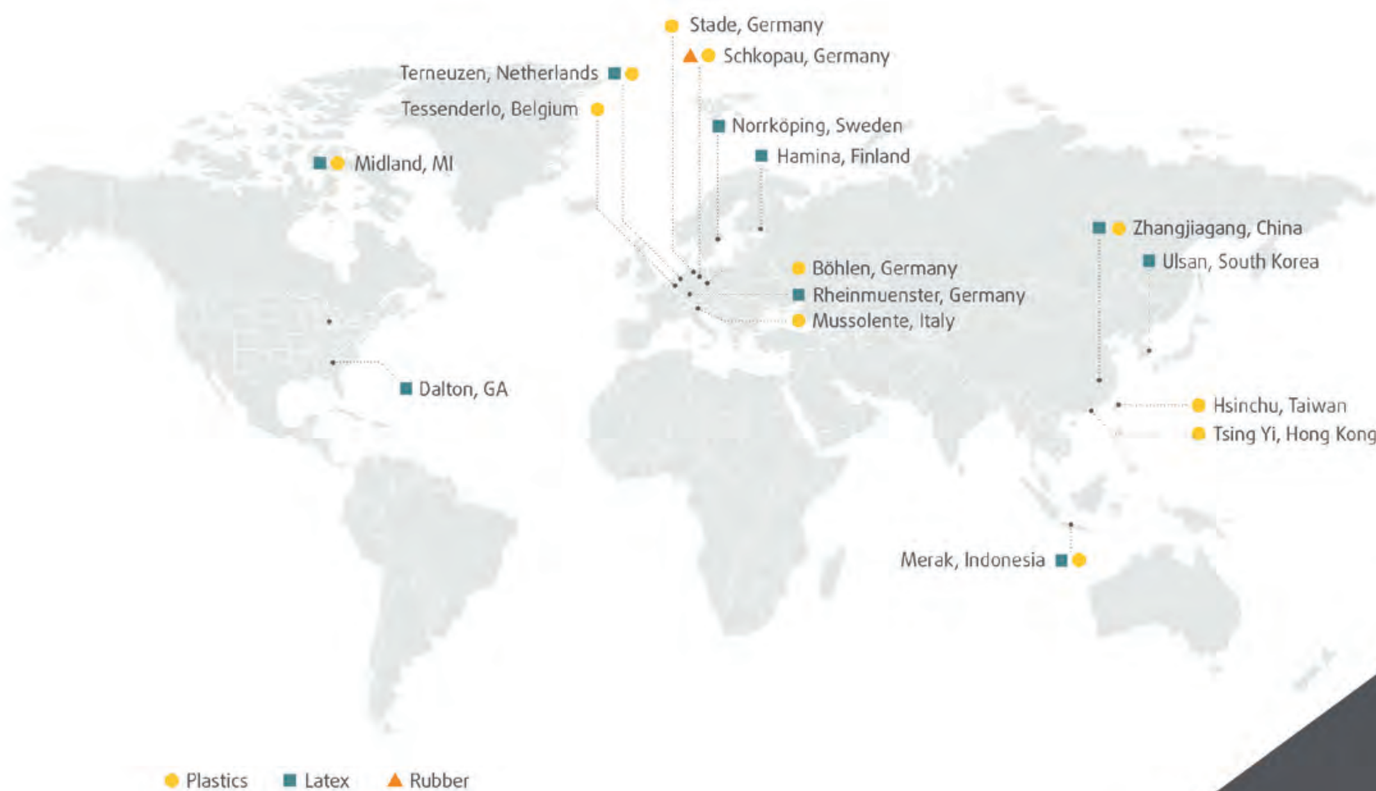
Trinseo's Worldwide Manufacturing Assets



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This Annual Report is printed on paper coated with Trinseo Latex Binders.

2017 ANNUAL REPORT

LEVERAGING OUR GLOBAL FOOTPRINT

TRINSEO™

Materials. Powering Ideas.

People

We are outstanding and diverse individuals, passionate about developing solutions to create shared value for our customers and Trinseo. We think deep and act fast.

Corporate Message

Trinseo (NYSE: TSE) is a global materials solutions provider and manufacturer of plastics, latex binders, and synthetic rubber.

We are focused on delivering innovative and sustainable solutions to help our customers create products that touch lives every day — products that are intrinsic to how we live our lives — across a wide range of end-markets, including automotive, appliances, consumer electronics, medical devices, electrical, building and construction, textile, paper and board, footwear and tires.

We collaborate with our customers to meet their most complex materials challenges.

We believe that innovation through our **technology** and the creativity of our **people** power our success and the success of our **customers.**

Fast Facts about Trinseo

- $4.4 Billion in revenue (2017)
- Approximately 2,200 employees in 25 countries

Global Footprint

- 16 Manufacturing sites
- 11 Research and development facilities

Customers

The products, processes and solutions we develop enable our customers' innovations that benefit consumers all over the world. Our customers come to us when they need a challenge solved, and that's exactly what we do.

Technology

Trinseo was born out of one of the most storied technology companies in the world, with a six decade rich and proud history. We're proud of where we're from, but it's where we're going that excites us the most.

TRINSEO™

A Letter to Our Shareholders

Trinseo achieved strong performance across the company in 2017. I am proud of our second consecutive year of record consolidated results and full year record Adjusted EBITDA in each of the Latex Binders, Basic Plastics and Feedstocks segments. These accomplishments are the result of our employees' dedication, innovation, agility and focus on shareholder value.

We continue to deliver on our commitment to return capital to shareholders. During 2017 we repurchased approximately 1.4 million shares, and we increased our dividend by 20 percent. In total, we returned nearly $150 million to shareholders via these actions.

A few of our 2017 full-year financial highlights include:

- Net Income of $328 million and diluted EPS of $7.30
- Adjusted EPS[1] of $8.13
- Adjusted EBITDA[1] of $642 million
- Cash provided by operating activities of $391 million and Free Cash Flow[1] of $244 million

We made significant progress toward achieving our goal of increasing Adjusted EBITDA across our Latex Binders, Synthetic Rubber and Performance Plastics segments by $100 million from 2016 to 2019. Our growth initiative activities included:

- In Synthetic Rubber, we completed the first phase of our S-SBR expansion. When phase two is completed in 2018, the expansion project will add a total of 50 kilotons of S-SBR capacity, increasing the Company's global S-SBR production by 33 percent. We also opened a pilot plant that will allow for more efficient use of our production facilities and speed up innovation for this critical technology, which is a key component in increasing energy efficiency, safety and durability in performance tires.

- In Latex Binders, we continued the transformation of the business by diversifying the end-markets and our chemistries while expanding our presence in Asia. Over the last five years, graphical paper has decreased as a percent of our volumes from 46 percent to 36 percent. Asia volume has increased from 24 percent to 30 percent.

- In Performance Plastics, we opened new ABS capacity in China, meeting customer needs for MAGNUM™ ABS in the automotive, appliance, electronics, lighting and consumer goods markets. We made our first commercial sales in 2017 and are progressing towards our goal of selling out the new capacity with strong margins.

- We completed our first acquisition, API Plastics, a sophisticated polymer solutions provider with a strong position in soft-touch polymers, which complements Trinseo's existing strengths in rigid polymers.

- We opened a new Plastics Research Center, which modernized two existing technical support center and research lab operations under one roof in Terneuzen, The Netherlands. The facility will enable cross-functional projects and innovations for customer customizations, which is key to Trinseo's future growth.

2017 marked another exceptional year in safety performance by Trinseo employees across the globe. Environmental Health and Safety and Responsible Care® are the foundation of our culture at Trinseo. We continue to be a top-decile performer in safety among chemical companies.

Our yearly goal for all of Trinseo's facilities around the globe is zero on-the-job injuries, zero spills or losses of containment, and zero process safety incidents. In 2017, 21 of our 30 eligible global sites achieved the "Triple Zero Award" with zero injuries, spills, or safety incidents. I am very proud of the work by all of the Trinseo employees who made this result possible and make safety in intrinsic part of our culture.

The product stories enclosed in this annual report build on the concept of "leveraging our global footprint" to deliver innovative and sustainable solutions to help our customers meet their most complex materials challenges. These stories encapsulate how we are closely collaborating with customers. They also demonstrate how Trinseo is building upon geographic locations where previous investments have been expanded with new assets or technology to meet market trends and requirements.

Looking to 2018, we continue to see strong business fundamentals across all segments and expect continued strong cash generation. We remain committed to balancing future growth initiatives in our high-value growth segments of Latex Binders, Synthetic Rubber and Performance Plastics, with returning capital to shareholders.

I am very proud of the company's performance in 2017. We remain focused on achieving a very strong 2018.

