steadfast in our commitment to maintain an investment grade balance sheet and generate solid annual free cash flow. We exited 2019 with a net debt to adjusted EBITDA ratio of 1.7 times, which is now below 0.5 times on a pro forma basis when adjusting for the sale of the Chemical Intermediates and Surfactants businesses and the net cash proceeds received on January 3, 2020. Our free cash flow generation of \$389 million in 2019 represented another solid year for cash flow generation at Huntsman.

In addition to our downstream investments, we remained committed to a balanced approach to capital allocation in 2019 by repurchasing shares opportunistically and supporting a competitive quarterly dividend. In 2019, we

paid \$150 million in dividends and repurchased 10.1 million shares for \$208 million. We have \$516 million remaining on our authorized share repurchase program as of December 31, 2019 and will remain balanced in our capital allocation program going forward in 2020.

As we enter a new decade, we will continue to manage that which is within our control—costs, financial strength, and improving our overall portfolio through internal investments and strategic complementary acquisitions. Additionally, we will maintain a laser focus on three strategic fronts.

First: The safety and well-being of our associates and stakeholders. This includes not only our commitment to safety, but also our continuous improvement to the environment, our local communities and making sure we listen to our customers, suppliers, shareholders, and the communities where we do business.

Second: *Growth and capital allocation.* With an exceptional balance sheet and core global business platform, Huntsman Corporation has never been better positioned to take advantage of growth opportunities, including strategic acquisitions, as well as provide enhanced shareholder returns through a competitive dividend and opportunistic share repurchases.

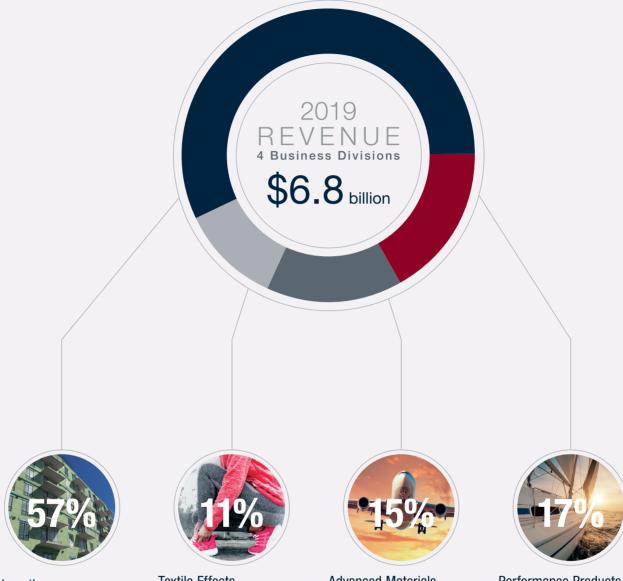
Third: Innovation. We will continue to introduce innovative solutions, products and value-adding services to our customers, particularly in markets striving to improve energy efficiency and light-weighting. We will provide the tools for this innovation and maintain an environment that rewards creativity.

Thank you for your confidence in Huntsman. I look forward to updating you again in next year's letter.

Peter R. Huntsman
Chairman. President and CEO

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Overview of Business Divisions



Polyurethanes

Polyurethanes is 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.

Textile Effects

Textile Effects is 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.

Advanced Materials

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

Performance Products

Performance Products manufactures a wide variety of chemical products that provide important properties in everyday items people want and need. The primary product categories of amines and maleic anhydride are used in coating & adhesives, fuels & lubricants, urethane catalysts, composites, gas treating, and epoxy curing.

Sustainability at Huntsman: Innovating Toward a Circular Economy

HUNTSMAN IS REDUCING PLASTIC WASTE AND SAVING ENERGY THROUGH ITS WORLD-CLASS INSULATION PRODUCTS.

Huntsman does not manufacture polyethylene terephthalate (PET) plastic bottles, but we recognize their impact on the environment and we are taking action.



In Houston, Texas, not far from Huntsman's headquarters, we transform PET scrap that may otherwise be destined for landfills or possibly find its way into the oceans into TEROL® polyester polyols for use in energy-saving spray polyurethane foam (SPF) and other polyurethane (PU) insulation products. Not only do these products enable the conservation of energy, they also significantly reduce the long-term cost of climate control in homes and commercial buildings.

It has been estimated that approximately 50% of all energy is consumed in the heating and cooling of buildings and industry.* When comparing the energy requirements and savings of climate control in PU-insulated buildings with non-insulated buildings, studies demonstrate that PU insulation saves approximately 137 times the amount of energy used in its production over the lifetime of a building.**

We transform
PET scrap that may
otherwise be destined for
landfills or possibly find its
way into the oceans.

Since 2015, Huntsman has recycled the equivalent of five billion PET bottles in the manufacture of 290 million pounds of TEROL® polyols—enough to insulate more than 67,000 homes with the world's most energy-efficient insulation products and thereby reducing the environmental impact and carbon footprint of climate control.

WE'RE RISING TO MEET THE PLASTIC WASTE AND CLIMATE CONTROL CHALLENGES GLOBALLY.

We are expanding our capacity to provide PU insulation offerings for residential and commercial applications globally.

In 2018, we acquired Demilec, and in late 2019, we announced an agreement to acquire Icynene-Lapolla. Both businesses are leading manufacturers and distributors of SPF insulation, both businesses are consumers of TEROL® polyols, and both businesses focus on bio-preferred, renewable and recyclable products that reduce energy consumption through highly efficient insulation properties.

In 2019, we opened a new PU systems house in Dubai, which is serving, among other purposes, as a regional base for our SPF business. We have multiple ongoing PU-focused capital investments in Asia, and in 2020, our production facility in

Taiwan will begin manufacturing TEROL® polyols with recycled PET for the growing regional polyisocyanurate foam insulation market. And, with our soon-to-be-combined SPF platform, we will further accelerate the domestic and international use of these recycled, energy-saving insulation products.

Learn more about what we're doing to create a more sustainable future. See Huntsman's 2018/2019 sustainability report, "Innovating Toward a Circular Economy" and visit huntsman.com/PETrecycling.

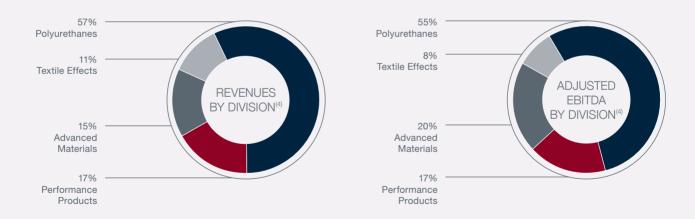
^{*&}quot;Heating and cooling: facts and figures." European Commission.

^{***&}quot;Environmental product declaration (EPD) for PU (PUR/PIR) thermal insulation boards and energy saving potential." Federation of European Rigid Polyurethane Foam Associations.

Financial Highlights - 2019 at a Glance

	Year Er	nded Dece	mber 31,
\$ in millions, except per share amounts	2019	2018	2017
Revenues	\$6,797	\$7,604	\$ 6,845
Gross profit	\$1,382	\$1,764	\$ 1,651
Interest expense, net	\$ 111	\$ 115	\$ 165
Net income	\$ 598	\$ 650	\$ 741
Adjusted net income ⁽¹⁾	\$ 353	\$ 642	\$ 519
Diluted adjusted net income per share ⁽¹⁾	\$ 1.53	\$ 2.66	\$ 2.13
Adjusted EBITDA ⁽¹⁾	\$ 846	\$1,161	\$ 1,040
Free cash flow ⁽¹⁾	\$ 389	\$ 454	\$ 472
Capital expenditures, net ⁽²⁾	\$ 263	\$ 243	\$ 231

	December 31,			
\$ in millions	2019	2018	2017	
Total assets	\$8,320	\$7,953	\$10,244	
Net debt ⁽³⁾	\$1,864	\$1,980	\$ 1,817	



Note: The Chemical Intermediates and Surfactants businesses sold to Indorama Ventures on January 3, 2020 is treated as discontinued operations in all periods shown.

⁽¹⁾ Reconciliations of non-GAAP measures to GAAP are provided on pages 41–46 of our annual report on Form 10-K for the year ended December 31, 2019, as filed with the SEC on February 13, 2020.

⁽²⁾ Net of reimbursements of \$11 million, \$8 million and \$3 million in 2019, 2018 and 2017, respectively.

⁽³⁾ Net debt calculated as total debt, excluding affiliates, less cash of \$525 million, \$340 million and \$481 million in 2019, 2018 and 2017, respectively.

⁽⁴⁾ Divisional 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, 2019, which was filed with the Securities and Exchange Commission on February 13, 2020.

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,						
	2019	2018	2017	2016	2015		
Charles and a Comment and Date	(in millions, e	except per	hare amount	es)		
Statements of Operations Data:	Ф. С. 707	07.004	Φ (045	0 (14 (Φ C C7.4		
Revenues	\$ 6,797		\$ 6,845		\$ 6,674		
Gross profit	1,382	1,764	1,651	1,321	1,430		
Restructuring, impairment and plant closing (credits) costs	(41)	(7)	19	_	74		
Operating income	469	827	729		468		
Income from continuing operations	429	689	511		271		
Income (loss) from discontinued operations, net of $tax(1)$	169	(39)	230		(145)		
Net income	598	650	741		126		
Net income attributable to noncontrolling interests	(36)	(313)	(105	, ,	(33)		
Net income attributable to Huntsman Corporation	562	337	636	326	93		
Basic income (loss) per common share:							
Income from continuing operations attributable to Huntsman							
Corporation common stockholders	\$ 1.72	\$ 2.55	\$ 1.71	\$ 1.02	\$ 0.98		
Income (loss) from discontinued operations attributable to							
Huntsman Corporation common stockholders, net of tax(1)	0.74	(1.13)	0.96	0.36	(0.60)		
Net income attributable to Huntsman Corporation common							
stockholders	\$ 2.46	\$ 1.42	\$ 2.67	\$ 1.38	\$ 0.38		
Diluted income (loss) per common share:							
Income from continuing operations attributable to Huntsman							
Corporation common stockholders	\$ 1.70	\$ 2.52	\$ 1.66	\$ 1.00	\$ 0.97		
Income (loss) from discontinued operations attributable to							
Huntsman Corporation common stockholders, net of tax(1)	0.74	(1.13)	0.95	0.36	(0.59)		
Net income attributable to Huntsman Corporation common				_			
stockholders	\$ 2.44	\$ 1.39	\$ 2.61	\$ 1.36	\$ 0.38		
Other Data:	-						
Depreciation and amortization	\$ 270	\$ 255	\$ 236	\$ 243	\$ 238		
Dividends per share	0.65	0.65	0.50		0.50		
Balance Sheet Data (at period end):	0.03	0.03	0.50	0.50	0.50		
Total assets	\$ 8,320	\$ 7,953	\$ 10,244	\$ 9,189	\$ 9,820		
Total debt	2,389	2,320	2,298		4,770		
Total liabilities	5,496	5,204	6,873		8,191		
Total Hauffilles	2,470	5,204	0,073	1,122	0,171		

⁽¹⁾ Discontinued operations include our chemical intermediates businesses, which includes PO/MTBE, and our surfactants businesses (collectively, our "Chemical Intermediates Businesses"), our Australian styrenics operations and our North American polymers and base chemicals operations for all periods presented. In addition, discontinued operations for the years ended December 31, 2018, 2017, 2016 and 2015 also include the results of Venator Materials PLC ("Venator"). Beginning in the fourth quarter of 2018, Venator was no longer accounted for as discontinued operations.

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

RECENT DEVELOPMENTS

Sale of Chemical Intermediates Businesses

On January 3, 2020, we completed the sale of our Chemical Intermediates Businesses to Indorama Ventures Holdings L.P. ("Indorama") in a transaction valued at approximately \$2 billion, comprising a cash purchase price of approximately \$1.93 billion, which includes estimated adjustments to the purchase price for working capital, plus the transfer of approximately \$72 million in net underfunded pension and other post-employment benefit liabilities. The final purchase price is subject to customary post-closing adjustments. The net after tax cash proceeds are expected to be approximately \$1.6 billion. For more information, see "Note 4. Discontinued Operations and Business Dispositions—Sale of Chemical Intermediates Businesses" to our consolidated financial statements.

Icynene-Lapolla Acquisition

On December 5, 2019, we entered into an agreement with an affiliate of FFL Partners, LLC to acquire Icynene-Lapolla, a leading North American manufacturer and distributor of spray polyurethane foam insulation systems for residential and commercial applications. Icynene-Lapolla operates two manufacturing facilities located in Houston, Texas and Mississauga, Ontario. Under terms of the agreement, we agreed to pay \$350 million, subject to customary closing adjustments, in an all-cash transaction to be funded from available liquidity. The transaction is expected to close in the first quarter of 2020. The acquired business is expected to be integrated into our Polyurethanes segment.

Acquisition of Remaining Interest in Sasol-Huntsman Joint Venture

On September 30, 2019, we acquired from Sasol, our former joint venture partner, the 50% noncontrolling interest that we did not own in the Sasol-Huntsman GmbH and Co. KG ("Sasol-Huntsman") maleic anhydride joint venture. The joint venture owned a manufacturing facility in Moers, Germany with capacity to produce 230 million pounds of maleic anhydride. We paid Sasol \$101 million, which included acquired cash, net of any debt. The purchase price was funded from a new 364-day term loan facility ("the 2019 Term Loan"). See "Note 15. Debt—Direct and Subsidiary Debt—Term Loan Credit Facility" to our consolidated financial statements.

RESULTS OF OPERATIONS

The following tables set forth our consolidated results of operations for the years ended December 31, 2019, 2018 and 2017 (dollars in millions, except per share amounts).

	December 31,			Percent Change		
	2019	2018	2017	2019 vs 2018	2018 vs 2017	
Revenues	\$ 6,797	\$ 7,604	\$ 6,845	(11)%	11%	
Cost of goods sold	5,415	5,840	5,194	(7)%	12%	
Gross profit	1,382	1,764	1,651	(22)%	7%	
Operating expenses	954	942	875	1%	8%	
Restructuring, impairment and plant closing (credits) costs	(41)	(7)	19	486%	NM	
Merger costs		2	28	(100)%	(93)%	
Operating income	469	827	729	(43)%	13%	
Interest expense	(111)	(115)	(165)	(3)%	(30)%	
Equity in income of investment in unconsolidated affiliates	54	55	13	(2)%	323%	
Fair value adjustments to Venator investment	(18)	(62)	_	(71)%	NM	
Loss on early extinguishment of debt	(23)	(3)	(54)	667%	(94)%	
Other income, net.	20	32	8	(38)%	300%	
Income from continuing operations before income taxes	391	734	531	(47)%	38%	
Income tax benefit (expense)	38	(45)	(20)	NM	125%	
Income from continuing operations	429	689	511	(38)%	35%	
Income (loss) from discontinued operations, net of tax	169	(39)	230	NM	NM	
Net income	598	650	741	(8)%	(12)%	
Reconciliation of net income to adjusted EBITDA:				(-)	()	
Net income attributable to noncontrolling interests	(36)	(313)	(105)	(88)%	198%	
Interest expense from continuing operations	111	115	165	(3)%	(30)%	
Interest expense from discontinued operations	_	36	19	(100)%	89%	
Income tax (benefit) expense from continuing operations	(38)	45	20	NM	125%	
Income tax expense from discontinued operations	35	86	111	(59)%	(23)%	
Depreciation and amortization of continuing operations	270	255	236	6%	8%	
Depreciation and amortization of discontinued operations	61	88	151	(31)%	(42)%	
Other adjustments:	01	00	131	(31)/0	(12)/0	
Business acquisition and integration expenses and purchase accounting						
inventory adjustments	5	9	19			
Merger costs	_	2	28			
EBITDA from discontinued operations.	(265)	(171)	(511)			
Noncontrolling interest of discontinued operations.	(203)	232	49			
Fair value adjustments to Venator investment	18	62	—			
Loss on early extinguishment of debt	23	3	54			
Certain legal settlements and related expenses (income)	6	1	(11)			
Loss (gain) on sale of businesses/assets	21	1	(9)			
Certain nonrecurring information technology project implementation	21		(2)			
costs	4					
Amortization of pension and postretirement actuarial losses	66	67	69			
Plant incident remediation costs	8	07	1			
U.S. Tax Reform Act impact on noncontrolling interest.	O		(6)			
Restructuring, impairment and plant closing and transition (credits)	_		(0)			
	(41)	(6)	19			
costs(2)	(41) © 946	\$ 1,161		(27)0/	120/	
Adjusted EBITDA(1)	\$ 846	\$ 1,101	\$ 1,040	(27)%	12%	
Note and annual distriction and the second of the second o	¢ (5)	¢ 704	¢ (70	(7)0/	50/	
Net cash provided by operating activities from continuing operations	\$ 656	\$ 704	\$ 672	(7)%	5%	
Net cash used in investing activities from continuing operations	(201)	(615)	(217)	(67)%	183%	
Net cash used in financing activities	(450)	(424)	(519)	6%	(18)%	
Capital expenditures from continuing operations	(274)	(251)	(234)	9%	7%	

	De	Year ende		D	Year ended December 31, 2018			Year ended December 31, 2017		
		Tax and			Tax and			Tax and		
	Gross	other(3)	Net	Gross	other(3)	Net	Gross	other(3)	Net	
Reconciliation of net income to adjusted net income						<u>_</u>				
Net income			\$ 598			\$ 650			\$ 741	
Net income attributable to noncontrolling interests			(36)			(313)			(105)	
Business acquisition and integration expenses and purchase										
accounting inventory adjustments	\$ 5	\$ —	5	\$ 9	\$ (3)	6	\$ 19	\$ (5)	14	
Merger costs	_	_	_	2	_	2	28	(10)	18	
Income from discontinued operations(5)	(265)	96	(169)	(171)	210	39	(511)	281	(230)	
Noncontrolling interest of discontinued operations	_	_	_	232	_	232	49	_	49	
Fair value adjustments to Venator investment	18	_	18	62	_	62	_	_	_	
Loss on early extinguishment of debt	23	(5)	18	3	(1)	2	54	(19)	35	
Certain legal settlements and related expenses (income)	6	(1)	5	1	(1)	_	(11)	4	(7)	
Loss (gain) on sale of businesses/assets	21	(5)	16	_	_	_	(9)	_	(9)	
Certain nonrecurring information technology project										
implementation costs	4	(1)	3	_	_	_	_	_	_	
Amortization of pension and postretirement actuarial losses	66	(16)	50	67	(13)	54	69	(15)	54	
Significant activities related to deferred tax assets and liabilities(4).	_	(128)	(128)	_	(119)	(119)	_	_	_	
U.S. Tax Reform Act impact on income tax expense	_	(1)	(1)	_	32	32	_	(52)	(52)	
U.S. Tax Reform Act impact on noncontrolling interest	_	_	_	_	_	_	(6)	_	(6)	
Plant incident remediation costs	8	(2)	6	_	_	_	1	_	1	
Restructuring, impairment and plant closing and transition										
(credits) costs(2)	(41)	9	(32)	(6)	1	(5)	19	(3)	16	
Adjusted net income(1)			\$ 353			\$ 642			\$ 519	
·								:		
Weighted average shares-basic			228.9			238.1			238.4	
Weighted average shares-diluted			230.6			241.6			243.9	
Basic net income (loss) attributable to Huntsman										
Corporation per share:										
Income from continuing operations			\$ 1.72			\$ 2.55			\$ 1.71	
Income (loss) from discontinued operations			0.74			(1.13)			0.96	
Net income			\$ 2.46			\$ 1.42		•	\$ 2.67	
								;		
Diluted net income (loss) attributable to Huntsman										
Corporation per share:										
Income from continuing operations			\$ 1.70			\$ 2.52			\$ 1.66	
Income (loss) from discontinued operations			0.74			(1.13)			0.95	
Net income			\$ 2.44			\$ 1.39		•	\$ 2.61	
			Ψ 2			Ψ 1.07			ψ <u>2.01</u>	
Other non-GAAP measures:										
Diluted adjusted net income per share(1)			\$ 1.53			\$ 2.66			\$ 2.13	
Briated adjusted net income per share(1)			Ψ 1.55			φ 2.00			Ψ 2.13	
Net cash provided by operating activities from continuing										
operations			\$ 656		\$	704			\$ 672	
Capital expenditures from continuing operations			(274)		Ψ	(251)			(234)	
All other investing activities from continuing operations,			(= / 1)			(231)			(=3 1)	
excluding acquisition and disposition activities			7			(1)			6	
Non-recurring merger costs						2			28	
Free cash flow from continuing operations(1).			\$ 389			\$ 454			\$ 472	
1100 cash now from continuing operations(1)			ψ J07		:	ψ -TJ-T			Ψ 1/2	

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, 2019, we recorded \$153 million of tax benefit relating to the outside basis difference in our investment in Venator, we recorded \$18 million of tax benefit relating to realized tax losses on our remaining interest in Venator, we established \$11 million of significant income tax valuation allowance in Australia

and we recorded \$32 million of deferred tax expense due to the reduction of tax rates in Switzerland. 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 these significant changes in tax valuation allowances and deferred tax assets and liabilities 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.

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 and purchase accounting inventory adjustments; (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 expenses (income); (h) gain on sale of businesses/assets; (i) certain nonrecurring information technology project implementation costs; (j) amortization of pension and postretirement actuarial losses; (k) plant incident remediation costs; (l) U.S. Tax Cuts and Jobs Act ("U.S. Tax Reform Act") impact on noncontrolling interest; and (m) restructuring, impairment and plant closing and transition (credits) costs. 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 and purchase accounting inventory adjustments; (b) merger costs; (c) loss (income) 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 on sale of businesses/assets; (i) certain nonrecurring information technology project implementation costs; (j) amortization of pension and postretirement actuarial losses; (k) significant activities related to deferred tax assets and liabilities; (l) U.S. Tax Reform Act impact on income tax expense; (m) U.S. Tax Reform Act impact on noncontrolling interest; (n) plant incident remediation costs; and (o) restructuring, impairment and plant closing and transition (credits) costs. 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 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.

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, including non-recurring merger costs. Free cash flow as used herein is not necessarily comparable to other similarly titled measures of other companies due to potential inconsistencies in the method of calculation. 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, 2019 Compared with Year Ended December 31, 2018

As discussed in "Note 4. Discontinued Operations and Business Dispositions—Sale of Chemical Intermediates Businesses" and "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 our Chemical Intermediates Businesses and the results of our former polymers, base chemicals and

Australian styrenics businesses for all periods presented as well as the results of Venator for 2018. The increase of \$225 million in net income attributable to Huntsman Corporation was the result of the following items:

- Revenues for the year ended December 31, 2019 decreased by \$807 million, or 11%, as compared with the
 2018 period. The decrease was primarily due to lower average selling prices in all our segments, except for
 our Textile Effects segment, and lower sales volumes in all our segments, except for our Polyurethanes
 segment. See "—Segment Analysis" below.
- Our gross profit for the year ended December 31, 2019 decreased by \$382 million, or 22%, as compared with the 2018 period. The decrease resulted from lower gross margins in all our segments. See "—Segment Analysis" below.
- Our operating expenses for the year ended December 31, 2019 increased by \$12 million, or 1%, as compared with the 2018 period, primarily related to an increase in divestiture related costs, partially offset by the impact of translating foreign currency amounts to the U.S. dollar.
- Restructuring, impairment and plant closing (credits) costs for the year ended December 31, 2019 was a credit of \$41 million compared to a credit of \$7 million in the 2018 period. For more information on restructuring activities, see "Note 13. Restructuring, Impairment and Plant Closing (Credits) Costs" to our consolidated financial statements.
- We recorded a loss of \$18 million in fair value adjustments to our investment in Venator for the year ended December 2019 compared to a loss of \$62 million in 2018. See "Note 4. Discontinued Operations and Business Dispositions—Separation and Deconsolidation of Venator" to our consolidated financial statements.
- Loss on early extinguishment of debt for the year ended December 31, 2019 increased to \$23 million from \$3 million in the 2018 period in relation to the early repayment in full of our 4.875% senior notes due 2020 ("2020 Senior Notes") in the first quarter of 2019. See "Note. 15. Debt—Notes" to our consolidated financial statements.
- Our other income, net for the year ended December 31, 2019 decreased by \$12 million as compared with the 2018 period, primarily attributable to higher pension-related credits in the 2018 period.
- Our income tax benefit for the year ended December 31, 2019 increased to \$38 million from an expense of \$45 million in the 2018 period. The increase in tax benefit was primarily due to the decrease in pretax income along with discrete items in each period. In 2019, discrete items include tax benefits related to built-in capital losses and realized tax losses both on our remaining interest in Venator, partially offset by tax expense related to the establishment of a valuation allowance in Australia and the change in tax rate in Switzerland. In 2018, discrete items include tax benefits related to the release of valuation allowances in Switzerland, Luxembourg and the U.K., partially offset by additional provisional deemed repatriation transition tax. 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 20. Income Taxes" to our consolidated financial statements.

Segment Analysis

Year Ended December 31, 2019 Compared to Year Ended December 31, 2018

	Ve	ar ended I) ece	mher 31.	Percent Change Favorable
(Dollars in millions)		Year ended December 31, 2019 2018			(Unfavorable)
Revenues					
Polyurethanes	\$	3,911	\$	4,282	(9)%
Performance Products		1,158		1,301	(11)%
Advanced Materials		1,044		1,116	(6)%
Textile Effects		763		824	(7)%
Corporate and eliminations		(79)		81	NM
Total	\$	6,797	\$	7,604	(11)%
Segment adjusted EBITDA(1)					
Polyurethanes	\$	548	\$	809	(32)%
Performance Products		168		197	(15)%
Advanced Materials		201		225	(11)%
Textile Effects		84		101	(17)%
Corporate and other		(155)		(171)	9%
Total	\$	846	\$	1,161	(27)%

NM—Not meaningful

(1) For more information, including reconciliation of segment adjusted EBITDA to net income of Huntsman Corporation, see "Note 27. Operating Segment Information" to our consolidated financial statements.

Year ended December 31, 2019 vs 2018

(1)%

(1)%

1%

2%

	Average	e Selling Price(1)		
	Local	Foreign Currency	Mix &	Sales
	Currency	Translation Impact	Other	Volumes(2)
Period-Over-Period (Decrease) Increase				
Polyurethanes	(13)%	(2)%	1%	5%
Performance Products	(2)%	(2)%	1%	(8)%
Advanced Materials	2%	(3)%	2%	(7)%
Textile Effects	4%	(3)%	_	(8)%
		rth Quarter 2019 vs The	ird Quarter	2019
		0 \	M: 0-	Color
	Local	Foreign Currency	Mix &	Sales
Period-Over-Period (Decrease) Increase		0 \	Mix & Other	Sales Volumes(2)
Period-Over-Period (Decrease) Increase Polyurethanes	Local	Foreign Currency		
, ,	Local Currency	Foreign Currency Translation Impact	Other	Volumes(2)

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

Polyurethanes

The decrease in revenues in our Polyurethanes segment for 2019 compared to 2018 was due to lower MDI average selling prices, partially offset by higher MDI sales volumes. MDI average selling prices decreased primarily due to a decline in component MDI selling prices in China and Europe. MDI sales volumes increased primarily due to the

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

start-up of our new Chinese MDI facility in the third quarter of 2018. The decrease in segment adjusted EBITDA was primarily due to lower MDI margins driven by lower MDI pricing, partially offset by higher MDI sales volumes.

Performance Products

The decrease in revenues in our Performance Products segment for 2019 compared to 2018 was due to lower sales volumes and lower average selling prices. Sales volumes decreased primarily due to weakened market conditions. Average selling prices decreased primarily due to lower raw material costs and weakened market conditions. The decrease in segment adjusted EBITDA was primarily due to lower sales volumes and lower margins, primarily in our ethyleneamines and maleic anhydride businesses, partially offset by higher margins in our performance amines business.

Advanced Materials

The decrease in revenues in our Advanced Materials segment for 2019 compared to 2018 was due to lower sales volumes and lower average selling prices. Sales volumes decreased primarily due to lower sales volumes in our industrial, power and automotive related markets, partially offset by favorable product mix effect from sales volumes in our aerospace components market. Average selling prices decreased primarily due to the impact of a stronger U.S. dollar against major international currencies, partially offset by higher local currency selling prices. The decrease in segment adjusted EBITDA was primarily due to lower sales volumes, higher raw material and fixed costs and the impact of a stronger U.S. dollar against major international currencies.

Textile Effects

The decrease in revenues in our Textile Effects segment for 2019 compared to 2018 was due to lower sales volumes, partially offset by higher average selling prices. Sales volumes decreased primarily due to lower demand resulting from market uncertainties surrounding U.S. and China trade. Average selling prices increased in response to higher raw material costs, partially offset by the impact of a stronger U.S. dollar against major international currencies. The decrease in segment adjusted EBITDA was primarily due to lower sales volumes and higher raw materials costs, partially offset by higher average selling prices and lower fixed 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 and gains and losses on the disposition of corporate assets. For 2019, adjusted EBITDA from Corporate and other increased by \$16 million to a loss of \$155 million from a loss of \$171 million for 2018. The increase in adjusted EBITDA from Corporate and other resulted primarily from a benefit from a LIFO inventory reserve adjustment and a decrease in corporate overhead costs, partially offset by an increase in unallocated foreign currency exchange loss.

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

As discussed in "Note 4. Discontinued Operations and Business Dispositions—Sale of Chemical Intermediates Businesses" and "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 our Chemical Intermediates Businesses, the results of Venator and the results of our former polymers, base chemicals and Australian styrenics businesses for all periods presented. 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 \$759 million, or 11%, 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 \$113 million, or 7%, 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 \$67 million, or 8%, 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 \$7 million compared to a cost of \$19 million in the 2017 period. For more information on restructuring activities, see "Note 13. 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 Ltd.
- 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 \$24 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 \$45 million from \$20 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 20. Income Taxes" to our consolidated financial statements.

Segment Analysis

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

			Percent Change
	Decem	ber 31,	Favorable
	2018	2017	(Unfavorable)
Revenues			
Polyurethanes	\$ 4,282	\$ 3,764	14%
Performance Products	1,301	1,156	13%
Advanced Materials	1,116	1,040	7%
Textile Effects	824	776	6%
Corporate and eliminations	81	109	NM
Total	\$ 7,604	\$ 6,845	11%
Segment adjusted EBITDA(1)			
Polyurethanes	\$ 809	\$ 776	4%
Performance Products	197	155	27%
Advanced Materials	225	219	3%
Textile Effects	101	83	22%
Corporate and other	(171)	(193)	11%
Total	\$ 1,161	\$ 1,040	12%

NM—Not meaningful

(1) For more information, including reconciliation of segment adjusted EBITDA to net income of Huntsman Corporation, see "Note 27. Operating Segment Information" to our consolidated financial statements.

	Year ended December 31, 2018 vs 2017					
	Averag	e Selling Price(1)				
	Local	Foreign Currency	Mix &	Sales		
	Currency	Translation Impact	Other	Volumes(2)		
Period-Over-Period (Decrease) Increase						
Polyurethanes	3%	2%	1%	8%		
Performance Products	15%	1%	(5)%	2%		
Advanced Materials	1%	2%	4%			
Textile Effects	2%	_	4%	_		

⁽¹⁾ Excludes revenues from tolling arrangements, 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. 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. The increase in segment adjusted EBITDA was primarily due to higher MDI margins and volumes in 2018.

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 and maleic anhydride businesses. The increase in segment adjusted EBITDA was primarily due to higher margins and the impact of hurricane related production outages during 2017.

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

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 and gains and losses on the disposition of corporate assets. For 2018, adjusted EBITDA from Corporate and other increased by \$22 million to a loss of \$171 million from a loss of \$193 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.

LIQUIDITY AND CAPITAL RESOURCES

Cash Flows Year Ended December 31, 2019 Compared with Year Ended December 31, 2018

Net cash provided by operating activities from continuing operations for 2019 and 2018 was \$656 million and \$704 million, respectively. The decrease in net cash provided by operating activities from continuing operations during 2019 compared with 2018 was primarily attributable to decreased operating income as described in "—Results of Operations" above, partially offset by a \$74 million favorable variance in operating assets and liabilities for 2019 as compared with 2018.

Net cash used in investing activities from continuing operations for 2019 and 2018 was \$201 million and \$615 million, respectively. During 2019 and 2018, we paid \$274 million and \$251 million, respectively, for capital expenditures. During 2018, we paid \$366 million for the acquisition of a business, net of cash acquired. During 2019, we received \$49 million in proceeds from the sale of assets in connection with the closure of our Textile Effects facilities in Basel, Switzerland. During 2019 and 2018, we received proceeds of \$16 million and \$3 million, respectively, from the settlement of the December 3, 2018 sale of Venator ordinary shares to Bank of America N.A.

Net cash used in financing activities for 2019 and 2018 was \$450 million and \$424 million, respectively. The increase in net cash used in financing activities was primarily due to increased repayments on our \$1.2 billion senior unsecured revolving credit facility ("2018 Revolving Credit Facility") in the 2019 period, the repayment of our 2020 Senior Notes in the first quarter of 2019 and cash paid to acquire the 50% noncontrolling interest that we did not own in the Sasol-Huntsman joint venture. The increase was partially offset by proceeds from the issuance of our 4.50% senior notes due 2029 ("2029 Senior Notes") in the first quarter of 2019, proceeds from the 2019 Term Loan in the third quarter of 2019 and a decrease in our repurchase of shares of our common stock under the share repurchase program.

Free cash flow from continuing operations for 2019 and 2018 were proceeds of cash of \$389 million and \$454 million, respectively. The reduction in free cash flow was attributable to the changes in cash flows from operating and investing activities from continuing operations, excluding acquisition and disposition activities.

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 \$704 million and \$672 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 \$35 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 \$615 million and \$217 million, respectively. During 2018 and 2017, we paid \$251 million and \$234 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 Combinations and Acquisitions" 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 \$454 million and \$472 million, respectively. The reduction in free cash flow was attributable to the changes in cash flows from operating and investing activities from continuing operations, excluding acquisition and disposition activities.

Changes in Financial Condition

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

	December 31,	December 31,	Increase	Percent
	2019	2018	(Decrease)	Change
Cash and cash equivalents	\$ 525	\$ 340	\$ 185	54%
Accounts and notes receivable, net	953	1,183	(230)	(19)%
Inventories	914	1,000	(86)	(9)%
Prepaid expenses	83	58	25	43%
Other current assets	72	145	(73)	(50)%
Current assets held for sale(1)	1,208	232	976	421%
Total current assets	3,755	2,958	797	27%
Accounts payable	822	793	29	4%
Accrued liabilities	420	497	(77)	(15)%
Current portion of debt	212	96	116	121%
Current operating lease liabilities	42	_	42	NM
Current liabilities held for sale(1)	512	225	287	128%
Total current liabilities	2,008	1,611	397	25%
Working capital	\$ 1,747	\$ 1,347	\$ 400	30%

NM—Not meaningful

⁽¹⁾ The assets and liabilities held for sale are classified as current as of December 31, 2019 because we completed the sale of our Chemical Intermediates Businesses on January 3, 2020. For more information, see "Note 4. Discontinued Operations and Business Dispositions—Sale of Chemical Intermediates Businesses" to our consolidated financial statements.

Our working capital increased by \$400 million as a result of the net impact of the following significant changes:

- The increase in cash and cash equivalents of \$185 million resulted from the matters identified on our consolidated statements of cash flows.
- Accounts and notes receivable decreased by \$230 million primarily due to lower revenues in the fourth quarter of 2019 compared to the fourth quarter of 2018.
- Inventories decreased by \$86 million primarily due to lower inventory costs and volumes.
- Prepaid expenses increased by \$25 million primarily due to higher prepaid insurance.
- Other current assets decreased by \$73 million primarily due to lower bank acceptance drafts and lower current income taxes receivable.
- Accrued liabilities decreased by \$77 million primarily due to a decrease in current income taxes payable and the payment of accrued compensation, partially offset by an increase in taxes other than income.
- Current portion of debt increased by \$116 million primarily due to new borrowings under the 2019 Term Loan in the third quarter of 2019, partially offset by increased repayments on our 2018 Revolving Credit Facility.
- Current operating lease liabilities were \$42 million as of December 31, 2019 as a result of the adoption of the new lease standard on January 1, 2019.

DIRECT AND SUBSIDIARY DEBT

See "Note 15. Debt—Direct and Subsidiary Debt" to our consolidated financial statements.

Debt Issuance Costs

See "Note 15. Debt—Direct and Subsidiary Debt—Debt Issuance Costs" to our consolidated financial statements.

Revolving Credit Facility

See "Note 15. Debt—Direct and Subsidiary Debt—Revolving Credit Facility" to our consolidated financial statements.

Term Loan Credit Facility

See "Note 15. Debt—Direct and Subsidiary Debt—Term Loan Credit Facility" to our consolidated financial statements.

A/R Programs

See "Note 15. Debt—Direct and Subsidiary Debt—A/R Programs" to our consolidated financial statements.

Notes

See "Note 15. Debt—Direct and Subsidiary Debt—Notes" to our consolidated financial statements.

Variable Interest Entity Debt

See "Note 15. Debt—Direct and Subsidiary Debt—Variable Interest Entity Debt" to our consolidated financial statements.

COMPLIANCE WITH COVENANTS

See "Note 15. Debt—Compliance with Covenants" to our consolidated financial statements.

MATURITIES

See "Note 15. Debt—Maturities" to our consolidated financial statements.