In closing, I would like to thank our shareholders, customers, suppliers and employees for their resolute support of Trinseo. For 2018, I believe we will achieve another successful year and accomplish new milestones for the Company's strategic growth.

Christopher D. Pappas
CEO and President
May 2018

[1] For a reconciliation of this non-GAAP measure, please see page 9.

Financial Highlights

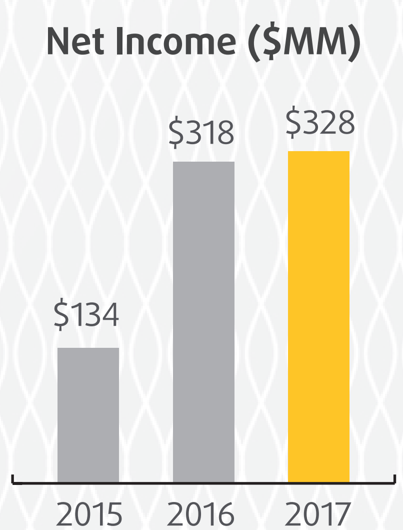
Highlights of Consolidated Financial Statements[1]

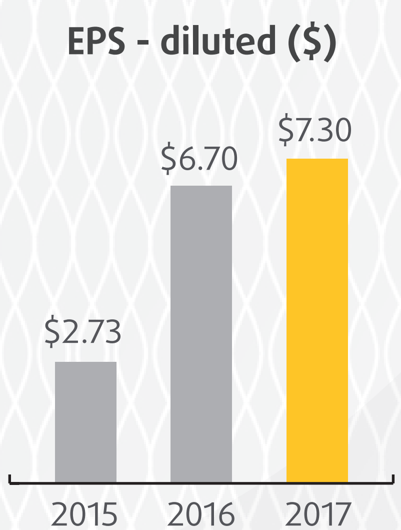
$Millions unless noted	2015	2016	2017
Sales Volume (MM Lbs)	5,339	5,296	5,308
Net Sales	3,972	3,717	4,448
Net Income	134	318	328
Wtd Avg Shares - diluted (MM)	49	47	45
EPS - diluted ($)	2.73	6.70	7.30
Adj EBITDA[2]	492	611	642
Adj Net Income[3]	225	346	366
Adj EPS ($)[3]	4.59	7.28	8.13
Cash provided by operating activities	422	404	391
Free Cash Flow[4]	313	280	244

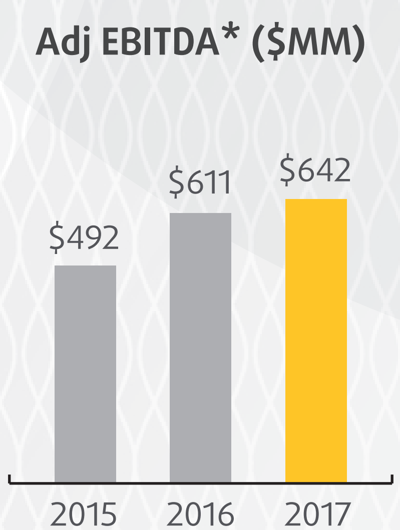
[1] See page 9 for reconciliation of US GAAP to non-GAAP measures.
[2] For a definition of Adjusted EBITDA, as well as description of the reconciling terms and the usefulness and purpose of this measure, please see pages 48-50 of this Annual Report.
[3] For a definition of Adjusted Net Income and Adjusted EPS, as well as a description of the reconciling items and the usefulness and purpose of these measures, please see Exhibit 99.1 of the Company's Form 8-K filed on February 20, 2018.
[4] For a definition of Free Cash Flow, as well as description of the usefulness and purpose of these measures, please see page 52 of this Annual Report.

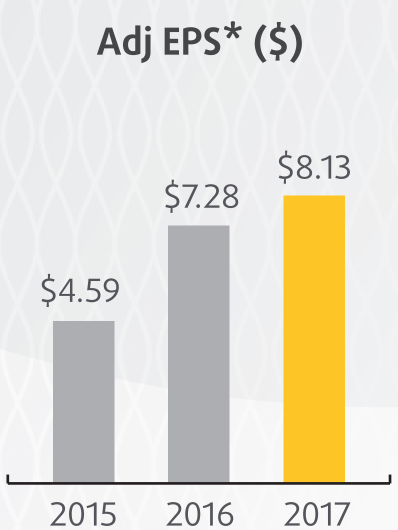
Record Profitability in 2017*

*See page 9 for reconciliation of non-GAAP measures.

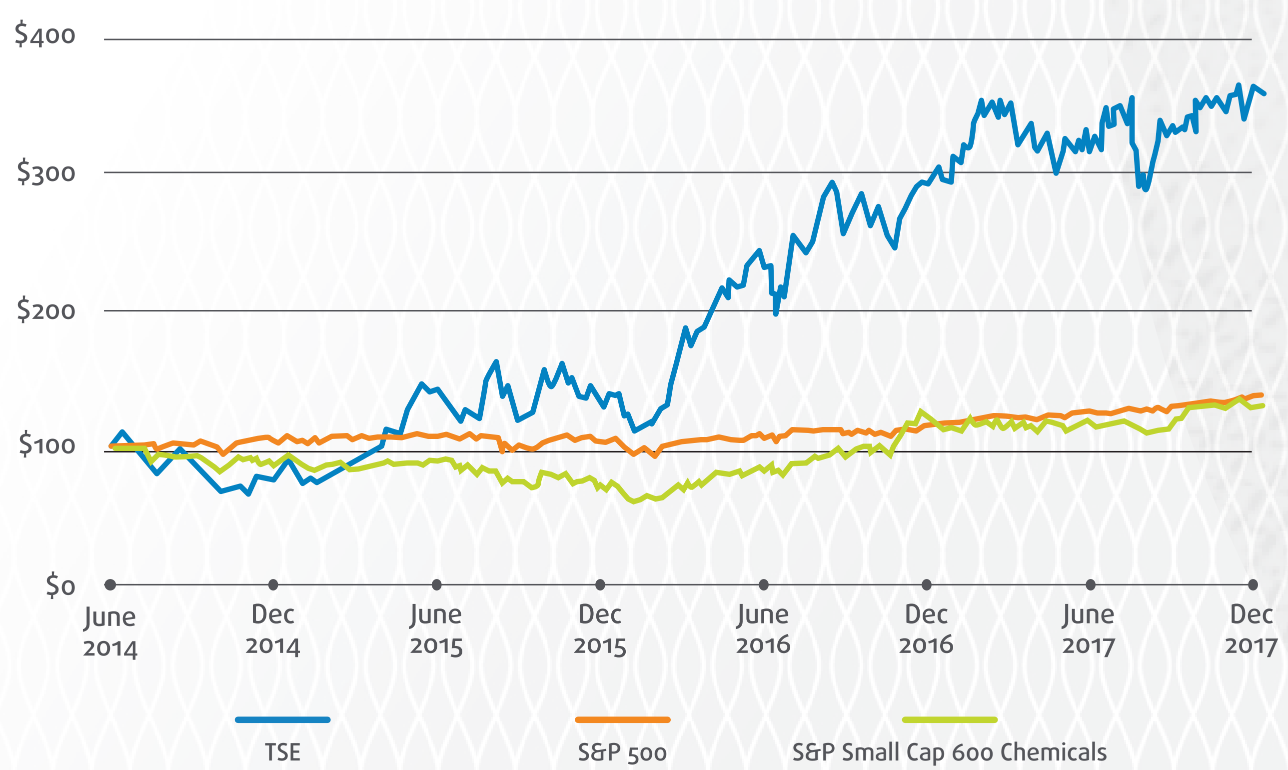








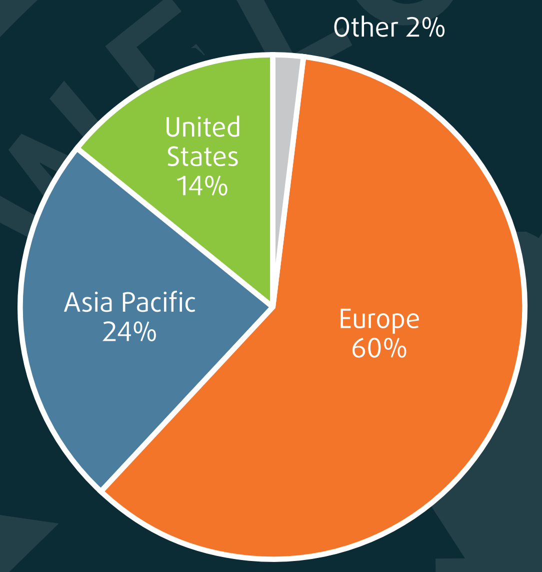
Stock Performance Chart* – Outpaced S&P 500 and S&P Small Cap 600 Chemicals Indexes for Third Consecutive Year