SHORT-TERM AND LONG-TERM LIQUIDITY

We depend upon our cash, 2018 Revolving Credit Facility, U.S. accounts receivable securitization program ("U.S. A/R Program") and 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, 2019, we had \$1,684 million of combined cash and unused borrowing capacity, consisting of \$525 million in cash, \$1,153 million in availability under our 2018 Revolving Credit Facility and \$6 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:

- Cash proceeds from our accounts receivable and inventory, net of accounts payable, were approximately \$236 million for 2019, as reflected in our consolidated statements of cash flows. We expect volatility in our working capital components to continue.
- During 2020, we expect to spend between approximately \$300 million to \$325 million on capital expenditures for continuing operations, including spending of approximately \$80 million on a new MDI splitter in Geismar, Louisiana. We expect to fund spending on all capital expenditures with cash provided by operations.
- During 2019, we made contributions to our pension and postretirement benefit plans of \$92 million. During 2020, we expect to contribute an additional amount of approximately \$88 million to these plans.
- 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 2019, we repurchased 10,099,892 shares of our common stock for approximately \$208 million, excluding commissions, under the repurchase program. From January 1, 2020 through January 31, 2020, we repurchased an additional 336,478 shares of our common stock for approximately \$7 million, excluding commissions.
- 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 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. We elected the fair value option to account for our equity method investment in Venator post deconsolidation. Accordingly, in 2019, we recorded a loss of \$19 million to record our equity method investment in Venator 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. See "Note 4. Discontinued Operations and Business Dispositions—Separation and Deconsolidation of Venator" to our consolidated financial statements.
- On March 13, 2019, we completed a \$750 million offering of our 2029 Senior Notes. On March 27, 2019, we applied the net proceeds of this offering to redeem in full \$650 million in aggregate principal amount of our 2020 Senior Notes and associated costs and accrued interest of \$21 million and \$12 million,

respectively. In addition, we recognized a loss on early extinguishment of debt of \$23 million. See "Note 15. Debt—Direct and Subsidiary Debt—Notes" to our consolidated financial statements.

- On April 18, 2019, we entered into an Amended and Restated European Receivables Loan Agreement and a Master Amendment No. 7 to the U.S. Receivables Loan Agreement to, among other things, extend the respective scheduled termination dates to April 2022. See "Note 15. Debt—Direct and Subsidiary Debt—A/R Programs" to our consolidated financial statements.
- In September 2011, we initiated a restructuring program in our Textile Effects segment to close its production facilities and business support offices in Basel, Switzerland. In July 2019, we sold the production facilities and business support offices in Basel. Accordingly, during the third quarter of 2019, we received proceeds of \$49 million related to this sale and recognized a corresponding gain on disposal of assets of \$49 million.
- On January 3, 2020, we completed the sale of our Chemical Intermediates Businesses to Indorama in a transaction valued at approximately \$2 billion, comprising a cash purchase price of approximately \$1.93 billion, which includes estimated adjustments to the purchase price for working capital, plus the transfer of approximately \$72 million in net underfunded pension and other post-employment benefit liabilities. The final purchase price is subject to customary post-closing adjustments. The net after tax cash proceeds are expected to be approximately \$1.6 billion. We expect to use the net proceeds from this sale to: 1) invest in complementary strategic acquisitions that develop our technology and product portfolio, 2) continue investing in organic, internal opportunities, 3) prepay certain prepayable debt, and 4) continue to repurchase shares opportunistically and pay a competitive dividend.
- In connection with the January 3, 2020 sale of our Chemical Intermediates Businesses to Indorama, we assigned Indorama an insurance claim related to damages we incurred from a recent fire at a neighboring third-party property near the Port Neches, Texas site. We agreed with Indorama that we will receive the first \$50 million of the potential insurance recovery when and if paid. In addition, we agreed with Indorama to cover certain reinstatement costs pertaining to our damaged assets at the third-party site. We currently do not expect these costs to be material.
- On September 24, 2019, we entered into the 2019 Term Loan, pursuant to which we borrowed an aggregate principal amount of \$101 million. We used the net proceeds of the 2019 Term Loan to finance the acquisition of the 50% noncontrolling interest that we did not own in the Sasol-Huntsman maleic anhydride joint venture. Borrowings under the 2019 Term Loan will bear interest at an interest rate margin of EURIBO Rate plus 0.75%. Unless earlier terminated or prepaid in accordance with the credit agreement governing the 2019 Term Loan, the 2019 Term Loan will mature on September 22, 2020. The 2019 Term Loan is subject to substantially the same terms and conditions as the 2018 Revolving Credit Facility.
- On September 30, 2019, we acquired from Sasol the 50% noncontrolling interest that we did not own in the Sasol-Huntsman maleic anhydride joint venture. We paid Sasol \$101 million, which included acquired cash, net of any debt. The purchase price was funded from the 2019 Term Loan.

As of December 31, 2019, we had \$212 million classified as current portion of debt, including \$103 million on our 2019 Term Loan, \$40 million on borrowings of our 2018 Revolving Credit Facility, debt at our variable interest entities of \$36 million and certain other short-term facilities and scheduled amortization payments totaling \$33 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, 2019, we had approximately \$440 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. However, such repatriation may potentially be subject to limited foreign withholding taxes.

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, 2019 are summarized below (dollars in millions):

	2020		202	21 - 2022	202	23 - 2024	A	fter 2024	Total
Long-term debt, including current portion.	\$ 21	2	\$	1,092	\$	3	\$	1,082	\$ 2,389
Interest(1)	11	0		167		104		156	537
Operating leases	4	2		81		72		231	426
Purchase commitments(2)	1,36	4		1,656		840		1,894	5,754
Total(3)(4)	\$ 1,72	8	\$	2,996	\$	1,019	\$	3,363	\$ 9,106

⁽¹⁾ Interest calculated using interest rates as of December 31, 2019 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, 2019, 2018 and 2017, we made minimum payments of \$1 million, nil and nil, 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):

5 37----

							y ear erage
	2020	2021	- 2022	202	3 - 2024	An	nual
Pension plans	\$ 83	\$	148	\$	121	\$	61
Other postretirement obligations	5		11		10		5

(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 \$44 million, to be paid \$5 million in 2023 and \$39 million after 2023. For additional discussion on unrecognized tax benefits, see "Note 20. 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 13. 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 of future taxable income. Changes in expected future income in applicable jurisdictions could affect the realization of deferred tax assets in those jurisdictions. As of December 31, 2019, we had total valuation allowances of \$231 million. See "Note 20. Income Taxes" to our consolidated financial statements for more information regarding our valuation allowances.

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 19. 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			Balance Sheet Impact(2)	
Discount rate				
—1% increase	\$	(36)	\$	(482)
—1% decrease		43		562
Expected long-term rates of return on plan assets				
—1% increase		(26)		_
—1% decrease		26		_
Rate of compensation increase				
—1% increase		11		49
—1% decrease		(11)		(56)

- (1) Estimated increase (decrease) on 2019 net periodic benefit cost
- (2) Estimated increase (decrease) on December 31, 2019 pension and postretirement liabilities and accumulated other comprehensive loss

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 21. 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 64% and 30% 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 2019 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.

INTEREST RATE RISKS

See "Note 16. Derivative Instruments and Hedging Activities—Interest Rate Risk" to our consolidated financial statements.

FOREIGN EXCHANGE RATE RISK

See "Note 16. Derivative Instruments and Hedging Activities—Foreign Exchange Rate Risk" to our consolidated financial statements.

COMMODITY PRICES RISK

See "Note 16. Derivative Instruments and Hedging Activities—Commodity Prices Risk" to our consolidated financial statements.

CONTROLS AND PROCEDURES

EVALUATION OF DISCLOSURE CONTROLS AND PROCEDURES

as appropriate to allow timely decisions regarding required disclosure.

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, 2019. Based on this evaluation, our chief executive officer and chief financial officer have concluded that, as of December 31, 2019, 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,

CHANGES IN INTERNAL CONTROL OVER FINANCIAL REPORTING

No changes to our internal control over financial reporting occurred during the quarter ended December 31, 2019 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 of our Company 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, 2019, 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 accounting firm, 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, 2019, 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, 2019, 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, 2019 of the Company and our report dated February 13, 2020, expressed an unqualified opinion on those financial statements and included an explanatory paragraph regarding the Company's adoption of a new accounting standard.

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 13, 2020

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

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, 2019 and 2018, 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, 2019, 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, 2019 and 2018, and the results of its operations and its cash flows for each of the three years in the period ended December 31, 2019, 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, 2019, 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 13, 2020, expressed an unqualified opinion on the Company's internal control over financial reporting.

Change in Accounting Principle

As discussed in Note 2 to the financial statements, effective January 1, 2019, the Company adopted the Financial Accounting Standards Board Accounting Standards Update No. 2016-02, *Leases (Topic 842)*.

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 US federal securities laws and the applicable rules and regulations of the Securities and Exchange Commission and the PCAOB.

We conducted our audits in accordance with the standards of the PCAOB. Those standards require that we plan and perform the audits to obtain reasonable assurance about whether the 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.

Critical Audit Matter

The critical audit matter communicated below is a matter arising from the current-period audit of the financial statements that was communicated or required to be communicated to the audit committee and that (1) relates to accounts or disclosures that are material to the financial statements and (2) involved our especially challenging, subjective, or complex judgments. The communication of critical audit matters does not alter in any way our opinion on the financial statements, taken as a whole, and we are not, by communicating the critical audit matter below, providing a separate opinion on the critical audit matter or on the accounts or disclosures to which it relates.

Income Taxes—Realizability of Deferred Tax Assets—Refer to Notes 2 and 20 to the financial statements

Critical Audit Matter Description

The Company recognizes deferred income taxes for tax attributes and for differences between the financial statement and tax carrying amounts of assets and liabilities at enacted statutory tax rates in effect for the years in which the deferred tax liability or asset are expected to be settled or realized. A valuation allowance is provided to offset deferred tax assets if,

based upon the available evidence, it is more likely than not that some or all of the deferred tax assets will not be realized. The Company files tax returns in multiple jurisdictions with complex tax laws and regulations. Valuation allowances are evaluated 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. In evaluating the objective evidence that historical results provide, the Company considers the cyclicality of businesses and cumulative income or losses during the applicable period. Cumulative losses incurred over the period limits the Company's ability to consider other subjective evidence such as taxable income for the future. The Company's valuation allowances as of December 31, 2019, were \$231 million.

We identified management's determination that it is not more likely than not that sufficient taxable income will be generated in the future to realize some of its deferred tax assets as a critical audit matter because of the significant judgments and estimates management makes related to future taxable income. This required a high degree of auditor judgment and an increased extent of effort, including the need to involve our income tax specialists, when performing audit procedures to evaluate the reasonableness of management's estimates of future taxable income.

How the Critical Audit Matter Was Addressed in the Audit

Our audit procedures related to estimated future taxable income and the determination of whether it is more likely than not that the deferred tax assets will be realized included the following, among others:

- We tested the effectiveness of controls over the valuation allowance for income taxes, including management's controls over the estimates of future taxable income and the determination of whether it is more likely than not that the deferred tax assets will be realized.
- With the assistance of our income tax specialists, we considered the following sources of management's estimated future taxable income:
 - Estimates of future taxable income
 - Future reversals of existing temporary differences
 - Taxable income in historical periods (when carryback was permitted)
- We tested the reasonableness of management's estimates of future taxable income by comparing the estimates to:
 - Historical taxable income
 - Internal communications to management and the Board of Directors
 - Forecasted information included in Company press releases as well as in analyst and industry reports for the Company and certain of its peer companies
- We evaluated whether the taxable income in prior carryback years was of the appropriate character and available
 under the tax law.
- We evaluated the reasonableness of the methods, assumptions, and judgments used by management to determine whether a valuation allowance was necessary.

/s/ DELOITTE & TOUCHE LLP

Houston, Texas February 13, 2020

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

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

	Dec	ember 31, 2019	Dec	ember 31, 2018
ASSETS				
Current assets:				
Cash and cash equivalents(a)	\$	525	\$	340
(\$221 and \$341 pledged as collateral, respectively)(a)		940		1,165
Accounts receivable from affiliates		13		18
Inventories(a)		914		1,000
Prepaid expenses		83		58
Other current assets(a)		72		145
Current assets held for sale		1,208		232
Total current assets		3,755		2,958
Property, plant and equipment, net(a).		2,383		2,353
Investment in unconsolidated affiliates		535		526
Intangible assets, net(a)		197		213
Goodwill		276		275
Deferred income taxes		292		324
Notes receivable from affiliate		34		34
Operating lease right-of-use assets		396		
Other noncurrent assets(a)		452		393
Noncurrent assets held for sale.			_	877
Total assets	\$	8,320	\$	7,953
LIABILITIES AND EQUITY				
Current liabilities:			_	
Accounts payable(a)	\$	765	\$	761
Accounts payable to affiliates		57		32
Accrued liabilities(a)		420		497
Current portion of debt(a)		212		96
Current operating lease liabilities(a)		42		
Current liabilities held for sale		512		225
Total current liabilities		2,008		1,611
Long-term debt(a)		2,177		2,224
Deferred income taxes		29		137
Noncurrent operating lease liabilities(a)		384		
Other noncurrent liabilities(a)		898		949
Noncurrent liabilities held for sale				283
Total liabilities		5,496		5,204
Commitments and contingencies (Notes 21 and 22) Equity				
Huntsman Corporation stockholders' equity:				
Common stock \$0.01 par value, 1,200,000,000 shares authorized, 257,405,496 and 256,006,849 shares				
issued and 224,295,868 and 232,994,172 shares outstanding, respectively.		3		3
Additional paid-in capital		4,008		3,984
Treasury stock, 33,112,572 and 23,012,680 shares, respectively		(635)		(427)
Unearned stock-based compensation		(17)		(16)
Retained earnings		690		292
Accumulated other comprehensive loss		(1,362)		(1,316)
Total Huntsman Corporation stockholders' equity		2,687		2,520
Noncontrolling interests in subsidiaries		137		229
Total equity		2,824		2,749
Total liabilities and equity	\$	8,320	\$	7,953

⁽a) At December 31, 2019 and December 31, 2018, respectively, nil and \$7 of cash and cash equivalents, \$13 and \$30 of accounts and notes receivable (net), \$35 and \$49 of inventories, nil and \$5 of other current assets, \$180 and \$265 of property, plant and equipment (net), nil and \$10 of intangible assets (net), \$20 and \$52 of other noncurrent assets, \$100 and \$123 of accounts payable, \$10 and \$30 of accrued liabilities, \$36 and \$25 of current portion of debt, \$4 and nil of current operating lease liabilities, \$29 and \$61 of long-term debt, \$11 and nil of noncurrent operating lease and \$87 and \$97 of other noncurrent liabilities from consolidated variable interest entities are included in the respective Balance Sheet captions above. See "Note 8. Variable Interest Entities."

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

	Year ended December 31, 2019 2018 201		
Revenues:	2019	2018	2017
Trade sales, services and fees, net	\$ 6,664	\$ 7,451	\$ 6,684
Related party sales	133	153	161
Total revenues	6,797	7,604	6,845
Cost of goods sold	5,415	5,840	5,194
Gross profit	1,382	1,764	1,651
Operating expenses:	,	,	,
Selling, general and administrative	786	789	759
Research and development	137	145	132
Restructuring, impairment and plant closing (credits) costs	(41)	(7)	19
Merger costs	_	2	28
Other operating expense (income), net	31	8	(16)
Total operating expenses	913	937	922
Operating income	469	827	729
Interest expense	(111)	(115)	(165)
Equity in income of investment in unconsolidated affiliates	54	55	13
Fair value adjustments to Venator investment	(18)	(62)	_
Loss on early extinguishment of debt	(23)	(3)	(54)
Other income, net	20_	32	8
Income from continuing operations before income taxes	391	734	531
Income tax benefit (expense)	38	(45)	(20)
Income from continuing operations	429	689	511
Income (loss) from discontinued operations, net of tax	169	(39)	230
Net income	598	650	741
Net income attributable to noncontrolling interests	(36)	(313)	$\frac{(105)}{(105)}$
Net income attributable to Huntsman Corporation	\$ 562	\$ 337	\$ 636
Basic (loss) income per share:			
Income from continuing operations attributable to Huntsman Corporation common			
stockholders	\$ 1.72	\$ 2.55	\$ 1.71
Income (loss) from discontinued operations attributable to Huntsman Corporation			
common stockholders, net of tax	0.74	(1.13)	0.96
Net income attributable to Huntsman Corporation common stockholders	\$ 2.46	\$ 1.42	\$ 2.67
Weighted average shares	228.9	238.1	238.4
Diluted (loss) income per share:			
Income from continuing operations attributable to Huntsman Corporation common			
stockholders	\$ 1.70	\$ 2.52	\$ 1.66
Income (loss) from discontinued operations attributable to Huntsman Corporation			
common stockholders, net of tax	0.74	(1.13)	0.95
Net income attributable to Huntsman Corporation common stockholders	\$ 2.44	\$ 1.39	\$ 2.61
Weighted average shares	230.6	241.6	243.9
Amounts attributable to Huntsman Corporation common stockholders:			
Income from continuing operations	\$ 393	\$ 608	\$ 406
Income (loss) from discontinued operations, net of tax	169	(271)	230
Net income	\$ 562	\$ 337	\$ 636

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

Comprehensive income attributable to Huntsman Corporation	Comprehensive income attributable to noncontrolling interests	Comprehensive income	Other comprehensive (loss) income, net of tax	Other, net	Pension and other postretirement benefits adjustments	Foreign currency translations adjustments	Other comprehensive (loss) income, net of tax:	Net income		
S								S		
<u>\$ 531</u> <u>\$ 144</u> <u>\$ 910</u>	(31)	562	(36)	(1)	(37)	2		\$ 598 \$ 650 \$ 741	2019	Year
S								S		endec
144	(266)	410	(240)	(9)	(39)	(192)		650	2018	Year ended December 31,
S								S		er 31
910	(127)	1,037	296		86	210		741	2017	•

HUNTSMAN CORPORATION AND SUBSIDIARIES CONSOLIDATED STATEMENTS OF EQUITY

(In Millions, Except Share Amounts)