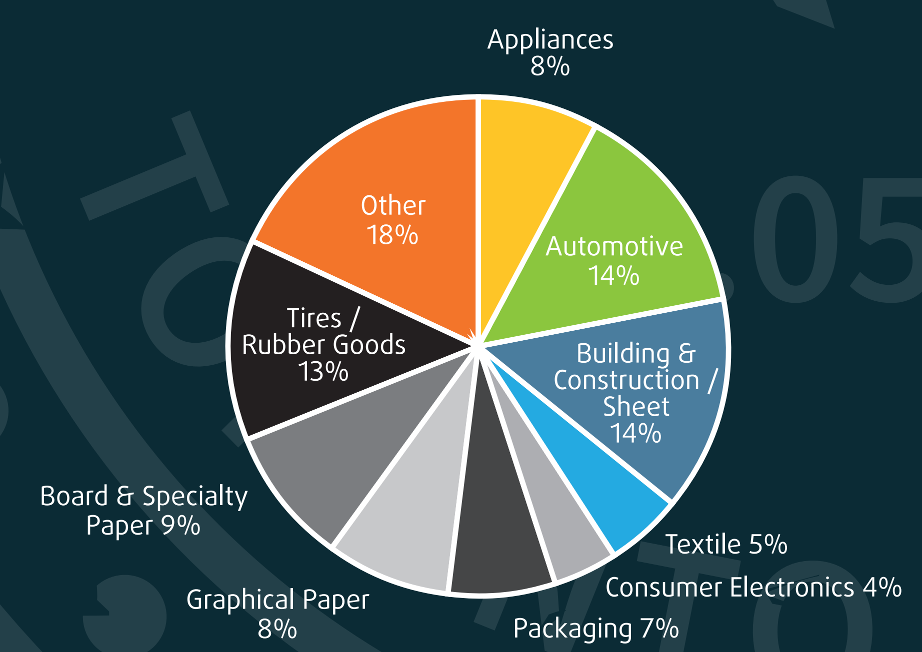
*The preceding performance graph reflects the comparative changes in the value from June 12, 2014, the first trading day of our ordinary shares on the NYSE, through December 31, 2017, assuming an initial investment of $100 and the reinvestment of dividends or other cash distributions, if any, in (1) our ordinary shares, (2) the S&P 500 Index, and (3) the S&P Small Cap 600 Chemicals Index. The share price performance shown in the graph is not necessarily indicative of future price performance.

Diversified Regions and End Markets

2017 Net Sales by Geography



2017 Net Sales by End Market



US GAAP to non-GAAP reconciliation

(in $millions, unless noted)	**2015**	**2016**	**2017**
Net Income	**133.6**	**318.3**	**328.3**
Interest expense, net	93.2	75.0	70.1
Provision for income taxes	70.2	87.0	82.8
Depreciation and amortization	96.8	96.4	110.6
EBITDA	393.8	576.7	591.8
Loss on extinguishment of long-term debt	95.2	-	65.3
Other items	2.2	(4.4)	(19.9)
Restructuring and other charges	0.8	23.5	6.0
Net (gains) / losses on dispositions of business assets	-	15.1	(9.7)
Acquisition transaction and integration costs	-	-	4.7
Asset impairment charges or write-offs	-	-	4.3
Adjusted EBITDA	492.0	610.9	642.5
Adjusted EBITDA to Adjusted Net Income			
Adjusted EBITDA	492.0	610.9	642.5
Interest expense, net	93.2	75.0	70.1
Provision for income taxes - Adjusted	84.9	94.6	98.2
Depreciation and amortization - Adjusted	89.3	95.4	108.6
Adjusted Net Income	224.6	345.9	365.6
Wtd Avg Shares - Diluted (000)	*48,970*	*47,478*	*44,973*
Adjusted EPS - Diluted ($)	*4.59*	*7.28*	*8.13*
Adjustments by Statement of Operations Caption			
Loss on extinguishment of long-term debt	*95.2*	*-*	*65.3*
Cost of sales	*-*	*-*	*(16.0)*
Selling, general and administrative expenses	*3.0*	*25.9*	*9.9*
Other expense (income), net	*-*	*8.3*	*(8.5)*
Total EBITDA Adjustments	*98.2*	*34.2*	*50.7*
Free Cash Flow Reconciliation			
Cash provided by operating activities	421.9	403.7	391.3
Capital expenditures	(109.3)	(123.9)	(147.4)
Free Cash Flow	312.6	279.8	243.9

Cautionary Note on Forward-Looking Statements. This report and shareholder letter contains forward-looking statements including, without limitation, statements concerning plans, objectives, goals, projections, strategies, future events or performance, and underlying assumptions and other statements, which are not statements of historical facts or guarantees or assurances of future performance. Forward-looking statements are based on current expectations and assumptions that are subject to risks and uncertainties which may cause actual results to differ materially from the forward-looking statements. Factors that might cause such a difference include, but are not limited to, those discussed in this Annual Report under Part I, Item 1A — "Risk Factors" and elsewhere in this report. We caution you against relying on any of these forward-looking statements. The forward-looking statements included in this report and shareholder letter are made only as of the date hereof. We undertake no obligation to update or revise any forward-looking statement as a result of new information, future events or otherwise, except as otherwise required by law.

Company Highlights

Powering
Materials Solutions
across the Globe

It's been a busy year as Trinseo has expanded its presence and materials around the globe.

Durable Resins

January

Trinseo sold all of its 50 percent share in its Sumika Styron Polycarbonate (SSPC) joint venture to Sumitomo Chemical. The companies agreed to continue long-term supply of polycarbonate resin to Trinseo's Performance Plastics businesses.

February

European Rubber Journal featured Trinseo's plans to convert its nickel butadiene rubber (Ni-BR) production train in Schkopau, Germany to manufacture neodymium BR (Nd-BR).

EMERGE™ Advanced Resins used by lighting industry to meet the challenging need to balance light diffusion and transmission, light weight, and design aesthetically pleasing, cost effective housings.

March

German magazine *Kunststoffe* highlighted the lightweight and robust properties of PULSE™ XT9215, Trinseo's mineral fiber-reinforced PC+ABS blend for lightweight, economically produced exterior automotive applications.

PULSE™ XT9215 was chosen by Spanish automotive supplier SRG to replace aluminum in the serial production of roof rails.

Brighten up the Night

Hittin' the Road!

Chemical Resistant Materials

Strong Bonding

April

Trinseo began offering medical equipment manufacturers and molders medical-grade MAGNUM™ ABS Resins. The material features the advantages of Trinseo's mass polymerization technology combined with the properties needed most for medical applications to assure the integrity of end-use applications.

June

Trinseo introduced LIGOS™ Binders "Strong Bonds. Stronger Commitment" — a new name and tag line for its family of latex binders product offerings for textiles and carpet, paper and board, and adhesives and construction applications.

The 80th anniversary of the commercialization of STYRON™ Polystyrene, which paved the way for technological advancements in applications from radios and computers to medical devices and home appliances.

May

Latex Binders products for functional nonwovens, which offer high strength and resistance for the best performance, were promoted for glass fiber, roofing mats, wall coverings, footwear stiffeners, thermo-moldable polymers, filtration, abrasives and pads.

The Schkopau, Germany, Solution Elastomer Plant reached record production volume of one million metric tons of S-SBR since single train production began in 2000.

Rolling past Records!

June

The Company increased its quarterly dividend to $0.36 per share, a 20 percent increase.

Board authorized the repurchase of up to two million shares of the Company's ordinary shares over the following 18 months, underscoring continued confidence in its business portfolio and cash generation.

Fourth year in a row, Trinseo held its Global Volunteer Days Program. A total of 761 employees across 20 locations donated 3,284 hours, equal to 410 working days.

Giving Back

Responsible Care

July

Trinseo China joined the China Regional Responsible Care® program, the signature program of the global chemical industry to achieve excellence in safety, and environmental performance.

Acquisition of API Applicazioni Plastiche Industriali S.p.A., (API Plastics), an Italian company specialized in the production of thermoplastic elastomeric compounds and bioplastics, is completed.

Publication of the seventh *Sustainability and Corporate Social Responsibility Report*, demonstrating Trinseo's commitment to reducing its environmental footprint. Since its first report in 2011, the company achieved reductions in:

- Total waste, down 59 percent.
- Volatile organic chemical (VOC) emissions, down 50 percent.
- Greenhouse gas emissions from sources that are owned or controlled by Trinseo, down 25 percent.
- Electricity usage, down 9 percent.