	Huntsman Corporation Stockholders' Equity								
						(Accumulated	Accumulated		
	Shares		Additional		Unearned	deficit)	other	Noncontrolling	
	Common	Common	paid-in	Treasury	stock-based	retained	comprehensive	interests in	Total
	stock	stock	capital	stock	compensation	earnings	loss	subsidiaries	equity
Beginning balance, January 1, 2017	236,370,347	\$ 3	\$ 3,447	\$ (150)	\$ (17)	\$ (325)	\$ (1,671)		\$ 1,467
Net income	230,370,347	J	y 5,117	(150)	ų (17) —	636	ψ (1,0/1)	105	741
Other comprehensive income	_	_	_	_	_	- 050	403	(107)	296
Issuance of nonvested stock awards	_	_	18	_	(18)	_	-103	(107)	270
Vesting of stock awards	1,316,975		8		(10)				8
Recognition of stock-based compensation	1,510,775	_	10		18	_	_	_	28
Repurchase and cancellation of stock awards	(402,978)		10		10	(12)			(12)
Stock options exercised	2,929,262		53			(18)			35
Disposition of a portion of Venator.	2,727,202	_	413			(10)	_	_	413
Costs of the IPO and secondary offering of Venator			(58)						(58)
Conversion of restricted awards to Venator awards .	_	_	(2)			_	_	_	(56)
Noncontrolling interest from partial disposal of Venator.	_	_	(2)		2	_	_	602	602
Dividends paid to noncontrolling interests.								(34)	(34)
Contribution from noncontrolling interests		_		_				(34)	(34)
Dividends declared on common stock (\$0.50 per share)	_	_	_	_	_	(120)	_	3	(120)
Balance, December 31, 2017.	240,213,606		3,889	(150)	(15)	161	(1,268)	751	3,371
	240,213,000	3	3,009	` /	` /				3,3/1
Cumulative effect of changes in fair value of equity investments	_	_	_	_	_	10 337	(10)	313	650
Net income	_	_	_	_	_		(100)		(240)
Other comprehensive loss	_	_	1.4	_	(14)	_	(198)	(42)	(240)
Issuance of nonvested stock awards	1 125 002	_	14	_	(14)	_	_	_	- 11
Vesting of stock awards	1,135,003	_	11	_		_	_	_	11
Recognition of stock-based compensation	(250 (42)	_	8	_	13	(20)	_	_	21
Repurchase and cancellation of stock awards	(259,643)	_	46	_	_	(30)	_	_	(30)
Stock options exercised	2,310,663	_	46	(277)	_	(29)	_	_	17
Treasury stock repurchased	(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	_	_	_	_	_	_	160	27	27
Deconsolidation of Venator.	_	_	_	_	_	_	160	(751)	(591)
Accrued and unpaid dividends	_	_	_	_	_	(1)	_		(1)
Dividends paid to noncontrolling interests.	_	_	_	_	_		_	(69)	(69)
Dividends declared on common stock (\$0.65 per share)						(156)			(156)
Balance, December 31, 2018	232,994,172	3	3,984	(427)	(16)	292	(1,316)	229	2,749
Net income	_	_	_	_	_	562		36	598
Other comprehensive loss	_	_		_		_	(46)	10	(36)
Issuance of nonvested stock awards		_	17	_	(17)	_	_	_	_
Vesting of stock awards	1,643,368	_	7	_		_	_	_	7
Recognition of stock-based compensation		_	7	_	16		_	_	23
Repurchase and cancellation of stock awards	(488,441)	_		_	_	(12)	_	_	(12)
Stock options exercised	246,661	_	4		_	(2)	_	_	2
Treasury stock repurchased	(10,099,892)	_	_	(208)	_	_	_		(208)
Acquisition of noncontrolling interests, net of tax	_	_	(11)	_	_	_	_	(73)	(84)
Dividends declared to noncontrolling interests	_	_	_	_	_		_	(65)	(65)
Dividends declared on common stock (\$0.65 per share)						(150)			(150)
Balance, December 31, 2019	224,295,868	\$ 3	\$ 4,008	\$ (635)	\$ (17)	\$ 690	\$ (1,362)	\$ 137	\$ 2,824

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

	Year ended December 31,			,		
		2019		2018		2017
Operating Activities:						·
Net income	\$	598	\$	650	\$	741
Less: (Income) loss from discontinued operations, net of tax		(169)		39		(230)
Income from continuing operations		429		689		511
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		(54)		(55)		(13)
Unrealized losses on fair value adjustments to Venator investment		19		62		
Cash received from return on investment in unconsolidated subsidiary		24				_
Depreciation and amortization		270		255		236
Noncash lease expense		55		_		_
(Gain) loss on disposal of businesses/assets, net		(49)		3		(8)
Loss on early extinguishment of debt		23		3		54
Noncash interest expense		3		1		8
Noncash restructuring and impairment charges (credits)		3		(22)		1
Deferred income taxes		(93)		(167)		(95)
Noncash loss (gain) on foreign currency transactions		8		(3)		(5)
Stock-based compensation		29		27		36
Other, net		9		5		6
Changes in operating assets and liabilities:				5		O
Accounts and notes receivable		138		(22)		(161)
Inventories.		77		(80)		(88)
Prepaid expenses.		(27)		(9)		(11)
Other current assets.		53		59		23
Other noncurrent assets		(90)		(41)		(46)
Accounts payable		21		12		127
Accrued liabilities.		(50)		44		54
Other noncurrent liabilities		(142)		(57)		43
Net cash provided by operating activities from continuing operations		656		704		672
Net cash provided by operating activities from discontinued operations		241		503		547
Net cash provided by operating activities from discontinued operations		897		1,207		1,219
Net cash provided by operating activities		897		1,207		1,219
Investing Astivities						
Investing Activities:		(274)		(251)		(224)
Capital expenditures		(274)		(251)		(234)
Acquisition of a business, net of cash acquired				(366)		(14)
Proceeds from sale of assets		50		_		25
Cash received from termination of cross-country interest rate contacts						7
Venator		16		3		_
Other.		7		(1)		(1)
Net cash used in investing activities from continuing operations		(201)	_	(615)	_	(217)
Net cash used in investing activities from discontinued operations		(59)		(358)		(207)
Net cash used in investing activities		(260)		(973)		(424)
The cash asea in investing activities		(200)		(713)		(747)

(continued)

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

Financing Activities: 3 (89) 3 (25) \$ (41) Net (repayments) borrowings on revolving loan facilities - (1) 1 Net (repayments) borrowings on overdraft facilities - (1) 1 Repayments of long-term debt (676) (68) (2,058) Proceeds from issuance of long-term debt 742 - 24 Proceeds from long-term debt of Venator - (8) (15) Repayments of short-term debt - (8) (15) Borrowings on short-term debt 102 6 8 Repayments of notes payable 27) (29) (27) Borrowings on note payable 37 27 31 Debt issuance costs paid (8) (4) (21) Costs of early extinguishment of debt (21) - - Dividends paid to common stockholders (150) (156) (150) Costs of early extinguishment of debt (10) - - Dividends paid to common stockholders (10) - - Cash paid
Net (repayments) borrowings on revolving loan facilities \$ (89) \$ 125 \$ (41) Net (repayments) borrowings on overdraft facilities — (1) 1 Repayments of long-term debt (676) (68) (2,058) Proceeds from issuance of long-term debt 742 — 24 Proceeds from long-term debt of Venator — 750 Repayments of short-term debt 102 6 8 Repayments of notes payable (27) (29) (27) Borrowings on note payable 37 27 31 Debt issuance costs paid (8) (4) (21) Costs of early extinguishment of debt (21) — — Dividends paid to common stockholders (150) (156) (120) Dividends paid to noncontrolling interests (41) (69) (34) Cash paid for noncontrolling interests (101) — — Contribution from noncontrolling interests (208) (277) — Repurchase and cancellation of stock awards (12) (30) (12)
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Cash paid for expenses for the IPO of Venator
Proceeds from the secondary offering of Venator
Cash paid for expenses of the secondary offering of Venator
0.1
Other111
Net cash used in financing activities
Effect of exchange rate changes on cash
Increase in cash, cash equivalents and restricted cash
Cash, cash equivalents and restricted cash from continuing operations at
beginning of period
Cash, cash equivalents and restricted cash from discontinued operations at
beginning of period
Deconsolidation of cash, cash equivalents and restricted cash from Venator — (154) —
Cash, cash equivalents and restricted cash at end of period
Supplemental cash flow information:
Cash paid for interest
Cash paid for income taxes

As of December 31, 2019, 2018 and 2017, the amount of capital expenditures in accounts payable was \$64 million, \$66 million and \$51 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.

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 wholly-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); 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, 2019, which was filed with the Securities and Exchange Commission on February 13, 2020.

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, insulation, 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, 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 acquisitions and now own a global portfolio of businesses.

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

RECENT DEVELOPMENTS

Sale of Chemical Intermediates Businesses

On January 3, 2020, we completed the sale of our Chemical Intermediates Businesses to Indorama in a transaction valued at approximately \$2 billion, comprising a cash purchase price of approximately \$1.93 billion, which includes estimated adjustments to the purchase price for working capital, plus the transfer of approximately \$72 million in net underfunded pension and other post-employment benefit liabilities. The final purchase price is subject to customary post-closing adjustments. The net after tax cash proceeds are expected to be approximately \$1.6 billion. For more information, see "Note 4. Discontinued Operations and Business Dispositions—Sale of Chemical Intermediates Businesses."

1. GENERAL (Continued)

Icynene-Lapolla Acquisition

On December 5, 2019, we entered into an agreement with an affiliate of FFL Partners, LLC to acquire Icynene-Lapolla, a leading North American manufacturer and distributor of spray polyurethane foam insulation systems for residential and commercial applications. Icynene-Lapolla operates two manufacturing facilities located in Houston, Texas and Mississauga, Ontario. Under terms of the agreement, we agreed to pay \$350 million, subject to customary closing adjustments, in an all-cash transaction to be funded from available liquidity. The transaction is expected to close in the first quarter of 2020. The acquired business is expected to be integrated into our Polyurethanes segment.

Acquisition of Remaining Interest in Sasol-Huntsman Joint Venture

On September 30, 2019, we acquired from Sasol, our former joint venture partner, the 50% noncontrolling interest that we did not own in the Sasol-Huntsman maleic anhydride joint venture. The joint venture owned a manufacturing facility in Moers, Germany with capacity to produce 230 million pounds of maleic anhydride. We paid Sasol \$101 million, which included acquired cash, net of any debt. The purchase price was funded from the 2019 Term Loan."

2. SUMMARY OF SIGNIFICANT ACCOUNTING POLICIES

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.

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.

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

2. SUMMARY OF SIGNIFICANT ACCOUNTING POLICIES (Continued)

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 22. Environmental, Health and Safety Matters."

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—Separation and Deconsolidation of Venator." 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 expense (income), net in our consolidated statements of operations and were (losses) gains of \$(8) million, \$3 million and \$5 million for the years ended December 31, 2019, 2018 and 2017, 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.

2. SUMMARY OF SIGNIFICANT ACCOUNTING POLICIES (Continued)

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), creation of the base erosion anti-abuse tax provision ("BEAT") and a new provision designed to tax global intangible low-taxed income ("GILTI") (effective January 1, 2018) and imposing a repatriation tax on deemed repatriated earnings of foreign subsidiaries.

As a result of the enactment of the U.S. Tax Reform Act, the Company recorded a net tax benefit of \$20 million over 2017 and 2018. We recorded a net tax benefit of \$135 million due to a remeasurement of deferred U.S. tax assets and liabilities (including a provisional tax benefit of \$137 million in 2017, partially offset by a final tax expense of \$2 million in 2018) offset by tax expense of \$115 million due to the transition tax on the deemed repatriation of deferred foreign income (including a provisional tax expense of \$85 million in 2017 and a \$30 million measurement period adjustment in 2018). We did not make the election to reclassify the income tax effects of the U.S. Tax Reform Act from accumulated other comprehensive income to retained earnings.

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. For further information concerning taxes, see "Note 20. 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.

2. SUMMARY OF SIGNIFICANT ACCOUNTING POLICIES (Continued)

During 2019, goodwill decreased by approximately \$2 million due to the finalization of the valuation of the assets and liabilities of an acquisition, partially offset by a net increase of approximately \$1 million due to changes in foreign currency exchange rates. See "Note 3. Business Combinations and Acquisitions."

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.

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 e	ber 31,	
	2019	2018	2017
Numerator:			
Basic and diluted income from continuing operations:			
Income from continuing operations attributable to Huntsman			
Corporation	\$ 393	\$ 608	\$ 406
Basic and diluted net income:			
Net income attributable to Huntsman Corporation	\$ 562	\$ 337	\$ 636
Denominator:			
Weighted average shares outstanding	228.9	238.1	238.4
Dilutive shares:			
Stock-based awards	1.7	3.5	5.5
Total weighted average shares outstanding, including dilutive shares	230.6	241.6	243.9

Additional stock-based awards of 3.0 million, 0.8 million and 0.8 million weighted average equivalent shares of stock were outstanding during the years ended December 31, 2019, 2018 and 2017, 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.

2. SUMMARY OF SIGNIFICANT ACCOUNTING POLICIES (Continued)

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

Interest expense capitalized as part of plant and equipment was \$4 million, \$4 million and \$9 million for the years ended December 31, 2019, 2018 and 2017, 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 were to record the assets and liabilities of our Chemical Intermediates Businesses as held for sale and its results of operations as discontinued operations. See "Note 1. General—Recent Developments—Sale of Chemical Intermediates Businesses" as well as "Note 4. Discontinued Operations and Business Dispositions—Sale of Chemical Intermediates Businesses."

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 18. 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 15. 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 24. Stock-Based Compensation Plan."

2. SUMMARY OF SIGNIFICANT ACCOUNTING POLICIES (Continued)

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.

ACCOUNTING PRONOUNCEMENTS ADOPTED DURING 2019

In February 2016, the Financial Accounting Standards Board ("FASB") issued Accounting Standards Update ("ASU") No. 2016-02, Leases (Topic 842). The amendments in this ASU 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 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 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. 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. On January 1, 2019, we adopted the amendments in these ASUs using the transition method that allowed us to initially apply the new lease standard at the adoption date. The initial adoption of the new lease standard had a material impact on our consolidated balance sheets, but did not have an impact on our consolidated statements of operations. The most significant impact was the recognition of operating lease liabilities and operating lease right-of-use assets. On January 1, 2019, we recognized operating lease liabilities of \$400 million and operating lease right-of-use assets of \$371 million. As a result of the adoption of these amendments, we revised our accounting policy for leases as detailed in "Note 9. Leases."

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. 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 adopted the amendments in this ASU effective January 1, 2019, and the initial adoption of this ASU did not 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.

2. SUMMARY OF SIGNIFICANT ACCOUNTING POLICIES (Continued)

The final rule became effective on November 5, 2018, that date being 30 days after its publication in the Federal Register. We applied these changes in the presentation of stockholders' equity beginning in the first quarter of 2019.

ACCOUNTING PRONOUNCEMENTS PENDING ADOPTION IN FUTURE PERIODS

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.

3. BUSINESS COMBINATIONS AND ACQUISITIONS

Acquisition of Remaining Interest in Sasol-Huntsman Joint Venture

On September 30, 2019, we acquired from Sasol, our former joint venture partner, the 50% noncontrolling interest that we did not own in the Sasol-Huntsman maleic anhydride joint venture. We paid Sasol \$101 million, which included acquired cash, net of any debt. The purchase price was funded from the 2019 Term Loan. See "Note 15. Debt—Direct and Subsidiary Debt—Term Loan Credit Facility." In connection with this acquisition, we recorded an adjustment to additional paid-in capital, net of tax, of \$11 million. Prior to acquiring the 50% noncontrolling interest that we did not own, we accounted for Sasol-Huntsman as a variable interest entity. See "Note 8. Variable Interest Entities."

The effects of changes in our ownership interest in Sasol-Huntsman on the equity attributable to Huntsman Corporation is as follows (dollars in millions):

	Year ended December 31,					
		2019		2018		2017
Net income attributable to Huntsman Corporation shareholders	\$	562	\$	337	\$	636
Decrease in Huntsman Corporation's paid-in capital for purchase of 50% interest in Sasol-Huntsman		(11)		_		_
Net transfers to noncontrolling interest		(11)		_		_
Change from net income attributable to Huntsman Corporation shareholders and transfers to noncontrolling interest	\$	551	\$	337	\$	636

3. BUSINESS COMBINATIONS AND ACQUISITIONS (Continued)

Acquisition of Demilec

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 determined the fair value of tangible and intangible assets acquired and liabilities assumed. The 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 the Demilec Acquisition in Q2 2018	\$	357 (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		140
Accounts payable		(16)
Accrued liabilities		(3)
Deferred income taxes		(22)
Other noncurrent liabilities		(22)
Total fair value of net assets acquired	•	353
Total fair value of het assets acquired	Φ	333

As a result of a preliminary valuation of the assets and liabilities, reallocations were made during 2018 in certain property, plant and equipment, intangible asset, goodwill and deferred tax balances. As a result of the finalization of the valuation of the assets and liabilities, additional reallocations were made in 2019 in certain goodwill, other noncurrent liabilities and deferred tax balances. Intangible assets acquired consist primarily of trademarks, trade secrets and customer relationships, all of which are being amortized over 15 years. We have assigned any excess of the acquisition cost of the fair values to goodwill. During the third quarter of 2018, we received \$4 million related to the settlement of certain purchase price adjustments. The goodwill recognized is attributable primarily to projected future profitable growth, penetration into downstream markets and synergies.

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 COMBINATIONS AND ACQUISITIONS (Continued)

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

	Pro Forma (Unaudited)				
	Year ended December 31,				
		2018	018 2		
Revenues	\$	7,662	\$	7,010	
Net income		639		728	
Net income attributable to Huntsman Corporation		326		623	

4. DISCONTINUED OPERATIONS AND BUSINESS DISPOSITIONS

Sale of Chemical Intermediates Businesses

On January 3, 2020, we completed the sale of our Chemical Intermediates Businesses to Indorama in a transaction valued at approximately \$2 billion, comprising a cash purchase price of approximately \$1.93 billion, which includes estimated adjustments to the purchase price for working capital, plus the transfer of approximately \$72 million in net underfunded pension and other post-employment benefit liabilities. The final purchase price is subject to customary post-closing adjustments. The net after tax cash proceeds are expected to be approximately \$1.6 billion. Beginning in the third quarter of 2019, we reported the assets and liabilities of our Chemical Intermediates Businesses as held for sale and reported its results of operations as discontinued operations. Certain amounts for prior periods have similarly been retrospectively reflected for all periods presented. In connection with this sale, we entered into long-term supply agreements with Indorama for certain raw materials at market prices supplied by the Chemical Intermediates Businesses.

The following table reconciles the carrying amounts of major classes of assets and liabilities of discontinued operations to total assets and liabilities of discontinued operations that are classified as held for sale in our consolidated balance sheets (dollars in millions):

	December 31, 2019		,	
Carrying amounts of major classes of assets held for sale:				
Accounts receivable	\$	145	\$	89
Inventories		105		134
Other current assets		_		9
Total current assets				232
Property, plant and equipment, net		720		711
Operating lease right-of-use assets		69		
Deferred income taxes		4		
Other noncurrent assets		165		166
Total noncurrent assets				877
Total assets held for sale(1)	\$	1,208	\$	1,109
Carrying amounts of major classes of liabilities held for sale:				
Accounts payable	\$	152	\$	168
Accrued liabilities		26		57
Current operating lease liabilities		20		
Total current liabilities				225
Deferred income taxes		135		159
Noncurrent operating lease liabilities		51		
Other noncurrent liabilities		128		124
Total noncurrent liabilities				283
Total liabilities held for sale(1)	\$	512	\$	508

4. DISCONTINUED OPERATIONS AND BUSINESS DISPOSITIONS (Continued)

(1) The assets and liabilities held for sale are classified as current as of December 31, 2019 because the sale of our Chemical Intermediates Businesses was completed on January 3, 2020.

The following table reconciles major line items constituting pretax income of discontinued operations to aftertax income (loss) of discontinued operations as presented in our consolidated statements of operations (dollars in millions):

		Year ended December 31,						
	201	2019		019 2018		2018		2017
Major line items constituting pretax income of discontinued operations(1):								
Trade sales, services and fees, net(2)	\$ 1	,545	\$	3,923	\$	3,747		
Cost of goods sold(2)	1	,287		2,847		3,198		
Other expense items, net that are not major		54		332		208		
Income from discontinued operations before income taxes		204		744		341		
Income tax expense		(35))	(86)		(111)		
Loss on disposal		_		(427)		_		
Valuation allowance		_		(270)				
Income (loss) from discontinued operations, net of tax		169		(39)		230		
Net income attributable to noncontrolling interests		_		(6)		(10)		
Net income (loss) attributable to discontinued operations	\$	169	\$	(45)	\$	220		

⁽¹⁾ Discontinued operations include our Chemical Intermediates Businesses, our Australian styrenics operations and our North American polymers and base chemicals operations for all periods presented. We began accounting for our investment in Venator as an equity method investment on December 3, 2018. Therefore, the summarized financial data only includes the results of Venator applicable to the period from January 1, 2017 through December 2, 2018.