Consistent Quality

New Research & Development Site

September

Broadened MAGNUM™ ABS Plastic Resin offering in North America to meet the demands of ABS sheet extruders and injection molders. Trinseo's ABS resins provide consistent quality and superior aesthetics for bathtubs, shower trays, caravan and RV parts, furniture edgebands and home appliances.

Unveiled new Research and Development site in Terneuzen, The Netherlands, which combined the European Development Center for Plastics with its supporting functions like Supply Chain, Environmental Health & Safety, Quality and Procurement, forming one of the company's European logistical centers.

October

Occupational Health and Safety Magazine published "Five Necessary Components of a Successful Company-wide Crisis Drill" written by Catherine Maxey, Vice President, Public Affairs, Sustainability, and Environmental, Health and Safety.

November

Opened a new European sales and customer service office in Frankfurt (Eschborn), Germany, almost double the size of the previous office in Schwalbach, Germany.

Start-up of new MAGNUM™ ABS production line at Zhangjiagang, China plant, supporting Asia Pacific customers in the automotive, home appliance, electronics, lighting and consumer goods markets.

And the Winner is....

December

Chris Pappas, President and CEO, received the "Leadership Award for Outstanding Corporate Reinvention" from The Chemical Marketing and Economics group of the American Chemical Society's New York Section, recognizing the Company's formation to IPO to 270 percent increase in its stock price from 2014 to 2017.

Synthetic Rubber Research & Development Team won the 2017 Hugo-Junkers Award for "Most Innovative Product Development" for its patented highly functionalized synthetic rubber solution for low rolling resistance in tires from the Ministry for Economy, Science and Digitalization of Saxony-Anhalt; the prize recognizes pioneering regional companies that promote economy, innovation and science.

Trinseo Leverages its Global Footprint

Smart Technology Applications

The trend toward connectivity in our lives - both at home and in our communities – has created a growing demand for Trinseo's performance plastics, which were designed for traditional lighting applications.

Trinseo's portfolio of CALIBRE™ Polycarbonate Resins and EMERGE™ Advance Resins includes materials compounded for light transmission and diffusion balance and control, UV protection, and UL certifications. These materials can be found in products ranging from smart speakers to remote controls for connected homes.

The Company's MAGNUM™ ABS Resins, differentiated by mass polymerization technology, provide vivid coloring opportunities and superior aesthetics. With consumers driving demand, this is today's requirement.

Trinseo's approach is to begin by understanding its customers' requirements and their performance needs. Material solutions range from existing resin formulations to tailored custom products using Trinseo's worldwide resources to support cross-regional development and production.

As the demand for smart solutions increase, Trinseo will continue to employ this development approach and expect to see continued growth, probably in application areas we haven't imagined, prompted by OEMs that are leading the movement.

As bright on the inside...

...as on the outside.

Aesthetic Consumer Electronics

Plastic Resins Improve the MINI Automobiles

MINI, part of BMW Group, and its part supplier Widmaier approached Trinseo to improve the production process and the quality of the gear shift bezel in several MINI series automobiles. In previous car editions, the bezel was made of polycarbonate and painted after molding.

Trinseo's PULSE™ Engineering Resins combine Polycarbonate (PC) and ABS with an ideal mix of mechanical, thermal, and rheological properties for use in both high-performance interior and exterior applications.

Channel partner, Nexeo Solutions recommended Trinseo's factory-colored PULSE™ GX50 PC/ABS resin, known for its low-gloss performance. It was chosen for its strong technical features, such as low density, low emissions (VOC), high heat resistance, easy flow and high impact strength. By changing to this resin, Widmaier was able to eliminate the painting step after molding resulting in cost savings of approximately 40 percent.

Though optimized for visible interior parts such as mid consoles, door panel trims and pillars, PULSE™ GX50 also meets the requirements of the MINI interior application meant to fulfill mechanical functions such as moving a switch.

The MINI interior and dashboard is a simple iconic layout that has been modernized with new design elements, such as the huge centered speedometer and the ring-shaped gear shift bezel. This puts new requirements on materials and developers. Collaborating with the development team at our distribution partner, Trinseo's PULSE™ GX50 contributed to this unique interior design approach and met all of MINI's requirements.

Mini's Gear Shift Bezel

ARRIVED
21-11-2017
ZHANGJIAGANG

Zhangjiagang

Trinseo Extends ABS Plastics Production Line to Zhangjiagang Site

In 2014, Trinseo predicted an increased market demand in China and the Asia Pacific region for high-quality ABS and heat-resistant ABS resins. The Company decided to establish a brand new ABS manufacturing facility in China, rather than continue to ship products from Europe.

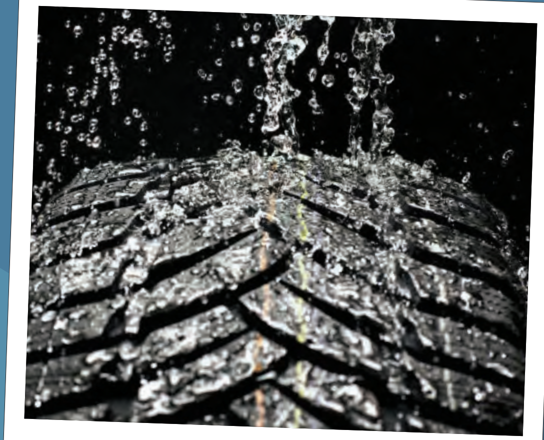
New ABS Manufacturing Facility

Trinseo achieved an important milestone in the Asia Pacific market with the successful start-up of a MAGNUM™ ABS production line at the Company's manufacturing plant in Zhangjiagang, China. These resins are used by customers in the automotive, home appliance, electronics, lighting and consumer goods markets.

Trinseo's MAGNUM™ ABS is manufactured by a mass polymerization technology that delivers greater product stability and advanced properties. It can reduce costs for injection molding, sheet & profile extrusion and self-coloring, while offering long lasting superior aesthetics in the final product.

Germany

Milestone Year for Synthetic Rubber Production



Tire Innovation

New Record in S-SBR Volume Production Reached One Million Metric Tons

In the first quarter of 2017, the Schkopau Solution Elastomer Plant reached a noteworthy total production volume of one million metric tons of high performance Solution - Styrene Butadiene Rubber (S-SBR) since a single train production began in 2000.

This milestone achievement is driven directly by customer demand, which in turn is fueled by sustainability trends around the world. As CO_2 emissions regulations and tire labeling requirements continue to expand globally, there is a strong incentive for the automotive industry to adopt energy efficient tires. Trinseo's S-SBR synthetic rubber enables customers to act upon these global sustainability trends.

With Trinseo's functionalized S-SBR grades a driver can reduce fuel consumption up to three percent and reduce green gas emissions. Over a typical life span of a set of tires – about 35,000 kilometers – that could mean savings of up to 80 liters of fuel compared to traditional tires.

Celebrated 80 Years of Synthetic Rubber Production in Schkopau, Germany

In June, Trinseo celebrated 80 years of synthetic rubber production at its Schkopau, Germany production site, which pioneered the production of synthetic rubber on an industrial scale and fostered its growth on an international scale.

The Trinseo plant in Schkopau employs over 500 people and forms an important enterprise in the Saxony-Anhalt region. Not only does the site support local economy, it is one of the leading companies in the region with its strong focus on research and innovation.

A key to the growth and success of this site has been the long-standing commitment and dedication of Trinseo employees to customers. By closely integrating operations, maintenance, technical service and development, supply chain management, research and development and the tech center, the Company offers more flexibility, consistent quality and a quicker response time to meet customer demands.

In early 2018, Trinseo will open a new S-SBR pilot plant and expand its capacity in Schkopau.

Celebrating Milestones

CHINA

Responsible Care® Achievements in Safety and Environmental Protection

In June, the Association of International Chemical Manufacturers (AICM) in Shanghai hosted a Responsible Care® awards ceremony. Trinseo won the Responsible Care® Merit Award, fully affirming the efforts made by the Company's production base, supply chain, sales, research and development, as well as product safety teams in different parts of China, including Shanghai, Guangzhou, Zhangjiagang and others in actively enhancing the principles of Responsible Care®.

Trinseo became a Responsible Care® company in 2010 and has published its *Sustainability and Corporate Social Responsibility Report* annually since 2013 to highlight the overall performance of the Company's Responsible Care®, project performance, emissions and energy efficiency and more.

The Responsible Care® program is a voluntary initiative in the global chemical industry and is being implemented in chemical companies across more than 50 countries around the world. Its vision is to enable chemical products to achieve safety and environmental protection, for the chemical industry to achieve occupational health and safety, and for chemical manufacturing to achieve process safety, as well as to prevent pollution.