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.

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 determined based on the average of the daily volume weighted average price of Venator ordinary shares over an agreed period (the "Forward Swap"). Over this agreed period, we received aggregate proceeds of \$19 million, \$16 million of which was received in the first quarter of 2019. Following this transaction, we retained approximately 49% ownership in Venator and this transaction allowed us to deconsolidate Venator beginning in December 2018, and thus we began accounting for our remaining interest in Venator as an equity method investment and elected the fair value option to account for our equity method investment in Venator.

⁽²⁾ Includes eliminations of trade sales, services and fees, net and cost of sales between continuing operations and discontinued operations.

4. DISCONTINUED OPERATIONS AND BUSINESS DISPOSITIONS (Continued)

Although we intend to monetize our remaining 49% ownership in Venator, our ability to sell our ordinary shares of Venator at a reasonable price is dependent upon the prevailing market value of Venator common stock. The depressed Venator stock price inhibits our ability to sell our remaining shares of Venator at a reasonable price, which could continue for more than twelve months. Therefore, in December 2018, our equity method investment in Venator did not meet the held for sale criteria and our equity method investment in Venator was recorded in continuing operations.

During the first quarter of 2019, we recorded a gain of \$1 million to record the Forward Swap at fair value. Additionally, for year ended December 31, 2019, we recorded a loss of \$19 million to record our investment in Venator at fair value. These gains and losses were recorded in "Fair value adjustments to Venator investment" on our consolidated statements of operations.

5. INVENTORIES

Inventories consisted of the following (dollars in millions):

	December 31, 2019		,
Raw materials and supplies	\$	175	\$ 191
Work in progress		49	51
Finished goods		718	798
Total		942	1,040
LIFO reserves		(28)	(40)
Net inventories	\$	914	\$ 1,000

For December 31, 2019 and 2018, approximately 9% and 6% 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,		
		2019	2018
Land	\$	103	\$ 105
Buildings		605	602
Plant and equipment		4,695	4,550
Construction in progress		285	249
Total		5,688	5,506
Less accumulated depreciation		(3,305)	(3,153)
Net	\$	2,383	\$ 2,353

Depreciation expense for 2019, 2018 and 2017 was \$245 million, \$239 million and \$226 million, respectively.

7. INVESTMENT IN UNCONSOLIDATED AFFILIATES

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

	December 31,			
	2019		2019 201	
Equity Method:				
Venator Materials PLC (49%)(1)	\$	200	\$	219
BASF Huntsman Shanghai Isocyanate Investment BV (50%)(2)		112		120
Nanjing Jinling Huntsman New Material Co., Ltd. (49%)		196		163
Jurong Ningwu New Material Development Co., Ltd. (30%)		27		24
Total investments	\$	535	\$	526

⁽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."

SUMMARIZED FINANCIAL INFORMATION OF UNCONSOLIDATED AFFILIATES

Summarized financial information of our unconsolidated affiliates as of December 31, 2019 and 2018 and for the years ended December 31, 2019, 2018 and 2017 is as follows (dollars in millions):

		31,		
		2019		2018
Current assets.	\$	1,439	\$	1,548
Non-current assets		2,436		2,444
Current liabilities		688		781
Non-current liabilities		1,614		1,683
Noncontrolling interests		7		8

	Year ended December 31,					
	2019(1)	2018(1)	2017			
Revenues	\$ 4,025	\$ 2,181	\$ 1,109			
Gross profit	454	221	112			
Income from continuing operations	99	124	34			
Net income	99	124	34			

⁽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 for the year ended December 31, 2019 and 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.

⁽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.

8. VARIABLE INTEREST ENTITIES (Continued)

- 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 was our 50%-owned joint venture with Sasol that owned and operated a maleic anhydride facility in Moers, Germany. This joint venture manufactured products for our Performance Products segment. Sasol-Huntsman used our technology and expertise, and we bore a disproportionate amount of risk of loss due to a related-party loan to Sasol-Huntsman for which we bore the default risk. On September 30, 2019, we acquired the 50% noncontrolling interest that we did not own in the Sasol-Huntsman. As such, as of September 30, 2019, this joint venture was no longer accounted for as a variable interest entity. See "Note 3. Business Combinations and Acquisitions."

Creditors of these entities have no recourse to our general credit. See "Note 15. Debt—Direct and Subsidiary Debt." As the primary beneficiary of these variable interest entities at December 31, 2019, 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, 2019 and 2018 (dollars in millions):

	December 31, 2019(1)		Dec	ember 31, 2018
Current assets	\$	50	\$	92
Property, plant and equipment, net		180		265
Operating lease right-of-use assets.		16		
Other noncurrent assets		132		136
Deferred income taxes		30		32
Intangible assets		_		10
Goodwill				14
Total assets	\$	408	\$	549
Current liabilities	\$	151	\$	178
Long-term debt		29		61
Deferred income taxes		_		11
Noncurrent operating lease liabilities		11		
Other noncurrent liabilities		87		97
Total liabilities	\$	278	\$	347

⁽¹⁾ As of September 30, 2019, Sasol-Huntsman was no longer accounted for as a variable interest entity.

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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,					
	20	19(1)	- 2	2018		2017
Revenues	\$	95	\$	154	\$	132
Income from continuing operations before income taxes		17		40		25
Net cash provided by operating activities		81		65		51

⁽¹⁾ As of September 30, 2019, Sasol-Huntsman was no longer accounted for as a variable interest entity. Therefore, this financial data only includes information for Sasol-Huntsman applicable to the period from January 1, 2019 through September 30, 2019.

9. LEASES

On January 1, 2019, we adopted the new lease standard using the optional transition method provided under ASU No. 2018-11, which allowed us to initially apply the amendments of the new lease standard at the adoption date. Upon adoption of the new lease standard, we elected the package of three practical expedient permitted under the transition guidance within the new lease standard, which among other things, allowed us to carry forward the historical lease classification on existing leases at adoption. In addition, we elected the practical expedient related to land easements, which allowed us to carry forward our accounting treatment for land easements on existing agreements. We also elected the hindsight practical expedient to determine the lease term for existing leases.

The determination of whether a contract is or contains a lease is performed at the lease inception date. Lease right-of-use assets and lease liabilities are recognized at the lease commencement date based on the present value of lease payments over the lease term, using incremental borrowing rates as the implicit rates are not readily determinable for our leases. The incremental borrowing rates are determined on a collateralized basis and vary from lease to lease depending on the country where the leased asset exists and the term of the lease arrangement. We combine lease components with non-lease components and account for them as a single lease component for all classes of underlying assets, except for leases of manufacturing and research facilities and administrative offices. For these assets, non-lease components are separated from lease components and accounted for as normal operating expenses.

We primarily lease manufacturing and research facilities, administrative offices, land, tanks, railcars and equipment. Leases with an initial term of 12 months or less are not recognized on the balance sheet; we recognize lease expense for these leases on a straight-line basis over the lease term. Our variable lease cost was nil for the year ended December 31, 2019. Our leases have remaining lives from one month to 38 years. Certain lease agreements include one or more options to renew, at our discretion, with renewal terms that can extend the lease term by approximately one year to 30 years or more. Renewal and termination options that we are reasonably certain to exercise have been included in the calculation of the lease right-of-use assets and lease liabilities. None of our lease agreements contain material residual value guarantees or material restrictions or covenants.

The components of operating lease expense, cash flows and supplemental noncash information from continuing operations are as follows (dollars in millions):

		ear ended aber 31, 2019
Operating lease expense:	Deten	1001 01, 2017
Cost of goods sold	\$	35
Selling, general and administrative		15
Research and development		6
Total operating lease expense(1)(2)	\$	56
Cash paid for amounts included in the measurement of lease liabilities: Operating cash flows from operating leases	\$	53
Supplemental noncash information: Leased assets obtained in exchange for new operating lease liabilities	\$	416

⁽¹⁾ Total operating lease expense includes short-term lease expense of approximately \$1 million for the year ended December 31, 2019.

⁽²⁾ Total operating lease expense for the years ended December 31, 2018 and 2017 were \$55 million and \$60 million, respectively.

9. LEASES (Continued)

The weighted-average lease term and discount rate for our operating leases from continuing operations are as follows:

Weighted-average remaining lease term	11 years
Weighted-average discount rate	4.1%

The undiscounted future cash flows of operating lease liabilities from continuing operations as of December 31, 2019 are as follows (dollars in millions):

Year ending December 31,	
2020	\$ 58
2021	57
2022	52
2023	48
2024	45
Thereafter	 268
Total lease payments	528
Less imputed interest	(102)
Total	\$ 426

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

Year ending December 31,	
2019	\$ 37
2020	33
2021	36
2022	34
2023	32
Thereafter	224
	\$ 396

As of December 31, 2019, we have additional leases, primarily for leases of manufacturing facilities, that have not yet commenced of approximately \$43 million. These leases will commence beginning in 2020 through 2021 with lease terms of up to 20 years.

10. INTANGIBLE ASSETS

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

	December 31, 2019						December 31, 2018						
	, ,		Accumulated Amortization			Net		rrying mount		umulated ortization		Net	
Patents, trademarks and													
technology	\$	314	\$	230	\$	84	\$	293	\$	209	\$	84	
Licenses and other agreements		140		48		92		134		29		105	
Non-compete agreements		3		2		1		3		2		1	
Other intangibles		61		41		20		64		41		23	
Total	\$	518	\$	321	\$	197	\$	494	\$	281	\$	213	

10. INTANGIBLE ASSETS (Continued)

Amortization expense was \$16 million, \$6 million and \$3 million for the years ended December 31, 2019, 2018 and 2017, respectively.

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

Year ending December 31,	
2020	\$ 16
2021	
2022	15
2023	15
2024	15

11. OTHER NONCURRENT ASSETS

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

	December 31,				
		2019	2018		
Capitalized turnaround costs, net	\$	223	\$	172	
Catalyst assets, net		24		26	
Other		205		195	
Total	\$	452	\$	393	

Amortization expense of catalyst assets for the years ended December 31, 2019, 2018 and 2017 was \$9 million, \$10 million and \$7 million, respectively.

12. ACCRUED LIABILITIES

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

	December 31,			
		2019		2018
Payroll and related accruals	\$	100	\$	126
Taxes other than income taxes		64		44
Income taxes		59		86
Volume and rebate accruals		53		59
Other miscellaneous accruals		144		182
Total	\$	420	\$	497

13. RESTRUCTURING, IMPAIRMENT AND PLANT CLOSING (CREDITS) COSTS

2019 RESTRUCTURING ACTIVITIES

In September 2011, we implemented the Textile Effects Restructuring Plan, including the closure of our production facilities and business support offices in Basel, Switzerland. In connection with this plan, in July 2019, we sold the production facilities and business support offices in Basel. Accordingly, during the third quarter of 2019, we received proceeds of \$49 million related to this sale and recognized a corresponding gain on disposal of assets of \$49 million.

13. RESTRUCTURING, IMPAIRMENT AND PLANT CLOSING (CREDITS) COSTS (Continued)

2018 RESTRUCTURING ACTIVITIES

In September 2011, we implemented the Textile Effects Restructuring Plan. 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 was 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.

14. OTHER NONCURRENT LIABILITIES

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

	December 31,					
	2019	2018				
Pension liabilities	\$ 650	\$	664			
Other postretirement benefits	55		54			
Employee benefit accrual	38		32			
Other	155		199			
Total	\$ 898	\$	949			

15. DEBT

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

	Dec	ember 31, 2019	Dec	ember 31, 2018
Senior Credit Facilities:				
Revolving facility	\$	40	\$	50
Amounts outstanding under A/R programs		167		252
Term loan		103		_
Senior notes		1,963		1,892
Variable interest entities		65		86
Other		51		40
Total debt	\$	2,389	\$	2,320
Total current portion of debt	\$	212	\$	96
Long-term portion of debt		2,177		2,224
Total debt	\$	2,389	\$	2,320

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 guaranter 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.

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, 2019 and 2018, the amount of debt issuance costs directly reducing the debt liability was \$11 million and \$8 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

15. DEBT (Continued)

were terminated, and all liens granted under the Prior Credit Facility were released. As of December 31, 2019, our 2018 Revolving Credit Facility was as follows (dollars in millions):

			Discounts and			
	Committed	Principal	Debt Issuance	Carrying		
Facility	Amount	Outstanding	Costs	Value	Interest Rate(2)	Maturity
2018 Revolving Credit Facility .	\$ 1,200	\$ 40 (1	1)\$ — (1)\$ 40 (1)	USD LIBOR plus 1.50%	2023

- (1) On December 31, 2019, we had an additional \$7 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, 2019 was 1.50% above LIBOR.

Term Loan Credit Facility

On September 24, 2019, we entered into the 2019 Term Loan, pursuant to which we borrowed an aggregate principal amount of €92 million (or \$101 million equivalent). We used the net proceeds from the 2019 Term Loan to finance our acquisition of the 50% noncontrolling interest that we did not own in the Sasol-Huntsman maleic anhydride joint venture. Borrowings under the 2019 Term Loan will bear interest at an interest rate of EURIBO Rate plus 0.75%, with a EURIBO Rate floor at zero. Unless earlier terminated or prepaid in accordance with the credit agreement governing the 2019 Term Loan, the 2019 Term Loan will mature on September 22, 2020. The 2019 Term Loan is subject to substantially the same terms and conditions as the 2018 Revolving Credit Facility.

A/R Programs

Our A/R Programs are structured so that we transfer certain of our trade receivables to the U.S. special purpose entity ("U.S. SPE") and the European special purpose entity ("EU SPE") in transactions intended to be true sales or true contributions. The receivables collateralize debt incurred by the U.S. SPE and the EU SPE.

On April 18, 2019, we entered into amendments to the EU A/R Program (the "European Amendment") and the U.S. A/R Program (the "U.S. Amendment"). The European Amendment, among other things, extended the scheduled commitment termination date of the loan facility to April 2022, reduced the facility maximum funding availability from €150 million to €100 million and made certain other amendments. The U.S. Amendment, among other things, extended the scheduled commitment termination date of the loan facility to April 2022 and made certain other amendments.

Information regarding our A/R Programs as of December 31, 2019 was as follows (monetary amounts in millions):

			Maximum Funding		Amount		
Facility	Maturity		Availability(1)		Outstanding	_	Interest Rate(2)
U.S. A/R Program	April 2022	\$	250	\$	100	(3)	Applicable rate plus 0.90%
EU A/R Program	April 2022	€	100	€	60		Applicable rate plus 1.30%
		(01	r approximately \$112)	(or	approximately \$67))	

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

15. DEBT (Continued)

(3) As of December 31, 2019, we had approximately \$5 million (U.S. dollar equivalents) of letters of credit issued and outstanding under our U.S. A/R Program.

In December 2019, we entered into amendments to the U.S. A/R program and the EU A/R program. The European amendment allowed the removal of pledged obligors related to the Chemical Intermediates Businesses sold to Indorama. The U.S. amendment allowed the removal of pledged obligors related to the Chemical Intermediates Businesses sold to Indorama as well as reduced the maximum funding capacity from \$250 million to \$150 million upon completion of the sale on January 3, 2020.

As of December 31, 2019 and December 31, 2018, \$221 million and \$341 million, respectively, of accounts receivable were pledged as collateral under our A/R Programs.

Notes

As of December 31, 2019, we had outstanding the following notes (monetary amounts in millions):

Notes	Maturity	Interest Rate	Amount Outstanding	Premiums, Discounts and Debt Issuance Costs
2021 Senior Notes	April 2021	5.125 %	€445 (€445 carrying value \$(496))	\$ —
2022 Senior Notes	November 2022	5.125 %	\$400 (\$398 carrying value)	(2)
2025 Senior Notes	April 2025	4.250 %	€300 (€298 carrying value \$(333))	(2)
2029 Senior Notes	February 2029	4.500 %	\$750 (\$736 carrying value)	(14)

Unamortized

The 2021, 2022, 2025 and 2029 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 2021, 2022, 2025 and 2029 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.

On March 13, 2019, we completed a \$750 million offering of our 2029 Senior Notes. On March 27, 2019, we applied the net proceeds of the offering of the 2029 Senior Notes to redeem in full \$650 million in aggregate principal amount of our 2020 Senior Notes and also paid associated costs and accrued interest of \$21 million and \$12 million, respectively. In addition, we recognized a loss on early extinguishment of debt of \$23 million.

The 2029 Senior Notes bear interest at 4.50% per year, payable semi-annually on May 1 and November 1, and will mature on May 1, 2029. We may redeem the 2029 Senior Notes in whole or in part at any time prior to February 1, 2029 at a price equal to 100% of the principal amount thereof plus a "make-whole" premium and accrued and unpaid interest. We may redeem the 2029 Senior Notes at any time, in whole or from time to time in part, on or after February 1, 2029 at a redemption price equal to 100% of the principal amount of the notes to be redeemed, plus accrued and unpaid interest.

Variable Interest Entity Debt

As of December 31, 2019, AAC, our consolidated 50%-owned joint venture, had \$65 million outstanding under its loan commitments and debt financing arrangements. As of December 31, 2019, we have \$36 million classified as current debt and \$29 million as long-term debt on our consolidated balance sheets. We do not guarantee these loan commitments, and AAC is not a guaranter of any of our other debt obligations.

15. DEBT (Continued)

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, 2019 are as follows (dollars in millions):

Year ending December 31,	
2020	\$ 212
2021	522
2022	
2023	1
2024	2
Thereafter	1,082
	\$ 2,389

16. 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—Separation and Deconsolidation of Venator" and "Note 17. 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.

16. 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 exposures. 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. On January 9, 2019, we entered into a six-year \$17 million notional value interest rate hedge with a fixed rate of 2.66%. This swap was designated as a cash flow hedge and the effective portion of the changes in the fair value of the swap was recorded in other comprehensive (loss) income. In November 2019, we terminated this swap and paid \$1 million to our counterparties. This \$1 million settlement will be amortized from accumulated other comprehensive loss to earnings.

During 2019, there were no other reclassifications from accumulated other comprehensive loss 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, 2019 and 2018, we had approximately \$135 million and \$151 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, 2019, we have designated approximately €435 million (approximately \$485 million) of euro-denominated debt as a hedge of our net investment. For the years ended December 31, 2019, 2018 and 2017, the amounts recognized on the hedge of our net investment were a gain of \$14 million, a gain of \$35 million and a loss of \$96 million, respectively, and were recorded in other comprehensive (loss) income.

16. 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.