Responsible Care®
Good Chemistry at Work

China's Largest Manufacturer of Wood Adhesive Choses Trinseo Latex Binders

China's largest manufacturer of wood adhesive connected with Trinseo at the "Chinese Water-based Adhesive Technology Innovation Forum" in 2017. Shortly after, the companies began working together to develop new water-based wood adhesive using Trinseo's Styrene Butadiene (SB) latex, an important component of wood adhesive.

At every stage of a given project, Trinseo worked closely with the manufacturer to understand its specific applications and deliver innovative solutions.

After formulation development, mass production, performance testing and other related processes, Trinseo's latex binders solution was approved by the customer for production.

Trinseo's latex binders for adhesives ensure high performance and environmental and regulatory compliance. Its non-formaldehyde adhesives produced for emulsion polymer isocyanate (EPI) systems offer excellent performance in dry and wet adhesion, thermal creep resistance, and formulation stability.


High Performance Wood Assembly

Advanced Material Solutions for Innovative Medical Devices

With the rising trend toward medical device portability and wearable technologies, Trinseo's resins are being used as a replacement from metal and other traditional materials.

Trinseo's glass-filled CALIBRE™ Polycarbonate Resins were developed to be biocompatible, sterilizable and can be customized with a varying percentage of glass content according to a specific application. Combining stiffness, toughness, and dimensional stability, the resins can be used as an alternative to metal for devices ranging from hand-held surgical instruments, to diagnostic devices, to the housings on patient monitors.

The Company's MAGNUM™ ABS Resins are also ideal as medical device manufacturers look for materials that provide aesthetic appeal, advanced performance, chemical resistance and the ability to be sterilized. Produced with mass polymerization technology, MAGNUM™ resins are exceptionally white in color in order to accept pigment better, and offer low residual monomers for added assurance in sensitive applications.

Fetal Monitoring Devices

Mo Fe Ma, a startup company based in Poland, selected Trinseo's EMERGE™ PC/ABS Advanced Resins for its ZuzaMED device. This innovative, small and portable fetal monitor rests on expectant mothers to monitor the health condition of the fetus as it develops. It is worn across the belly and can be used without any restriction to length of time.

EMERGE™ PC/ABS 7700 Advanced Resins are also durable to withstand movement and jarring, resist dirt and grime, and are able to tolerate a 40 percent alcohol solution.

Drug Delivery Devices

As healthcare professionals embrace self-administered care, they need devices that not only are effective therapeutically but also offer their patients functionality, convenience, haptics and aesthetics.

Polymers are a big part of the solution and Trinseo offers specialty engineered materials. These materials are used for an array of applications - ABS and PC/ABS for housings, polycarbonate for windows, polystyrene for secondary packaging and sterilizable polycarbonate for needle shield caps. Trinseo's Thermoplastic Elastomers compounds are used for applications ranging from medical tubing to over-molded soft-touch grips.

Typical drug delivery devices, also known as combination devices, which use Trinseo materials include auto injectors, insulin pens, asthma inhalers, prefilled syringes and wearable devices. The Company's specialty engineered polymer solutions are used by medical device and pharmaceutical manufacturers of drug delivery applications worldwide.

Trinseo Acquires API Applicazioni Plastiche Industriali S.p.A. (API Plastics)

In July, Trinseo completed the acquisition of API Plastics, an Italian company specialized in the production of thermoplastic elastomeric compounds and bioplastics.

The transaction included API Plastics' manufacturing and research facility at Mussolente, Italy, and all of its business, employees, and assets. The API Plastics management team and employees are now part of Trinseo's Performance Plastics business segment.

Trinseo will be able to grow the combined business and benefit customers by leveraging the complementary strengths of both companies. Trinseo's rigid plastics have a very strong position in Automotive, Medical and Consumer markets. API's soft-touch Thermoplastic Elastomers (TPEs) products and technologies are very often used together with rigid plastics in similar applications to provide a soft touch surface.

Innovative TPE Solutions in Automotive

Both API Plastics and Trinseo solutions meet the need for lightweight, energy-saving cost-effective products used in automotive interiors, exteriors and chassis'. API Plastics has been supplying automotive customers with materials used in areas such as door panels, gear shifts, cup holders, dashboards, wheel arches, and under the hood applications. The plastic materials are resistant to high ultraviolet light, weather, heat, oil and scratching. They also meet automotive manufacturers' requirements for low emissions, odor and fogging properties in vehicle interiors.

Bioplastics

Bio-based bioplastics offer green solutions for reducing the usage of fossil fuels and therefore greenhouse gas emissions. Their material is either partially or totally derived from plant derived biomass, such as corn, sugar cane and cellulose. An ISO EN 40001 certified company with a long tradition in bioplastics, API Plastics is considered a leading partner in the development of bio-based and bio-degradable TPEs and Thermoplastic Polyurethanes (TPUs).

Recently API Plastics expanded its bioplastics APINAT™ BIO portfolio, with biodegradable thermoplastic bioplastics especially developed for single use coffee capsules. The process of biodegradability is defined as the degradation of plastic (in aerobic or anaerobic conditions) in carbon dioxide, water (or methane), mineral salts and biomass, or by microorganisms such as bacteria, fungus and seaweed. According to European standards EN 13432 and EN 14995 a material is considered to be biodegradable if it degrades by at least 90 percent within 180 days.

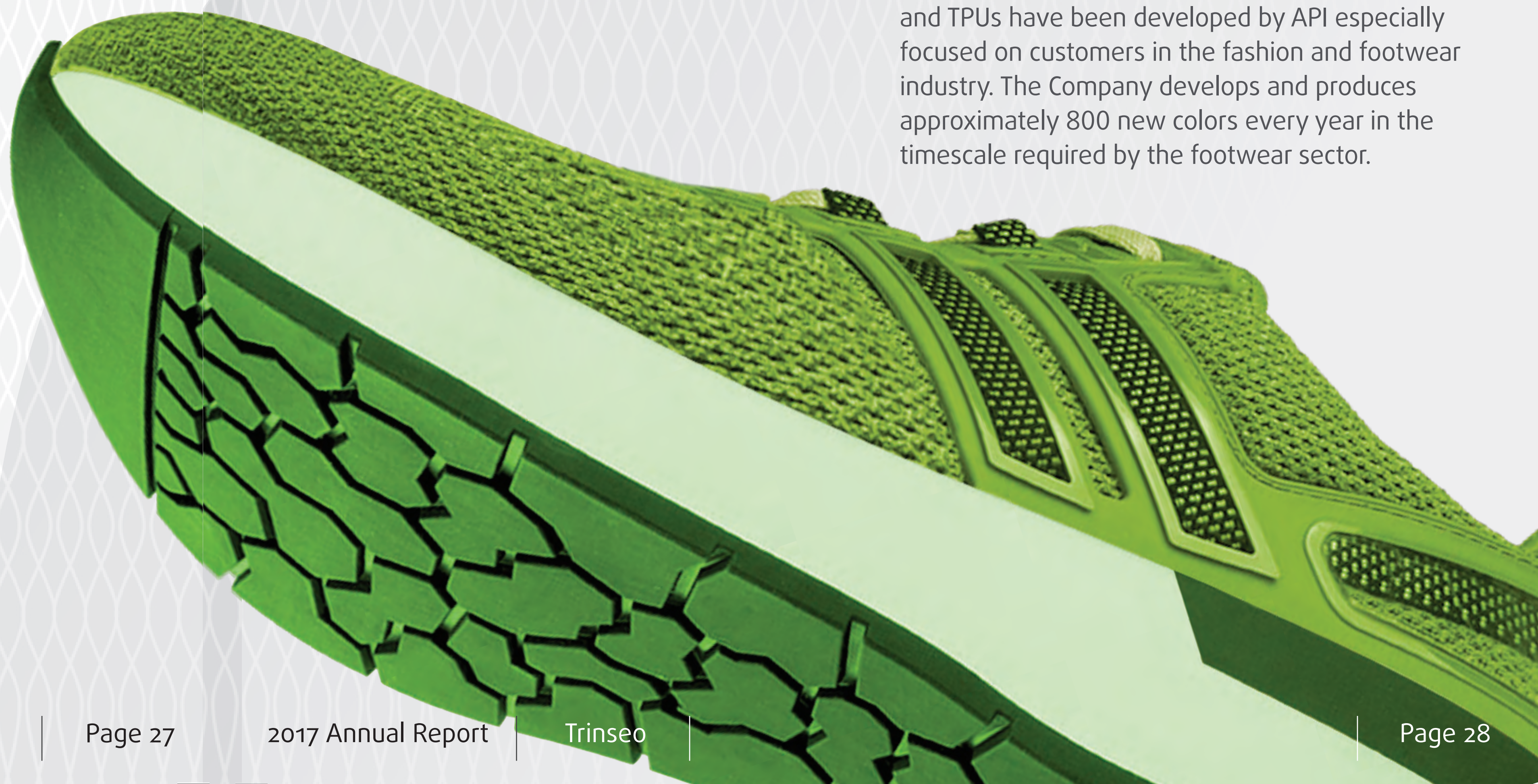
Long Tradition in Footwear

The market demand for flexible and lightweight footwear has been constantly increasing. API Plastics has a long tradition in the footwear sector basing its success on long-standing relationships with luxury footwear designers through a series of ground-breaking products and solutions which provided both improvement and innovation.

A prime example of innovation is the development of TPUs allowing for the production of extremely lightweight soles with excellent physical-mechanical properties, which are in high demand for athletics footwear.

API Plastics has also been a global leader in the development of customized biopolymers for premium footwear applications, containing all the properties that are most commonly required in this sector such as hardness, density, and sheen, as well as specific customer needs.

A wide range of color masterbatches for TPEs and TPUs have been developed by API especially focused on customers in the fashion and footwear industry. The Company develops and produces approximately 800 new colors every year in the timescale required by the footwear sector.



CEO Chris Pappas Honored with Leadership Award for Outstanding Corporate Reinvention

The Chemical Marketing and Economics (CME) group of the American Chemical Society's (ACS) New York Section honored Chris Pappas, Trinseo's President and CEO, with the Leadership Award for Outstanding Corporate Reinvention, in part due to the Company tripling in value during the preceding three years.

In 2014, Trinseo was renamed from Styron, completed a successful IPO on the New York Stock Exchange, and saw a 270 percent increase in its stock price from 2014 to 2017. The company also has an exceptional track record on employee safety, with an OSHA recordable rate of 0.07 – which places the company among the top five percent of chemical companies.

This achievement has been the result of Pappas' visionary leadership and focus on safety, technology, financial discipline and growth.

In his remarks, Pappas accepted the award on behalf of the entire company and credited his success at Trinseo to his employees, his family, his mentors and the foundational values they inspired in him.

This achievement has been the result of Pappas' visionary leadership and focus on safety, technology, financial discipline and growth.

Synthetic Rubber Research & Development Team Awarded "Most Innovative Product Development"

Trinseo's Synthetic Rubber Research & Development Team in Schkopau, Germany won the 2017 Hugo-Junkers Award for "Most Innovative Product Development," presented by the Ministry for Economy, Science, and Digitalization of Saxony-Anhalt. The prestigious prize recognizes pioneering regional companies with an entrepreneurial spirit that promotes economy, innovation and science.

The recognition highlights Trinseo's patented highly functionalized synthetic rubber solution for low rolling resistance in tires. The Company's new styrene-butadiene rubber reduces tire rolling resistance by four to five percent responsive to the latest EU greenhouse gas emission targets.

Italy

EMS-GRIVORY Introduces Green Partnership with API Plastics

API Plastics, acquired by Trinseo in 2017, announced a green partnership with EMS-GRIVORY, a leading Swiss manufacturer of high performance polymers and supplier of structural materials in the eyewear industry. The partnership aims at developing a series of sustainable eyewear solutions with a lower environmental impact, providing customers with cutting-edge materials.

The demand to combine soft elastomeric compounds with hard substrates has been constantly increasing. Engineers from both companies will collaborate on combining the adhesion modified soft-touch Thermoplastic Elastomers (TPE) with the harder EMS Grilamid TR® or Grilamid® BTR materials, thereby fully complying with the VDI 2019 standard. API Plastics and EMS-GRIVORY will work on the development of specific bio-solutions, both on a fossil and renewable basis.

Trinseo Introduces LIGOS™ Binders

Trinseo introduced LIGOS™ Binders, a new name and tag line for its family of latex binders product offerings for textiles and carpet, paper and board, and adhesives and construction applications.

The word ligos means "to bind" in the international language of Esperanto. The LIGOS™ trade name and its tagline, "Strong Bonds. Stronger Commitment," aimed to build a recognizable brand in the marketplace and differentiate Trinseo from its competitors.

For more than 60 years, Trinseo has been working closely with customers to develop cusomized solutions for diverse applications in the following markets:

- **Paper & Board:** demonstrated commitment to the industry with two pilot coaters in both Europe and North America, which provides a unique offering for customers to test products.
- **Textiles and Carpets:** globally deliver high bonding strength, low VOC, versatile and sustainable solutions.
- **Adhesives and Construction:** averaging over 15 years of collaboration with major customers by providing innovative solutions for the market.

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

FORM 10-K

☒ **ANNUAL REPORT PURSUANT TO SECTION 13 OR 15(d) OF THE SECURITIES EXCHANGE ACT OF 1934**

For the fiscal year ended: December 31, 2017

☐ **TRANSITION REPORT PURSUANT TO SECTION 13 OR 15(d) OF THE SECURITIES EXCHANGE ACT OF 1934**

For the transition period from __________ to __________

Commission File Number: 001-36473

Trinseo S.A.
(Exact name of registrant as specified in its charter)

Luxembourg **(State or other jurisdiction of incorporation or organization)**	**N/A** **(I.R.S. Employer Identification Number)**

1000 Chesterbrook Boulevard, Suite 300
Berwyn, PA 19312
(Address of Principal Executive Offices)

(610) 240-3200
(Registrant's telephone number)

Securities registered pursuant to Section 12(b) of the Act:

Title of Each Class	Name of Each Exchange on Which Registered
Ordinary Shares, par value $0.01 per share	New York Stock Exchange

Securities registered pursuant to Section 12(g) of the Act:
None

Indicate by check mark if the registrant is a well-known seasoned issuer, as defined in Rule 405 of the Securities Act. Yes ☒ No ☐

Indicate by check mark if the registrant is not required to file reports pursuant to Section 13 or Section 15(d) of the Act. Yes ☐ No ☒

Indicate by check mark whether the registrant (1) has filed all reports required to be filed by Section 13 or 15(d) of the Securities Exchange Act of 1934 during the preceding 12 months (or for such shorter period that the registrant was required to file such reports), and (2) has been subject to such filing requirements for the past 90 days. Yes ☒ No ☐

Indicate by check mark whether the registrant has submitted electronically and posted on its corporate website, if any, every Interactive Data File required to be submitted and posted pursuant to Rule 405 of Regulation S-T during the preceding 12 months (or for such shorter period that the registrant was required to submit and post such files). Yes ☒ No ☐

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

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

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

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

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

As of February 26, 2018, there were 43,280,500 shares of the registrant's ordinary shares outstanding.

The aggregate market value of the voting and non-voting shares of the registrant held by non-affiliates of Trinseo S.A. computed by reference to the closing price of the registrant's common stock on the New York Stock Exchange as of June 30, 2017 was approximately $3,000,992,078.

Documents Incorporated by Reference

Portions of the registrant's definitive Proxy Statement for the 2018 Annual General Meeting of Shareholders to be filed with the Securities and Exchange Commission pursuant to Regulation 14A not later than 120 days after the end of the fiscal year covered by this Form 10-K are incorporated by reference in Part III, Items 10-14 of this Form 10-K.

CAUTIONARY NOTE REGARDING FORWARD-LOOKING STATEMENTS

This annual report on Form 10-K ("Annual Report") contains forward-looking statements including, without limitation, statements concerning plans, objectives, goals, projections, strategies, future events or performance, and underlying assumptions and other statements, which are not statements of historical facts. Forward looking statements may be identified by the use of words like "expect," "anticipate," "intend," "forecast," "outlook," "will," "may," "might," "potential," "likely," "target," "plan," "contemplate," "seek," "attempt," "should," "could," "would" or expressions of similar meaning. Forward-looking statements reflect management's evaluation of information currently available and are based on our current expectations and assumptions regarding our business, the economy and other future conditions. Because forward-looking statements relate to the future, they are subject to inherent uncertainties, risks and changes in circumstances that are difficult to predict. Specific factors that may impact performance or other predictions of future actions have, in many but not all cases, been identified in connection with specific forward-looking statements. Our actual results may differ materially from those contemplated by the forward-looking statements. They are neither statements of historical fact nor guarantees or assurances of future performance. Important factors that could cause actual results to differ materially from those in the forward-looking statements include economic, business, competitive, market and regulatory conditions and the following:

- volatility in costs or disruption in the supply of the raw materials or energy utilized for our products;
- conditions in the global economy and capital markets;
- strategic acquisitions or divestitures affecting current operations;
- the execution of capital projects in accordance with the Company's plan, budget and forecasts;
- any disruptions in production at our manufacturing facilities;
- changes in laws and regulations applicable to our business;
- our continued reliance on our relationship with The Dow Chemical Company;
- the stability of our joint ventures;
- our current and future levels of indebtedness;
- the restrictions on our operations due to our indebtedness;
- liabilities and lawsuits resulting from our products or operations;
- regulatory and statutory changes applicable to our raw materials and products;
- expenditures related to changes to and our compliance with environmental, health and safety laws;
- fluctuations in currency exchange rates;
- any inability to continue technological innovation and successful introduction of new products;
- local business risks in the different countries in which we operate;
- any inability to protect our trademarks, patents or other intellectual property rights;
- our infringement on the intellectual property rights of others;
- data security breaches;
- risks associated with our incorporation in Luxembourg; and
- other risks described in the "Risk Factors" section of this Annual Report.