17. FAIR VALUE

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

		Decembe	r 31, 2	2019		Decembe	r 31, 2018	
		Carrying Estimated Value Fair Value				rrying		timated
		⁷ alue	Fan	r Value	Value		Fai	ir Value
Non-qualified employee benefit plan investments	\$	28	\$	28	\$	23	\$	23
Forward swap contract related to the sale of investment in Venator						14		14
Long-term debt (including current portion)	(2,389)	(2,544)	((2,320)	((2,403)

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 (Level 1). See "Note 4. Discontinued Operations and Business Dispositions—Separation and Deconsolidation of Venator." The fair values of non-qualified employee benefit plan investments are obtained through market observable pricing using prevailing market prices. 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, 2019 and 2018. 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, 2019, and current estimates of fair value may differ significantly from the amounts presented herein.

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

				Fair Value Amounts Using									
			Quo	ted prices	Sig	gnificant other	Significa	ant					
			in acti	ve markets		observable	unobserva	able					
	Dece	ember 31,	for	identical		inputs	inputs						
Description		2019	asset	s (Level 1)		(Level 2)	(Level	3)					
Assets:													
Equity securities:													
Non-qualified employee benefit plan investments	\$	28	\$	28	\$		\$	_					

17. FAIR VALUE (Continued)

			Fair Value Amounts Using								
Description	December 31, 2018		Quoted prices in active markets for identical assets (Level 1)			gnificant 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(1)		14				14					
	\$	37	\$	23	\$	14	\$				

⁽¹⁾ In connection with the December 3, 2018 sale of Venator ordinary shares to Bank of America N.A., we recorded a forward swap. In February 2019, we settled this forward swap and received \$16 million from the counterparty.

During the years ended December 31, 2019 and 2018, there were no instruments measured at fair value on a recurring basis using significant unobservable inputs (Level 3), and there were no gains or losses (realized or unrealized) included in earnings for instruments categorized as Level 3 within the fair value hierarchy.

18. 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.

18. REVENUE RECOGNITION (Continued)

The following table disaggregates our revenue by major source for the years ended December 31, 2019 and 2018 (dollars in millions):

2019	Poly	Polyurethanes		formance roducts		dvanced aterials		Textile Effects		Corporate and iminations		Total	
Primary Geographic Markets(1)			-							,			
U.S. and Canada	\$	1,475	\$	531	\$	289	\$	62	\$	(64)	\$	2,293	
Europe		1,051		316		410		128		(9)		1,896	
Asia Pacific		1,078		248		269		446		(2)		2,039	
Rest of world		307		63		76		127		(4)		569	
	\$	3,911	\$	1,158	\$	1,044	\$	763	\$	(79)	\$	6,797	
Major Product Groupings													
MDI urethanes	\$	3,911									\$	3,911	
Differentiated			\$	1,158								1,158	
Specialty					\$	891						891	
Non-specialty						153						153	
Textile chemicals and dyes and digital inks.							\$	763				763	
Eliminations									\$	(79)		(79)	
	\$	3,911	\$	1,158	\$	1,044	\$	763	\$	(79)	\$	6,797	
									C	Corporate			
				ormance		lvanced		Textile		and			
<u>2018</u>	Poly	urethanes		formance roducts		dvanced aterials		Textile Effects				Total	
Primary Geographic Markets(1)			P	roducts	M	aterials	_	Effects	Eli	and iminations			
Primary Geographic Markets(1) U.S. and Canada	Poly	1,426		roducts 586	M	aterials 285	<u> </u>	Effects 68		and iminations	<u> </u>	2,487	
Primary Geographic Markets(1) U.S. and Canada Europe		1,426 1,277	P	586 368	M	285 445	<u> </u>	68 135	Eli	and iminations 122 (16)	\$	2,487 2,209	
Primary Geographic Markets(1) U.S. and Canada Europe Asia Pacific		1,426 1,277 1,236	P	586 368 278	M	285 445 301	<u> </u>	68 135 485	Eli	122 (16) (24)	<u> </u>	2,487 2,209 2,276	
Primary Geographic Markets(1) U.S. and Canada Europe	\$	1,426 1,277 1,236 343	<u>P</u> 1	586 368 278 69	M	285 445 301 85	_	68 135 485 136	<u>Eli</u> \$	122 (16) (24) (1)	_	2,487 2,209 2,276 632	
Primary Geographic Markets(1) U.S. and Canada Europe Asia Pacific		1,426 1,277 1,236	P	586 368 278	M	285 445 301	\$ \$	68 135 485	Eli	122 (16) (24)	\$ \$	2,487 2,209 2,276	
Primary Geographic Markets(1) U.S. and Canada Europe Asia Pacific Rest of world Major Product Groupings	\$	1,426 1,277 1,236 343 4,282	P 1	586 368 278 69	M	285 445 301 85	_	68 135 485 136	<u>Eli</u> \$	122 (16) (24) (1)	\$	2,487 2,209 2,276 632 7,604	
Primary Geographic Markets(1) U.S. and Canada Europe Asia Pacific Rest of world Major Product Groupings MDI urethanes	\$	1,426 1,277 1,236 343	\$ \$	586 368 278 69 1,301	M	285 445 301 85	_	68 135 485 136	<u>Eli</u> \$	122 (16) (24) (1)	_	2,487 2,209 2,276 632 7,604	
Primary Geographic Markets(1) U.S. and Canada Europe Asia Pacific Rest of world Major Product Groupings MDI urethanes Differentiated.	\$	1,426 1,277 1,236 343 4,282	P 1	586 368 278 69	<u>M</u> \$	285 445 301 85 1,116	_	68 135 485 136	<u>Eli</u> \$	122 (16) (24) (1)	\$	2,487 2,209 2,276 632 7,604 4,282 1,301	
Primary Geographic Markets(1) U.S. and Canada Europe Asia Pacific Rest of world Major Product Groupings MDI urethanes	\$	1,426 1,277 1,236 343 4,282	\$ \$	586 368 278 69 1,301	M	285 445 301 85 1,116	_	68 135 485 136	<u>Eli</u> \$	122 (16) (24) (1)	\$	2,487 2,209 2,276 632 7,604	
Primary Geographic Markets(1) U.S. and Canada Europe Asia Pacific Rest of world Major Product Groupings MDI urethanes Differentiated.	\$	1,426 1,277 1,236 343 4,282	\$ \$	586 368 278 69 1,301	<u>M</u> \$	285 445 301 85 1,116	_	68 135 485 136	<u>Eli</u> \$	122 (16) (24) (1)	\$	2,487 2,209 2,276 632 7,604 4,282 1,301	
Primary Geographic Markets(1) U.S. and Canada Europe Asia Pacific Rest of world Major Product Groupings MDI urethanes Differentiated. Specialty	\$	1,426 1,277 1,236 343 4,282	\$ \$	586 368 278 69 1,301	<u>M</u> \$	285 445 301 85 1,116	_	68 135 485 136	<u>Eli</u> \$	122 (16) (24) (1)	\$	2,487 2,209 2,276 632 7,604 4,282 1,301 932	
Primary Geographic Markets(1) U.S. and Canada Europe Asia Pacific Rest of world Major Product Groupings MDI urethanes Differentiated. Specialty Non-specialty	\$	1,426 1,277 1,236 343 4,282	\$ \$	586 368 278 69 1,301	<u>M</u> \$ \$ \$	285 445 301 85 1,116	\$	68 135 485 136 824	<u>Eli</u> \$	122 (16) (24) (1)	\$	2,487 2,209 2,276 632 7,604 4,282 1,301 932 184	

⁽¹⁾ 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

18. REVENUE RECOGNITION (Continued)

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.

19. 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.

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.

19. 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, 2019 and 2018 (dollars in millions):

		Defined Be	enefit Plans	Othe	fit Plans			
	20	119		18		2019		018
	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								
yearService cost	\$ 956 20	\$ 2,157 30	\$ 1,028 23	\$ 2,259 32	\$ 59	\$ —	\$ 69 2	\$ —
Interest cost	41	37	39	32 37	1 3	_	2	_
Participant contributions	_	6	_	5	2	_	2	_
Plan amendments Foreign currency exchange rate	_	(9)	_	4	_	_	_	_
changes	_	7	_	(74)	_	_	_	_
Settlements/transfers/divestitures	20	(2)	(6)	(3)	1	_		_
Actuarial (gain) loss	65 (78)	224 (73)	(67) (61)	(30) (73)	(6)	_	(9) (7)	_
Benefit obligation at end of year	\$ 1,024	\$ 2,377	\$ 956	\$ 2,157	\$ 60	<u>\$</u>	\$ 59	<u>\$</u>
Change in plan assets								
Fair value of plan assets at								
beginning of year	\$ 697 107	\$ 1,751 224	\$ 747 (27)	\$ 1,883 (38)	\$ —	\$ —	\$ —	\$ —
Foreign currency exchange rate	107	224	(27)	(36)	_	_		_
changes	_	11	_	(62)	_	_		
Participant contributions		6		5	2	_	2	_
Settlement/transfers/divestitures Company contributions	19 45	(2) 43	(6) 44	(3)	4			
Benefits paid	(78)	(73)	(61)	(73)	(6)		(7)	
Fair value of plan assets at end of year.	\$ 790	\$ 1,960	\$ 697	\$ 1,751	<u>\$ —</u>	<u>\$</u>	<u>\$ —</u>	<u>\$</u>
Funded status								
Fair value of plan assets	\$ 790	\$ 1,960	\$ 697	\$ 1,751	\$ —	\$ —	\$ —	\$ —
Benefit obligation	1,024	2,377	956	2,157	60	<u> </u>	<u>\$ (50)</u>	<u> </u>
Accrued benefit cost	\$ (234)	\$ (417)	\$ (259)	\$ (406)	\$ (60)	<u>\$</u>	\$ (59)	<u>\$</u>
Amounts recognized in balance sheet:								
Noncurrent asset	\$ —	\$ 10	\$ —	\$ 10	\$ —	\$ —	\$ —	\$ —
Current liability	(5) (229)	(6) (421)	(5) (254)	(6) (410)	(5) (55)		(5) (54)	
Total	\$ (234)	$\frac{(421)}{\$}$ (417)	\$ (259)	\$ (406)	\$ (60)	<u> </u>	\$ (59)	<u> </u>
	· (== 1)	· (· - ·)	· (== ×)	· (· · · ·)	<u> </u>	<u> </u>	- ()	<u> </u>

19. EMPLOYEE BENEFIT PLANS (Continued)

		De	fined Be	nefit Plans	Other Postretirement Benefit Plans							
	2		2018			2019			2018			
	U.S. Plans					on-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	\$ 394	\$	840	\$ 401	\$	784	\$ 20	\$		\$ 21	\$	_
Prior service credit	(11)		(32)	(13)		(27)	(33)		_	(38)		_
Total	\$ 383	\$	808	\$ 388	\$	757	\$ (13)	\$		\$ (17)	\$	

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):

	De	fined Be	nefit l	Plans	Oth	er Post Benefit	
	U.S.	U.S. Plans Plans			U.S.	Plans	n-U.S. lans
Actuarial loss	\$	28	\$	53	\$	1	\$
Prior service credit		(2)		(5)		(5)	
Total	\$	26	\$	48	\$	(4)	\$

Components of net periodic benefit costs of continuing operations for the years ended December 31, 2019, 2018 and 2017 were as follows (dollars in millions):

	Defined Benefit Plans							
		U.S. plans		N	on-U.S. pla	ns		
	2019	2018	2017	2019	2018	2017		
Service cost	\$ 20	\$ 23	\$ 22	\$ 30	\$ 32	\$ 33		
Interest cost	41	39	39	37	37	35		
Expected return on plan assets	(53)	(54)	(48)	(102)	(109)	(100)		
Amortization of prior service credit	(2)	(2)	(2)	(4)	(5)	(5)		
Amortization of actuarial loss	23	31	27	45	38	45		
Settlement loss	_	2		1		_		
Special termination benefits	_	_	_	_		1		
Net periodic benefit cost (credit)	\$ 29	\$ 39	\$ 38	\$ 7	\$ (7)	\$ 9		
		Othe	r Postretir	ement Bene	fit Plans			
		U.S. plan	s	1	Non-U.S. pla	ans		
	2019	2018	2017	2019	2018	2017		
Service cost	\$ 1	\$ 2	\$ 2	\$ —	\$ —	\$ —		
Interest cost	3	2	3	_	_	_		
Amortization of prior service credit	(5)	(5)	(6)) —	_	_		
Amortization of actuarial loss	1	2	3					
Net periodic benefit cost	\$ —	\$ 1	\$ 2	\$ —	\$ —	\$ —		

19. EMPLOYEE BENEFIT PLANS (Continued)

The amounts recognized in net periodic benefit cost and other comprehensive income (loss) as of December 31, 2019, 2018 and 2017 were as follows (dollars in millions):

			Defined Be	enefit Plans		
		U.S. plans		N	on-U.S. pla	ns
	2019	2018	2017	2019	2018	2017
Current year actuarial loss (gain)	\$ 19	\$ 18	\$ 42	\$ 101	\$ 117	\$ (42)
Amortization of actuarial loss	(26)	(34)	(30)	(45)	(38)	(61)
Current year prior service (credits) cost	_	_	_	(10)	4	(2)
Amortization of prior service credit	2	2	2	` 4 [´]	5	4
Settlements		(2)		1		_
Curtailment (gain)/loss		_				3
Total recognized in other comprehensive income (loss)	(5)	(16)	14	51	88	(98)
Amounts related to discontinued operations	9	(4)	_	_	_	37
Total recognized in other comprehensive income (loss) in						
continuing operations	4	(20)	14	51	88	(61)
Net periodic benefit cost	29	39	38	7	(7)	9
Total recognized in net periodic benefit cost and other						
comprehensive income (loss)	\$ 33	\$ 19	\$ 52	\$ 58	\$ 81	\$ (52)
comprehensive meonic (1033)	Ψ 33	Ψ 17	Ψ 32	Ψ 30	Ψ 01	$\frac{\Psi^{-}(32)}{}$
		Other	Postretiren	nent Benefi	t Plans	
		U.S. plans		N	on-U.S. pla	ns
	2019	2018	2017	2019	2018	2017
Current year actuarial loss (gain)	\$ —	\$ (10)	\$ (12)	\$ —	\$ —	\$ —
Amortization of actuarial loss	(1)	(2)	(3)	_		(1)
Current year prior service credit	_	_	_			_
Amortization of prior service credit	5	6	6	_	_	2
Total recognized in other comprehensive income (loss)	4	(6)	(9)			1
Amounts related to discontinued operations	(6)					(1)
Total recognized in other comprehensive income (loss) in						
continuing operations	(2)	(6)	(9)	_	_	_
Net periodic benefit cost		1	2	_	_	_
Total recognized in net periodic benefit cost and other						
comprehensive income (loss)	\$ (2)	\$ (5)	\$ (7)	\$ —	\$ —	\$ —
, ,	• (-)	· (-)	. ()			

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						
	J	J.S. plans		Nor	S		
	2019	2018	2017	2019	2018	2017	
Projected benefit obligation							
Discount rate	3.59 %	4.39 %	3.74 %	1.07 %	1.75 %	1.65 %	
Rate of compensation increase	4.09 %	4.10 %	4.10 %	2.65 %	2.95 %	3.38 %	
Net periodic pension cost							
Discount rate	4.39 %	3.74 %	4.24 %	1.75 %	1.65 %	1.82 %	
Rate of compensation increase	4.07 %	4.10 %	4.14 %	2.64 %	3.38 %	3.51 %	
Expected return on plan assets	7.52 %	7.52 %	7.53 %	5.89 %	5.88 %	5.68 %	

19. EMPLOYEE BENEFIT PLANS (Continued)

	Other Postretirement Benefit Plans							
	J	J.S. plans		Non-U.S. plans				
	2019	2018	2017	2019	2018	2017		
Projected benefit obligation	·							
Discount rate	3.46 %	4.26 %	3.58 %	2.90 %	3.50 %	3.30 %		
Net periodic pension cost								
Discount rate	4.26 %	3.58 %	4.04 %	3.50 %	3.30 %	3.50 %		

At December 31, 2019 and 2018 the health care trend rate used to measure the expected increase in the cost of benefits was assumed to be 6.50%, 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	<u> D</u>	Decrease
Asset category			
Effect on total of service and interest cost	\$ —	\$	
Effect on postretirement benefit obligation	2		(1)

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, 2019 and 2018 were as follows (dollars in millions):

	U.S. p	lans	Non-U.	S. plans
	2019	2018	2019	2018
Projected benefit obligation in excess of plan assets				
Projected benefit obligation	\$ 1,024	\$ 956	\$ 2,203	\$ 1,790
Fair value of plan assets	790	697	1,777	1,375

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, 2019 and 2018 were as follows (dollars in millions):

	U.S. p	olans	Non-U.S	5. plans
	2019	2018	2019	2018
Accumulated benefit obligation in excess of plan				
assets				
Projected benefit obligation	\$ 1,024	\$ 956	\$ 1,066	\$ 986
Accumulated benefit obligation	1,019	935	991	919
Fair value of plan assets	790	697	664	608

19. 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			. Plans		
				Other				Other	
		Defined Benefit		Postretirement Benefit		Defined Benefit		Postretirement Benefit	
		lans	Plans		Plans		Plans		
2020 expected employer contributions									
To plan trusts	\$	45	\$	5	\$	38	\$	_	
Expected benefit payments									
2020		59		5		78		_	
2021		62		5		77		_	
2022		65		5		81		_	
2023		69		5		85		_	
2024		98		5		84		_	
2025 - 2029		325		24		447		_	

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 2019, 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.