We derive many of our forward-looking statements from our operating budgets and forecasts, which are based upon many detailed assumptions. While we believe that our assumptions are reasonable, we caution that it is very difficult to predict the impact of known factors, and, it is impossible for us to anticipate all factors that could affect our actual results. Important factors that could cause actual results to differ materially from our expectations, or cautionary statements, are disclosed under the sections entitled "Risk Factors", "Management's Discussion and Analysis of Financial Condition and Results of Operations", and "Quantitative and Qualitative Disclosures About Market Risk" in this Annual Report. All written and oral forward-looking statements attributable to us, or persons acting on our behalf, are expressly qualified in their entirety by the cautionary statements as well as other cautionary statements that are made from time to time in our other public communications. You should evaluate all forward-looking statements made in this Annual Report in the context of these risks and uncertainties.

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

TABLE OF CONTENTS

Trinseo S.A.

Form 10-K Annual Report
For the Fiscal Year Ended December 31, 2017

Unless otherwise indicated or required by context, as used in this Annual Report, the term "Trinseo" refers to Trinseo S.A. (NYSE: TSE), a public limited liability company (société anonyme) existing under the laws of Luxembourg, and not its subsidiaries. The terms "Company," "we," "us" and "our" refer to Trinseo and its consolidated subsidiaries, taken as a consolidated entity and as required by context, may also include our business as owned by our predecessor, The Dow Chemical Company, for any dates prior to June 17, 2010. The terms "Trinseo Materials Operating S.C.A." and "Trinseo Materials Finance, Inc." refer to Trinseo's indirect subsidiaries, Trinseo Materials Operating S.C.A., a Luxembourg partnership limited by shares incorporated under the laws of Luxembourg, and Trinseo Materials Finance, Inc., a Delaware corporation, and not their subsidiaries. All financial data provided in this Annual Report is the financial data of the Company, unless otherwise indicated.

Prior to our formation, our business was wholly owned by The Dow Chemical Company, which we refer to as, together with its affiliates, "Dow". We refer to our predecessor business as "the Styron business." On June 17, 2010, investment funds advised or managed by affiliates of Bain Capital Partners, LP ("Bain Capital") acquired Dow Europe Holding B.V. and the Styron business. We refer to our acquisition by Bain Capital as the "Acquisition". During 2016, Bain Capital Everest Manager Holding SCA (the "former Parent"), an affiliate of Bain Capital, divested its entire ownership in the Company in a series of secondary offerings to the market.

The Company may distribute cash to shareholders under Luxembourg law via repayments of equity or an allocation of statutory profits. Since the Company began paying dividends, all distributions have been considered repayments of equity under Luxembourg law.

Definitions of capitalized terms not defined herein appear in the notes to our consolidated financial statements. Specifically, refer to Note 10 in the consolidated financial statements for definitions of the Company's debt facilities.

PART I

Item 1. ***Business***

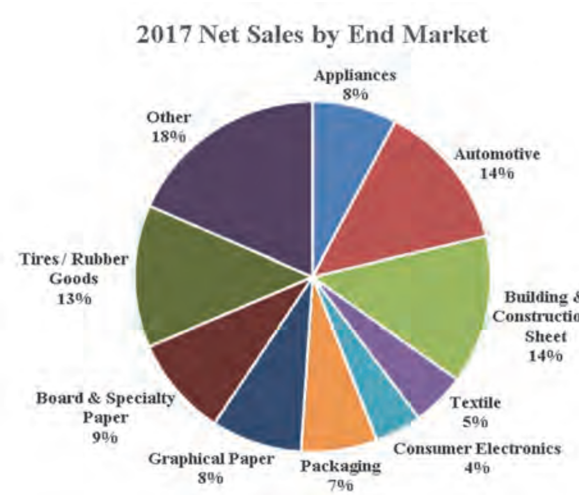
BUSINESS

The Company

Trinseo S.A. (NYSE: TSE) is a public limited liability company (société anonyme) formed in 2010 and existing under the laws of Luxembourg. Prior to our formation, our business was wholly owned by Dow. On June 17, 2010, investment funds advised or managed by affiliates of Bain Capital acquired our business and Dow Europe Holding B.V. During 2016, Bain Capital divested its entire ownership in the Company in a series of secondary offerings to the market.

We are a leading global materials company engaged in the manufacture and marketing of synthetic rubber, latex binders, and plastics, including various specialty and technologically differentiated products. We have leading market positions in many of the markets in which we compete. Our products are incorporated into a wide range of our customers' products throughout the world, including tires and other products for automotive applications, carpet and artificial turf backing, coated paper, specialty paper and packaging board, food packaging, appliances, medical devices, consumer electronics and construction applications, among others. We have long-standing relationships with a diverse base of global customers, many of whom are leaders in their markets and rely on us for formulation, technological differentiation, and compounding expertise to find sustainable solutions for their businesses. Many of our products represent only a small portion of a finished product's production costs, but provide critical functionality to the finished product and are often specifically developed to customer specifications. Therefore, we seek to regularly develop new and improved products and processes, supported by our intellectual property portfolio, designed to enhance our customers' product offerings. We believe these product traits result in substantial customer loyalty for our products.

We have significant manufacturing and production operations around the world, which allow us to serve our global customer base. As of December 31, 2017, our production facilities included 30 manufacturing plants (which included a total of 75 production units) at 23 sites across 12 countries, including joint ventures and contract manufacturers. Additionally, as of December 31, 2017, we operated 11 research and development ("R&D") facilities globally, including mini plants, development centers and pilot coaters, which we believe are critical to our global presence and innovation capabilities. Our significant global operations provide geographic revenue diversity, and diversity in end markets for our products.



Our Strategy

We believe that there are significant opportunities to improve our business globally and enhance our position as a leading global materials company engaged in the manufacture and marketing of standard, specialty and technologically differentiated emulsion polymers and plastics. The Company's business strategy is to grow both organically and through the pursuit of strategic acquisitions and joint ventures that have attractive risk-adjusted returns that extend our leadership positions in attractive markets and geographies, while, when appropriate making strategic divestures or closures in non-performing businesses and geographies. The Company's organic growth will be developed through strategic capital investments to extend our leadership position in select market segments and by innovation that provides technological differentiation to our customers who seek our technological and development capabilities to create specialty grades, new and sustainable products, and technologically differentiated formulations.

In order to support the Company's strategic growth, we remain committed to maintaining a strong financial position with appropriate financial flexibility and liquidity. The Company employs a disciplined approach to capital allocation and deployment of cash that strives to balance the growth of our business and continued cash generation while providing attractive returns to our shareholders. The priorities for uses of available cash include the servicing of our debt, the funding of targeted growth initiatives, the continued payment of quarterly dividends to our shareholders, and the repurchase of our ordinary shares. Management expects that the combination of strong cash flow generation, continued profitability, and spending discipline will continue to provide the Company with flexibility to pursue its business strategy.

For 2017, the Company progressed on our strategic initiatives by:

- Commencing production of MAGNUM™ acrylonitrile-butadiene-styrene resins in our Zhangjiagang, China plant.
- Acquiring API Applicazioni Plastiche Industriali S.P.A., or API Plastics, a manufacturer of soft-touch polymers and bioplastics, based in Mussolente, Italy.
- Increasing our global enhanced rubber production capabilities by adding 50 KT of new solution styrene-butadiene rubber, or SSBR, capacity.
- Opening a new Plastics Research Center, which modernized two existing technical support centers and research lab operations in a single location at our Terneuzen, The Netherlands office location.
- Divesting our 50% share in Sumika Styron Polycarbonate to Sumitomo Chemical Company Limited.
- Completing a successful debt refinancing during the third quarter, which is expected to reduce annual cash interest by approximately $25.0 million.
- Increasing our quarterly dividend to shareholders by 20% in June 2017, from $0.30 to $0.36 per share.
- Using cash of approximately $89.0 million to repurchase from our shareholders nearly 1.4 million ordinary shares in a series of open market transactions.