19. EMPLOYEE BENEFIT PLANS (Continued)

The fair value of plan assets for the pension plans was \$2.8 billion and \$2.4 billion at December 31, 2019 and 2018, respectively. The following plan assets are measured at fair value on a recurring basis (dollars in millions):

			Fair Value Amounts Using					
Asset category	Dec	ember 31, 2019	marke	prices in active ts for identical ets (Level 1)	observ	icant other able inputs Level 2)	unobsei	nificant vable inputs Level 3)
U.S. pension plans:					· ·			<u>.</u>
Equities	\$	422	\$	283	\$	139	\$	_
Fixed income		301		220		81		_
Real estate/other		67		_				67
Cash								
Total U.S. pension plan assets	\$	790	\$	503	\$	220	\$	67
Non-U.S. pension plans:				_	· ·			
Equities	\$	535	\$	228	\$	307	\$	_
Fixed income		847		560		287		_
Real estate/other		505		99		349		57
Cash		73		72		1		
Total Non-U.S. pension plan assets	\$	1,960	\$	959	\$	944	\$	57
				Fair	Value A	mounts Usin	ıg	
Asset category		ember 31, 2018	Markets	orices in active s for identical	Signifi Observ	cant other able inputs	Sig Unobser	nificant rvable inputs
Asset category U.S. pension plans:		ember 31, 2018	Markets	orices in active	Signifi Observ	cant other	Sig Unobser	
U.S. pension plans:		,	Markets	orices in active s for identical	Signifi Observ	cant other able inputs	Sig Unobser	vable inputs
U.S. pension plans: Equities		2018	Markets asset	orices in active s for identical s (Level 1)	Signifi Observ (Lo	cant other able inputs evel 2)	Sig Unobser (L	vable inputs
U.S. pension plans: Equities		349	Markets asset	orices in active s for identical s (Level 1)	Signifi Observ (Lo	cant other able inputs evel 2)	Sig Unobser (L	vable inputs
U.S. pension plans: Equities		349 283	Markets asset	orices in active s for identical s (Level 1)	Signifi Observ (Lo	cant other able inputs evel 2)	Sig Unobser (L	evel 3)
U.S. pension plans: Equities Fixed income Real estate/other Cash		349 283	Markets asset	orices in active s for identical s (Level 1)	Signifi Observ (Lo	cant other able inputs evel 2)	Sig Unobser (L	evel 3)
U.S. pension plans: Equities Fixed income Real estate/other Cash Total U.S. pension plan assets.	\$	349 283 65	Markets asset	orices in active s for identical s (Level 1) 242 212 —	Signifi Observ (La	ant other able inputs evel 2) 107 71 —	Sig Unobset (I	
U.S. pension plans: Equities Fixed income Real estate/other Cash Total U.S. pension plan assets. Non-U.S. pension plans:	\$	349 283 65	Markets asset	orices in active s for identical s (Level 1) 242 212 —	Signifi Observ (La	ant other able inputs evel 2) 107 71 —	Sig Unobset (I	
U.S. pension plans: Equities Fixed income Real estate/other Cash Total U.S. pension plan assets.	\$	349 283 65 — 697	Markets asset \$	crices in active s for identical s (Level 1) 242 212 — 454	Signifi Observ (La \$	ant other able inputs evel 2) 107 71 ———————————————————————————————	Sig Unobset (L \$	
U.S. pension plans: Equities Fixed income Real estate/other Cash Total U.S. pension plan assets. Non-U.S. pension plans: Equities	\$	349 283 65 — 697	Markets asset \$	242 212 ————————————————————————————————	Signifi Observ (La \$	107 71 — 178	Sig Unobset (L \$	
U.S. pension plans: Equities Fixed income Real estate/other Cash. Total U.S. pension plan assets. Non-U.S. pension plans: Equities Fixed income	\$	349 283 65 — 697 471 747	Markets asset \$	242 212 — 454 161 496	Signifi Observ (La \$	107 71 —————————————————————————————————	Sig Unobset (L \$	
U.S. pension plans: Equities Fixed income Real estate/other Cash. Total U.S. pension plan assets. Non-U.S. pension plans: Equities Fixed income Real estate/other	\$	349 283 65 — 697 471 747 497	Markets asset \$	242 212 — 454 161 496 93	Signifi Observ (La \$	107 71 —————————————————————————————————	Sig Unobset (L \$	

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,				
	2019			2018		
Fair Value Measurements of Plan Assets Using Significant Unobservable						
Inputs (Level 3)						
Balance at beginning of period	\$	121	\$	117		
Return on pension plan assets		4		4		
Purchases, sales and settlements		(1)		_		
Transfers into (out of) Level 3				<u> </u>		
Balance at end of period	\$	124	\$	121		

19. 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 7.53%. The asset allocation for our pension plans at December 31, 2019 and 2018 and the target allocation for 2020, by asset category are as follows:

	Target		
	Allocation	Allocation at Dec	ember 31,
Asset category	2020	2019	2018
U.S. pension plans:			
Equities	53 %	54 %	50 %
Fixed income	39 %	38 %	41 %
Real estate/other	5 %	8 %	9 %
Cash	3 %	— %	_
Total U.S. pension plans	100 %	100 %	100 %
Non-U.S. pension plans:			
Equities	31 %	27 %	27 %
Fixed income	44 %	43 %	43 %
Real estate/other	15 %	26 %	28 %
Cash	10 %	4 %	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 2019.

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, 2019, 2018 and 2017 was \$17 million, \$16 million and \$16 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, 2019, 2018 and 2017 was \$4 million, \$4 million and \$5 million, respectively, primarily related to the Huntsman UK Pension Plan.

19. 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, 2019 and 2018 were \$39 million and \$32 million, respectively. During each of the years ended December 31, 2019, 2018 and 2017, 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, 2019, we had approximately 8 million shares remaining under the 2016 Stock Incentive Plan available for grant. See "Note 24. 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.

20. 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,		
	2019	2018	2017
Income tax (benefit) expense:			
U.S.			
Current	\$ (17)	\$ 57	\$ 23
Deferred	(181)	(30)	(133)
Non-U.S.			
Current	71	153	88
Deferred	89	(135)	42
Total	\$ (38)	\$ 45	\$ 20

20. 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,					
		2019		2018		2017
Income from continuing operations before income taxes	\$	391	\$	734	\$	531
Expected tax expense at U.S. statutory rate of 21%, 21% and 35%,	-					
respectively	\$	82	\$	154	\$	186
Change resulting from:						
State tax expense net of federal benefit		(3)		(1)		(2)
Non-U.S. tax rate differentials		9		27		(67)
U.S. Tax Reform Act impact		(1)		32		(52)
Currency exchange gains/losses(net)		(5)		(10)		15
Venator investment basis difference and fair market value						
adjustments		(199)		18		_
Tax losses related to Venator investment		(18)		_		_
Non-U.S. income subject to U.S. tax not offset by U.S. foreign						
tax credits		7		16		
Tax authority audits and dispute resolutions		(6)		5		9
Share-based compensation excess tax benefits		(4)		(14)		(10)
Change in valuation allowance		56		(185)		(72)
Deferred tax effects of non-U.S. tax rate changes		36		(2)		4
Impact of equity method investments		(13)		(14)		(3)
Other non-U.S. tax effects, including nondeductible expenses						
transfer pricing adjustments and various withholding taxes		19		19		3
Other U.S. tax effects, including nondeductible expenses and						
other credits		2				9
Total income tax (benefit) expense	\$	(38)	\$	45	\$	20

During 2019 and 2018, the average statutory rate for countries with pre-tax income, primarily our operations in China, Germany, India and Luxembourg, was higher than the average statutory rate for countries with pre-tax losses, resulting in a net expense of \$9 million and \$27 million, respectively, as compared to the 21% U.S. statutory rate reflected in the reconciliation above. During 2017, the average statutory rate for countries with pre-tax income, primarily our Polyurethanes segment in The Netherlands, China and the U.K., as well as our Advanced Materials segment in Switzerland and our Corporate segment in Luxembourg, 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 \$67 million, reflected in the reconciliation above. 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 2019, 2018 and 2017, this resulted in a \$5 million tax benefit, a \$10 million tax benefit and a \$15 million tax expense, respectively.

In 2019, we recorded \$199 million of deferred tax assets in connection with our tax basis in our Venator investment being greater than our book basis, which the deferred tax asset was partially offset by a valuation allowance of \$46 million (for a net tax benefit of \$153 million), as further discussed below. Effective January 1, 2019, Switzerland reduced certain conditional income tax rates resulting in a decrease in our net deferred tax assets and a corresponding noncash income tax expense of \$32 million for the year ended December 31, 2019.

The U.S. Tax Reform Act established new tax laws that affected 2019 and 2018, including, but not limited to, a reduction of the U.S. federal corporate tax rate and the creation of the BEAT and GILTI provisions. Under U.S. GAAP, we have elected to treat the GILTI as a current-period expense when incurred.

20. INCOME TAXES (Continued)

The stated purpose of the GILTI rules is to generate additional U.S. tax related to income in 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%; however, 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 2019 and 2018 we have incurred \$7 million and \$16 million of tax expense resulting from these expense allocations.

We recorded a net 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 a net tax benefit of \$135 million due to remeasurement of deferred U.S. tax assets and liabilities (including a provisional tax benefit of \$137 million in 2017 offset by a final tax expense of \$2 million in 2018), offset by a tax expense of \$115 million due to the transition tax on deemed repatriation of deferred foreign income (including a provisional tax expense of \$85 million in 2017 and a \$30 million remeasurement period adjustment in 2018). We did not make the election to reclassify the income tax effects of the U.S. Tax Reform Act from accumulated other comprehensive income to retained earnings.

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

	Year ended December 31,				
	2019	2018	2017		
U.S	\$ (106)	\$ (38)	\$ (143)		
Non-U.S.	497	772	674		
Total	\$ 391	\$ 734	\$ 531		

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

	December 31,	
Deferred income tax assets:	2019	2018
Net operating loss carryforwards	\$ 281	\$ 359
· · · · · · · · · · · · · · · · · · ·	172	180
Pension and other employee compensation	- / -	100
Property, plant and equipment.	15	15
Intangible assets	56	76
Basis difference in Venator investment	199	_
Operating leases	98	
Other, net	72	50
Total	\$ 893	\$ 680
Deferred income tax liabilities:		
Property, plant and equipment	\$ (218)	\$ (199)
Pension and other employee compensation	(1)	_
Intangible assets	(27)	(33)
Unrealized currency gains	(43)	(37)
Operating leases	(102)	_
Other, net	(8)	(9)
Total	\$ (399)	\$ (278)
Net deferred tax asset before valuation allowance	\$ 494	\$ 402
Valuation allowance—net operating losses and other	(231)	(215)
Net deferred tax asset	\$ 263	\$ 187
Non-current deferred tax asset	292	324
Non-current deferred tax liability	(29)	(137)
Net deferred tax asset	\$ 263	\$ 187

20. INCOME TAXES (Continued)

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.

We have gross net operating losses ("NOLs") of \$1,185 million in various non-U.S. jurisdictions. While the majority of the non-U.S. NOLs have no expiration date, \$175 million have a limited life (of which \$162 million are subject to a valuation allowance) and \$88 million are scheduled to expire in 2020 (of which \$87 million are subject to a valuation allowance). We had \$111 million and \$91 million of NOLs expire unused in 2019 and 2018, respectively, all of which were subject to a valuation allowance.

Included in the \$1,185 million of gross non-U.S. NOLs is \$581 million attributable to our Luxembourg entities. As of December 31, 2019 due to the uncertainty surrounding the realization of the benefits of these losses, there is a valuation allowance of \$92 million against these net tax-effected NOLs of \$145 million.

During 2019, based on our expectation that our remaining interest in Venator will be sold on or before December 31, 2023, we recorded \$153 million of deferred tax benefit relating to the portion of the \$199 million tax basis greater than book basis in our Venator investment. We expect to be able to utilize such future capital losses on our Venator investment against capital gains anticipated on the sale of our Chemical Intermediates Businesses. We established a valuation allowance of \$46 million on the excess unrealizable built-in capital loss deferred tax asset. We also realized \$18 million of tax benefit relating to realized tax losses on our investment in Venator. During 2019, we also established \$11 million of valuation allowances on the remaining Australia NOLs that are no longer more-likely-than-not realizable following the sale of the Australia portion of the Chemical Intermediates Businesses.

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 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 demerged 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.

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.

20. INCOME TAXES (Continued)

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

	2019	2018	2017
Valuation allowance as of January 1	\$ 215	\$ 412	\$ 484
Valuation allowance as of December 31	231	215	412
Net (increase) decrease	(16)	197	72
Foreign currency movements	_	3	11
(Decrease) increase to deferred tax assets with no impact on			
operating tax expense, including an offsetting (decrease)			
increase to valuation allowances	(40)	(15)	(11)
Change in valuation allowance per rate reconciliation	\$ (56)	\$ 185	\$ 72
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	\$ (133)	\$ 53	\$ 50
Releases of valuation allowances in various jurisdictions	_	132	22
Establishments of valuation allowances in various jurisdictions.	77	_	_
Change in valuation allowance per rate reconciliation	\$ (56)	\$ 185	\$ 72

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

	2	019	2	018
Unrecognized tax benefits as of January 1	\$	26	\$	23
Gross increases and decreases—tax positions taken during a prior period.		4		1
Gross increases and decreases—tax positions taken during the current				
period		1		3
Decreases related to settlements of amounts due to tax authorities		_		_
Reductions resulting from the lapse of statutes of limitation		(4)		_
Foreign currency movements		1		(1)
Unrecognized tax benefits as of December 31	\$	28	\$	26

As of December 31, 2019 and 2018, the amount of unrecognized tax benefits (not including interest and penalty expense) which, if recognized, would affect the effective tax rate is \$15 million and \$23 million, respectively.

During 2019, we concluded and settled tax examinations in the U.S. (federal and various states). 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 2019 for unrecognized tax benefits that impact tax expense, we recorded a net decrease in unrecognized tax benefits with a corresponding income tax benefit (not including interest and penalty expense) of \$10 million. During 2018 and 2017, 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 and \$9 million, respectively.

20. 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,					
	20	019	2	018	2017	_
Interest expense included in tax expense	\$	2	\$		\$ —	_
Penalties expense included in tax expense		2		—		_

	December 3			ι,
	20	19	20	018
Accrued liability for interest	\$	5	\$	3
Accrued liability for penalties		2		_

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
Belgium	2017 and later
China	2009 and later
Germany	2014 and later
Hong Kong	2013 and later
India	2004 and later
Italy	2015 and later
Mexico	2014 and later
Switzerland	2013 and later
The Netherlands	2016 and later
Thailand	2012 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 \$12 million to \$14 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 not result in a corresponding benefit to our income tax expense.

The U.S. Tax Reform Act included 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.

21. 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 2019. 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 \$1 million, nil and nil for the years ended December 31, 2019, 2018 and 2017, respectively, under such take or pay contracts without taking the product.

Total purchase commitments as of December 31, 2019 are as follows (dollars in millions):

Year ending December 31,	
2020	\$ 1,364
2021	905
2022	751
2023	424
2024	416
Thereafter	1,894
	\$ 5,754

LEGAL MATTERS

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.

22. ENVIRONMENTAL, HEALTH AND SAFETY MATTERS

EHS CAPITAL EXPENDITURES

We may incur future costs for capital improvements and general compliance under environmental, health and safety ("EHS") laws, including costs to acquire, maintain and repair pollution control equipment. For the years ended December 31, 2019, 2018 and 2017, our capital expenditures for EHS matters totaled \$42 million, \$32 million and \$32 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

22. ENVIRONMENTAL, HEALTH AND SAFETY MATTERS (Continued)

accrued \$4 million and \$5 million for environmental liabilities as of December 31, 2019 and 2018, respectively. Of these amounts, \$1 million and \$2 million were classified as accrued liabilities in our consolidated balance sheets as of December 31, 2019 and 2018, respectively, and \$3 million were classified as other noncurrent liabilities in our consolidated balance sheets for both December 31, 2019 and 2018. 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.

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.

23. HUNTSMAN CORPORATION STOCKHOLDERS' EQUITY

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. The share repurchase program will be supported by our free cash flow generation. 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, 2019, we repurchased 10,099,892 of our common stock for approximately \$208 million, excluding commissions, under the repurchase program. From January 1, 2020 through January 31, 2020, we repurchased an additional 336,478 shares of our common stock for approximately \$7 million, excluding commissions.

23. HUNTSMAN CORPORATION STOCKHOLDERS' EQUITY (Continued)

DIVIDENDS ON COMMON STOCK

The following tables represent dividends on common stock for our Company for the years ended December 31, 2019 and 2018 (dollars in millions, except per share payment amounts):

	2019					
Quarter ended		Per share nent amount	Approximate amount paid			
March 31, 2019	\$	0.1625	\$	39		
June 30, 2019		0.1625		38		
September 30, 2019		0.1625		38		
December 31, 2019		0.1625		35		
		2018	8			
Quarter ended	_	Per share nent amount		roximate mount 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		

24. 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, 2019, we had approximately 8 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,					
		2019		2018		2017
Compensation cost	\$	29	\$	27	\$	36

The total income tax benefit recognized in the statement of operations for stock-based compensation arrangements was \$8 million, \$18 million and \$18 million for the years ended December 31, 2019, 2018 and 2017, respectively.

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

24. STOCK-BASED COMPENSATION PLAN (Continued)

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,					
	2019	2018	2019			
Dividend yield	2.9 %	1.6 %	2.4 %			
Expected volatility	54.0 %	55.2 %	56.9 %			
Risk-free interest rate	2.5 %	2.6 %	2.0 %			
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, 2019 and changes during the year then ended is presented below:

Shares	Weighted Average Exercise Price	Weighted Average Remaining Contractual Term	Aggre Intrir Valu	isic
(in thousands)		(years)	(in mill	lions)
4,545	\$ 17.81			
896	22.66			
(366)	11.19			
(50)	25.59			
5,025	19.08	6.2	\$	30
3,600	16.90	5.3		27
	(in thousands) 4,545 896 (366) (50) 5,025	Shares Exercise Price	Weighted Average Exercise Price Price Contractual Term (years)	Weighted Average Exercise Price Term Value (in mill)

The weighted-average grant-date fair value of stock options granted during 2019, 2018 and 2017 was \$9.27, \$15.20 and \$9.26 per option, respectively. As of December 31, 2019, 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, 2019, 2018 and 2017, the total intrinsic value of stock options exercised was approximately \$4 million, \$78 million and \$48 million, respectively. Cash received from stock options exercised during the years ended December 31, 2019, 2018 and 2017 was approximately \$2 million, \$17 million and \$35 million, respectively. The cash tax benefit from stock options exercised during the years ended December 31, 2019, 2018 and 2017 was approximately \$1 million, \$17 million, and \$15 million, 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, 2019, 2018 and 2017, the weighted-average expected volatility rate was 34.6%, 44.3% and 45.0%, respectively, and the weighted average risk-free interest rate was 2.5%, 2.3% and 1.5%, respectively. For the performance share unit awards granted during the years ended December 31, 2019, 2018 and 2017, the number of shares 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.

24. STOCK-BASED COMPENSATION PLAN (Continued)

A summary of the status of our nonvested shares as of December 31, 2019 and changes during the year then ended is presented below:

	Equity Awards		Liability .	ırds								
					Avera Grant-l		A Gr:		Veighted Average rant-Date		1	Veighted Average rant-Date
	Shares (in thousands)	F	air Value	Shares (in thousands)	F	air Value						
Nonvested at January 1, 2019	1,923	\$	19.08	504	\$	20.66						
Granted	709		24.60	256		22.64						
Vested	(974)(1)(2)		13.65	(313)		16.32						
Forfeited	(18)		26.29	(20)		25.33						
Nonvested at December 31, 2019.	1,640		24.61	427		24.80						

⁽¹⁾ As of December 31, 2019, a total of 389,095 restricted stock units were vested but not yet issued, of which 30,486 vested during 2019. 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, 2019, there was \$22 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 1.8 years. The value of share awards that vested during the years ended December 31, 2019, 2018 and 2017 was \$24 million, \$24 million and \$22 million, respectively.

⁽²⁾ A total of 412,246 performance share unit awards are reflected in the vested shares in this table, which represents the target number of performance share unit awards for this grant and were included in the balance at December 31, 2018. During the year ended December 31, 2019, an additional 357,006 performance share unit awards with a grant date fair value of \$10.22 vested above the target in accordance the performance criteria of these awards.

25. OTHER COMPREHENSIVE (LOSS) INCOME

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, 2019	\$ (371)	\$ (994)	\$ 8	\$ 5	\$ (1,352)	\$ 36	\$ (1,316)
Other comprehensive (loss) income before							
reclassifications, gross	_	(112)	_	(1)	(113)	5	(108)
Tax benefit	2	25	_	_	27	_	27
Amounts reclassified from accumulated other							
comprehensive loss, gross(c)	_	62	_	_	62	_	62
Tax expense		(12)			(12)		(12)
Net current-period other comprehensive (loss) income	2	(37)	_	(1)	(36)	5	(31)
Acquisition of noncontrolling interest						(15)	(15)
Ending balance, December 31, 2019	\$ (369)	\$ (1,031)	\$ 8	\$ 4	\$ (1,388)	\$ 26	\$ (1,362)

- (a) Amounts are net of tax of \$68 and \$71 as of December 31, 2019 and January 1, 2019, respectively.
- (b) Amounts are net of tax of \$148 and \$135 as of December 31, 2019 and January 1, 2019, 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, 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.

Amounts reclassified from accumulated other

		com	prehensive loss		Affected line item in
Details about Accumulated Other	Yo	ear ei	nded December 3	51,	where net income
Comprehensive Loss Components(a):	2019		2018	2017	is presented
Amortization of pension and other postretirement					
benefits:					
Prior service credit	\$ (11)	\$	(12)	\$ (15	(b)
Settlement loss	1		2	_	
Actuarial loss	 72		87	95	(b)(c)
	62		77	80	Total before tax
	(12)		(13)	(14) Income tax expense
Total reclassifications for the period	\$ 50	\$	64	\$ 66	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 19. Employee Benefit Plans."

25. OTHER COMPREHENSIVE (LOSS) INCOME (Continued)

(c) Amounts contain approximately \$7, \$22 and \$22 of prior service credit and actuarial loss related to discontinued operations for the years ended December 31, 2019, 2018 and 2017, 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.

26. RELATED PARTY TRANSACTIONS

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

	Year ended December 3		
	2019	2018	2017
Sales to:			
Unconsolidated affiliates	\$ 133	\$ 153	\$ 161
Inventory purchases from:			
Unconsolidated affiliates	434	411	291

27. 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. Beginning in the third quarter of 2019, we reported the results of our Chemical Intermediates Businesses as discontinued operations and the related assets and liabilities as held for sale in our consolidated financial statements for all periods presented. See "Note 4. Discontinued Operations and Business Dispositions—Sale of Chemical Intermediates Businesses." In addition, 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 and account for our remaining interest in Venator as an equity method investment using the fair value option post consolidation. See "Note 4. Discontinued Operations and Business Dispositions—Separation and Deconsolidation of Venator."

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

Segment	Products
Polyurethanes	MDI, polyols, TPU and aniline
Performance Products	Specialty amines, ethyleneamines, maleic anhydride 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

27. 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):

		ended Decemb	
Revenues:	2019	2018	2017
Polyurethanes	\$ 3,911	\$ 4,282	\$ 3,764
Performance Products	1,158	1,301	1,156
Advanced Materials	1,138	1,116	1,130
	763	824	776
Textile Effects	(79)	81	109
	\$ 6,797	\$ 7,604	\$ 6,845
Total	\$ 0,797	\$ 7,004	\$ 0,843
Segment adjusted EBITDA(1):			
Polyurethanes	\$ 548	\$ 809	\$ 776
Performance Products	168	197	155
Advanced Materials	201	225	219
Textile Effects	84	101	83
Corporate and other(2)	(155)	(171)	(193)
Total	846	1,161	1,040
Reconciliation of adjusted EBITDA to net income:			
Interest expense—continuing operations	(111)	(115)	(165)
Interest expense—discontinued operations		(36)	(19)
Income tax benefit (expense)—continuing operations	38	(45)	(20)
Income tax expense—discontinued operations	(35)	(86)	(111)
Depreciation and amortization—continuing operations	(270)	(255)	(236)
Depreciation and amortization—discontinued operations	(61)	(88)	(151)
Net income attributable to noncontrolling interests	36	313	105
Other adjustments:			
Business acquisition and integration expenses and purchase accounting inventory			
adjustments	(5)	(9)	(19)
Merger costs	_	(2)	(28)
EBITDA from discontinued operations	265	171	511
Noncontrolling interest of discontinued operations	_	(232)	(49)
Fair value adjustments to Venator investment	(18)	(62)	_
Loss on early extinguishment of debt	(23)	(3)	(54)
Certain legal settlements and related (expenses) income	(6)	(1)	11
(Loss) gain on sale of businesses/assets	(21)		9
Certain nonrecurring information technology project implementation costs	(4)		
Amortization of pension and postretirement actuarial losses	(66)	(67)	(69)
Plant incident remediation costs	(8)	_	(1)
U.S. Tax Reform Act impact on noncontrolling interest	_	_	6
Restructuring, impairment and plant closing and transition credits (costs)	41	6	(19)
Net income	\$ 598	\$ 650	\$ 741

27. OPERATING SEGMENT INFORMATION (Continued)

		Year	ended	Decem	ber :	31,
	2	2019	2	2018		2017
Depreciation and Amortization:						
Polyurethanes	\$	120	\$	108	\$	92
Performance Products		81		78		78
Advanced Materials		36		37		33
Textile Effects		16		16		14
Corporate and other		17		16		19
Total	\$	270	\$	255	\$	236
		Year	ended	l Decem	ber :	31,
	2	2019	2	2018		2017
Capital Expenditures:						
Polyurethanes	\$	185	\$	153	\$	158
Performance Products		32		48		35
Advanced Materials		24		20		21
Textile Effects		22		20		16
Corporate and other		11		10		4
Total	\$	274	\$	251	\$	234
					21	
			2019	Decemb		2018
Total Assets:			201			2010
Polyurethanes		. \$	2 /	127	\$	2 120
j			3,4		Φ	3,129
Performance Products			-	.25		1,161
Advanced Materials		-		774		796
Textile Effects			_	511		571
Corporate and other				265		1,187
Total		· <u>\$</u>	7,1	12	\$	6,844
			I	Decemb	er 31	•
			2019			2018
Goodwill:		_				
Polyurethanes		. \$	1	.77	\$	173
Performance Products				16		16
Advanced Materials				83		86
Total		· -	2	276	\$	275
10001		. ψ		., 0	Ψ	213

⁽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 and purchase accounting inventory adjustments; (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 on sale of businesses/assets; (i) certain nonrecurring information technology project implementation costs; (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, plant closing and transition credits (costs).

27. OPERATING SEGMENT INFORMATION (Continued)

(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.

	Year ended December 31,		
	2019	2018	2017
Revenues by geographic area(1):			
United States	\$ 2,025	\$ 2,136	\$ 1,828
China	1,076	1,260	1,122
Germany	541	537	507
India	319	352	336
Other nations	2,836	3,319	3,052
Total	\$ 6,797	\$ 7,604	\$ 6,845

	Decem	ber 3	1,
	2019		2018
Long-lived assets(2):			
United States	\$ 970	\$	944
The Netherlands	334		331
China	247		247
Saudi Arabia	154		161
Germany	137		143
Switzerland	106		108
Singapore	94		96
Other nations	341		323
Total	\$ 2,383	\$	2,353

⁽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.

28. SELECTED UNAUDITED QUARTERLY FINANCIAL DATA

A summary of selected unaudited quarterly financial data for the years ended December 31, 2019 and 2018 is as follows (dollars in millions, except per share amounts):

		Three	months ended	
	March 31, 2019	June 30, 2019	September 30, 2019	December 31, 2019
Revenues	\$ 1,669	\$ 1,784	\$ 1,687	\$ 1,657
Gross profit	359	373	340	310
Restructuring, impairment and plant closing costs (credits)	1	_	(43)	1
Income (loss) from continuing operations	108	83	(27)	265
Net income	131	118	41	308
Net income attributable to noncontrolling interests	12	8	11	5
Net income attributable to Huntsman Corporation	119	110	30	303
Basic income per share(4):				
Income (loss) from continuing operations attributable to				
Huntsman Corporation common stockholders	0.41	0.33	(0.17)	1.16
Net income attributable to Huntsman Corporation common				
stockholders	0.51	0.48	0.13	1.35
Diluted income per share(4):				
Income (loss) from continuing operations attributable to				
Huntsman Corporation common stockholders	0.41	0.32	(0.17)	1.15
Net income attributable to Huntsman Corporation common				
stockholders	0.51	0.47	0.13	1.34
	37 1 21		months ended	B 1 21
	March 31, 2018	June 30, 2018	September 30, 2018(1)	December 31, 2018(2)
Revenues	\$ 1,838	June 30, 2018 \$ 1,977	September 30,	
Gross profit	2018	June 30, 2018	September 30, 2018(1)	2018(2)
Gross profit	2018 \$ 1,838 466 2	June 30, 2018 \$ 1,977	September 30, 2018(1) \$ 1,968 467 5	\$ 1,821
Gross profit	2018 \$ 1,838 466 2 189	June 30, 2018 \$ 1,977 479	September 30, 2018(1) \$ 1,968 467 5 197	\$\frac{2018(2)}{\\$1,821}\\ 352\\ (15)\\ 61
Gross profit	\$ 1,838 466 2 189 350	June 30, 2018 \$ 1,977 479	September 30, 2018(1) \$ 1,968 467 5	\$\frac{2018(2)}{\\$ 1,821} \\ 352 \\ (15)
Gross profit	\$ 1,838 466 2 189 350 76	June 30, 2018 \$ 1,977 479 1 242	September 30, 2018(1) \$ 1,968 467 5 197 (8) 3	2018(2) \$ 1,821 352 (15) 61 (315) 25
Gross profit	\$ 1,838 466 2 189 350	June 30, 2018 \$ 1,977 479 1 242 623	September 30, 2018(1) \$ 1,968 467 5 197 (8)	2018(2) \$ 1,821 352 (15) 61 (315)
Gross profit	\$ 1,838 466 2 189 350 76	June 30, 2018 \$ 1,977 479 1 242 623 209	September 30, 2018(1) \$ 1,968 467 5 197 (8) 3	2018(2) \$ 1,821 352 (15) 61 (315) 25
Gross profit	2018 \$ 1,838 466 2 189 350 76 274	June 30, 2018 \$ 1,977 479 1 242 623 209 414	September 30, 2018(1) \$ 1,968 467 5 197 (8) 3 (11)	2018(2) \$ 1,821 352 (15) 61 (315) 25 (340)
Gross profit	\$ 1,838 466 2 189 350 76	June 30, 2018 \$ 1,977 479 1 242 623 209	September 30, 2018(1) \$ 1,968 467 5 197 (8) 3	2018(2) \$ 1,821 352 (15) 61 (315) 25
Gross profit	2018 \$ 1,838 466 2 189 350 76 274	June 30, 2018 \$ 1,977 479 1 242 623 209 414	September 30, 2018(1) \$ 1,968 467 5 197 (8) 3 (11)	2018(2) \$ 1,821 352 (15) 61 (315) 25 (340)
Gross profit Restructuring, impairment and plant closing costs (credits) Income from continuing operations Net income (loss) Net income attributable to noncontrolling interests(3) Net income (loss) attributable to Huntsman Corporation Basic income per share(4): Income from continuing operations attributable to Huntsman Corporation common stockholders Net income (loss) attributable to Huntsman Corporation common stockholders	2018 \$ 1,838 466 2 189 350 76 274	June 30, 2018 \$ 1,977 479 1 242 623 209 414	September 30, 2018(1) \$ 1,968 467 5 197 (8) 3 (11)	2018(2) \$ 1,821 352 (15) 61 (315) 25 (340)
Gross profit Restructuring, impairment and plant closing costs (credits) Income from continuing operations Net income (loss) Net income attributable to noncontrolling interests(3) Net income (loss) attributable to Huntsman Corporation Basic income per share(4): Income from continuing operations attributable to Huntsman Corporation common stockholders Net income (loss) attributable to Huntsman Corporation common stockholders Diluted income per share(4):	2018 \$ 1,838 466 2 189 350 76 274 0.70	June 30, 2018 \$ 1,977 479 1 242 623 209 414 0.93	September 30, 2018(1) \$ 1,968 467 5 197 (8) 3 (11)	2018(2) \$ 1,821 352 (15) 61 (315) 25 (340) 0.20
Gross profit Restructuring, impairment and plant closing costs (credits) Income from continuing operations Net income (loss) Net income attributable to noncontrolling interests(3) Net income (loss) attributable to Huntsman Corporation Basic income per share(4): Income from continuing operations attributable to Huntsman Corporation common stockholders Net income (loss) attributable to Huntsman Corporation common stockholders Diluted income per share(4): Income from continuing operations attributable to Huntsman	2018 \$ 1,838 466 2 189 350 76 274 0.70 1.14	June 30, 2018 \$ 1,977 479 1 242 623 209 414 0.93 1.73	September 30, 2018(1) \$ 1,968 467 5 197 (8) 3 (11) 0.72 (0.05)	2018(2) \$ 1,821 352 (15) 61 (315) 25 (340) 0.20 (1.45)
Gross profit Restructuring, impairment and plant closing costs (credits) Income from continuing operations Net income (loss) Net income attributable to noncontrolling interests(3) Net income (loss) attributable to Huntsman Corporation Basic income per share(4): Income from continuing operations attributable to Huntsman Corporation common stockholders Net income (loss) attributable to Huntsman Corporation common stockholders Diluted income per share(4): Income from continuing operations attributable to Huntsman Corporation common stockholders	2018 \$ 1,838 466 2 189 350 76 274 0.70	June 30, 2018 \$ 1,977 479 1 242 623 209 414 0.93	September 30, 2018(1) \$ 1,968 467 5 197 (8) 3 (11)	2018(2) \$ 1,821 352 (15) 61 (315) 25 (340) 0.20
Gross profit Restructuring, impairment and plant closing costs (credits) Income from continuing operations Net income (loss) Net income attributable to noncontrolling interests(3) Net income (loss) attributable to Huntsman Corporation Basic income per share(4): Income from continuing operations attributable to Huntsman Corporation common stockholders Net income (loss) attributable to Huntsman Corporation common stockholders Diluted income per share(4): Income from continuing operations attributable to Huntsman	2018 \$ 1,838 466 2 189 350 76 274 0.70 1.14	June 30, 2018 \$ 1,977 479 1 242 623 209 414 0.93 1.73	September 30, 2018(1) \$ 1,968 467 5 197 (8) 3 (11) 0.72 (0.05)	2018(2) \$ 1,821 352 (15) 61 (315) 25 (340) 0.20 (1.45)

⁽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."

28. SELECTED UNAUDITED QUARTERLY FINANCIAL DATA (Continued)

- (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 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.

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, 2020, there were approximately 68 stockholders of record and the closing price of our common stock on the New York Stock Exchange was \$20.56 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

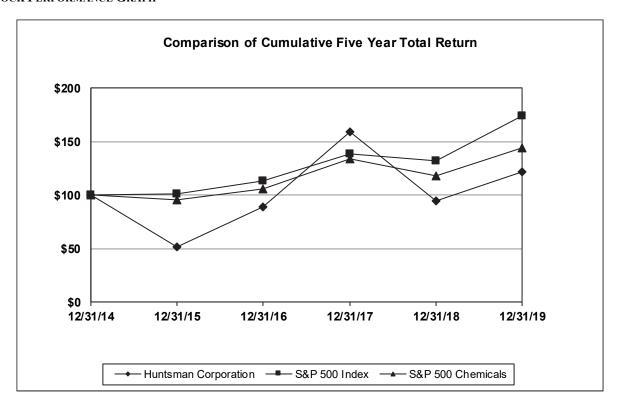
The following table provides information with respect to shares of our common stock that we repurchased as part of our share repurchase program and shares of restricted stock granted under our stock incentive plans that we withheld upon vesting to satisfy our tax withholding obligations during the three months ended December 31, 2019.

	Total number of shares purchased	Average price paid per share(1		(or approximate dollar value) of shares that may yet be purchased under the plans or programs(2)
October	_	\$ —	_	\$ 528,000,000
November	183,495	22.79	183,059	523,000,000
December	321,448	23.35	320,501	516,000,000
Total	504,943	\$ 23.14	503,560	

⁽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. 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



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Huntsman Corporation—Directors & Officers

BOARD OF DIRECTORS

NAME	PRINCIPAL OCCUPATION
Peter R. Huntsman	Chairman of the Board, President and Chief Executive Officer
Nolan D. Archibald	Former Executive Chairman of Stanley Black & Decker
Mary C. Beckerle	Chief Executive Officer of Huntsman Cancer Institute at the University of Utah
M. Anthony Burns	Chairman Emeritus of Ryder System, Inc.
Daniele Ferrari	Chief Executive Officer of Versalis S.p.A.
Sir Robert J. Margetts	Former Deputy Chairman, OJSC Uralkali
Wayne A. Reaud	Trial Lawyer
Jan E. Tighe	Retired Vice Admiral of the U.S. Navy

CORPORATE OFFICERS

NAME	TITLE
Peter R. Huntsman	Chairman of the Board, President and Chief Executive Officer
Sean Douglas	Executive Vice President and Chief Financial Officer
David M. Stryker	Executive Vice President, General Counsel and Secretary
Anthony P. Hankins	Division President, Polyurethanes and Chief Executive Officer, Asia-Pacific
Rohit Aggarwal	Division President, Textile Effects
Monte G. Edlund	Division President, Performance Products
Scott J. Wright	Division President, Advanced Materials
Ronald W. Gerrard	Senior Vice President, Environmental, Health & Safety and Manufacturing Excellence
	and Corporate Sustainability Officer
R. Wade Rogers	Senior Vice President, Global Human Resources
Randy W. Wright	Vice President and Controller
Twila Day	Vice President and Chief Information Officer
Kevin C. Hardman	Vice President, Tax
Philip M. Lister	Vice President, Corporate Development
Ivan M. Marcuse	Vice President, Investor Relations
Claire Mei	Vice President and Treasurer
Pierre Poukens	Vice President, Internal Audit
Nooshin E. Vaughn	Vice President, Financial Planning and Analysis

Huntsman Corporation—Corporate Information

GLOBAL HEADQUARTERS

10003 Woodloch Forest Drive The Woodlands, Texas 77380 USA

Tel.: +1-281-719-6000

WEBSITE

www.huntsman.com

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:

INVESTOR RELATIONS

10003 Woodloch Forest Drive The Woodlands, Texas 77380 USA

Tel.: +1-281-719-4637 Email: ir@huntsman.com

STOCK TRANSFER AGENT

Computershare

Toll Free: 1-866-210-6997 International: +1-201-680-6578 www.computershare.com/investor

By Regular Mail: P.O. Box 505000 Louisville, Kentucky 40233 USA

By Overnight Delivery: 462 South 4th Street Suite 1600 Louisville, Kentucky 40202 USA

STOCK LISTING

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



ANNUAL MEETING

The 2020 annual meeting of stockholders will take place on Wednesday, April 29, 2020 at 8:30 a.m., local time, at the following location:

The Woodlands® Resort & Conference Center 2301 North Millbend Drive The Woodlands, Texas 77380 USA

Tel.: +1-281-367-1100

FORM 10-K AND OTHER REPORTS

Paper copies of Huntsman's (1) Annual Report on Form 10-K, (2) Quarterly Reports on Form 10-Q, and (3) Proxy Statement may be obtained without charge from:

Investor Relations Huntsman Corporation 10003 Woodloch Forest Drive The Woodlands, Texas 77380 USA

Tel: +1-281-719-4637

Copies of these reports may also be obtained from the company's Investor Relations website: http://ir.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.



Enriching lives through innovation

Global Headquarters

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