For more information regarding our strategic highlights see Item 7 – *Management's Discussion and Analysis of Financial Condition and Results of Operations – 2017 Highlights*.

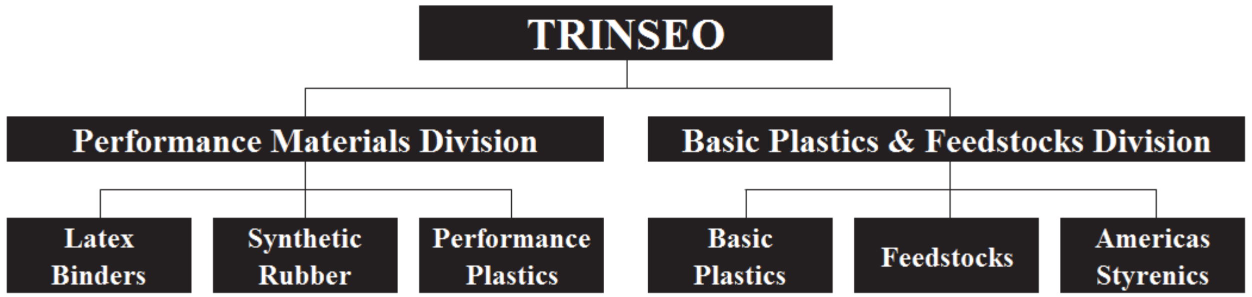
Business Segments and Products

For the financial periods provided in this Annual Report, we operated our business in two divisions: Performance Materials and Basic Plastics & Feedstocks. Our two divisions are of similar size in terms of sales, but have different margin profiles, different strategic focus, different value drivers and different operating requirements, with the Performance Materials segments focusing on accelerating growth and the Basic Plastics & Feedstocks segments focusing on increasing profitability.

Effective October 1, 2016, the Performance Materials division includes the following reporting segments: Latex Binders, Synthetic Rubber, and Performance Plastics. The Basic Plastics & Feedstocks division includes the following reporting segments: Basic Plastics, Feedstocks, and Americas Styrenics. Prior period financial information for fiscal year

2015 and prior included within this Annual Report was recast from its previous presentation to align with this organizational structure.

The following chart provides an overview of this organizational structure:



The major products in our Performance Materials division include: styrene-butadiene latex, or SB latex, and styrene-acrylate latex, or SA latex, in our Latex Binders segment; SSBR, emulsion styrene-butadiene rubber, or ESBR, nickel polybutadiene rubber, or Ni-PBR, and neodymium polybutadiene rubber, or Nd-PBR, in our Synthetic Rubber segment; and highly engineered compounds and blends products for automotive end markets, as well as consumer electronics, medical, electrical and lighting, which we collectively call consumer essential markets, or CEM, in our Performance Plastics segment. The major products in our Basic Plastics & Feedstocks division include: polystyrene, polycarbonate, or PC, acrylonitrile-butadiene-styrene, or ABS, and styrene-acrylonitrile, or SAN, in our Basic Plastics reporting segment; styrene monomer in our Feedstocks segment; and styrene and polystyrene in our Americas Styrenics reporting segment.

Refer to Note 18 in the consolidated financial statements for information regarding sales and Adjusted EBITDA by segment, which is the performance metric used by management to evaluate our segments' performance, as well as sales and long-lived assets by geographic area.

Latex Binders Segment

Overview

We are a global leader in SB latex, holding a strong market position across the geographies and applications in which we compete, including the #2 position in SB latex capacity in Europe and the #1 position in capacity in North America. In 2017, approximately 43% of our Latex Binders segment's sales were generated in Europe, 27% were generated in the United States, and the majority of the remaining net sales were generated in Asia.

Products and End Uses

We hold the #1 position for supplying SB latex for the coated paper market globally. SB latex is widely used as a binder for mineral pigments as it allows high coating speeds, improved smoothness, higher gloss level, opacity and water resistance that is valued in the product's end use in advertising, magazines, and packaging board coatings.

We are also a leading supplier of latex binders to the carpet and artificial turf industries and offer a diverse range of products for use in residential and commercial broadloom, needlefelt, and woven carpet backings. We produce high solids SB latex, SA latex, vinylidene chloride, and butadiene-methacrylate latex products for the commercial and niche carpet markets. We incorporate vinyl acrylic latex in our formulations for its ignition-resistant properties, with the sourcing of vinyl acrylic latex readily available from a number of industry suppliers. SB latex is also used in flooring as an adhesive for carpet and artificial turf fibers.

We also offer a broad range of performance latex products, including SB latex, SA latex, and vinylidene chloride latex primarily for the adhesive, building and construction as well as the technical textile paper market, and have begun to implement the use of starch and associated new chemistries in paper coatings and carpet backing.

Competition and Customers

Our principal competitors in our Latex Binders segment include BASF Group, Omnova Solutions Inc., and Synthomer plc. In this segment, we compete primarily based on our ability to offer differentiated and reliable products, the quality of our customer service and the length and depth of our relationships. We also believe our growth prospects could be enhanced if the recent trend of industry capacity reduction and consolidation continues.

We believe our Latex Binders segment is able to differentiate itself by offering customers value-added formulation and product development expertise. Our R&D team and Technical Services and Development team, which we refer to as TS&D, are able to use our two pilot coating facilities in Switzerland and the United States, three paper fabrication and testing labs in China, Switzerland and the United States, three carpet technology centers located near carpet producers in China, the United States and Switzerland, and two product development and process research centers, one each in Germany and the United States, to assist customers in designing new products and enhancing the manufacturing process. Many of our major customers rely on our dedicated R&D and TS&D teams to complement their limited in-house resources for formulation and reformulation tests and trials. We believe that this capability allows us to capture new business, strengthen our existing customer relationships and broaden our technological expertise.

Additionally, our global manufacturing capabilities are key in serving customers cost-effectively, as latex binders are costly to ship over long distances due to their high water content. We believe that our global network of service and manufacturing facilities is highly valued by our customers. We seek to capture the value of our R&D and TS&D services and manufacturing capabilities through our pricing strategy. In 2017, we estimate that more than half of net sales in this segment related to contracts that include raw material pass-through clauses.

Synthetic Rubber Segment

Overview

We are a significant producer of styrene-butadiene and polybutadiene-based rubber products and we have a leading European market position, providing approximately 52% of Western Europe's SSBR capacity available for sale. While substantially all of our sales were generated in Europe in 2017, approximately 23% of these net sales were exported to Asia, 9% to North America, and 6% to Latin America.

Products and End Uses

Our Synthetic Rubber segment produces synthetic rubber products used in high-performance tires, impact modifiers and technical rubber products, such as conveyor belts, hoses, seals and gaskets. We participate significantly in the European synthetic rubber industry, where tire producers focus on high-performance and ultra high-performance tires and rely heavily on rubber suppliers to provide their supply of rubber. This is in contrast to North America, where tire manufacturers produce most of their required rubber. We have a broad synthetic rubber technology and product portfolio, focusing on specialty products, such as SSBR and Nd-PBR, while also producing core products, such as ESBR. Our synthetic rubber products are extensively used in tires, with approximately 82% of our net sales from this segment in 2017 attributable to the tire market. We estimate that 75% of these sales relate to replacement tires. We have strong relationships with many of the top global tire manufacturers and believe we have remained a supplier of choice as a result of our broad rubber portfolio and ability to offer technologically differentiated product and product customization capabilities. Other applications for our synthetic rubber products include polymer modification and technical rubber goods.

SSBR. We sell SSBR products for high-performance and ultra high-performance tire applications. We produce both clear and oil extended SSBR through batch polymerization in our three SSBR production lines. We believe these processes provide leading and technologically differentiated solutions to tire manufacturers.

During the last seven years, we have been working closely with major tire producers around the world to develop multiple new SSBR grades, addressing key marketplace needs for improved tire fuel economy, grip, and abrasion characteristics, which we believe will lead to significant demand growth for our rubber products in Europe and around the world. We expect our synthetic rubber product mix to continue to shift to more advanced SSBR grades (from approximately 8% of total Synthetic Rubber volume sold in 2011 to 30% in 2017) in order to meet expected demand growth. In 2017, SSBR represented approximately 57% of total segment net sales.

Performance tires represent an especially attractive market to rubber producers because they provide substantial value to end customers. In fact, the market for performance tires is expected to grow at a rate that is 2 to 3 times that of the total tire market. Tire manufacturers are expected to continually seek improvements in advanced rubber, which optimizes the combination of fuel economy and wet grip in order to meet EU regulations which set minimum requirements and are being phased in through 2020. Other jurisdictions have adopted or are considering similar legislation and are also beginning to adopt the tire labeling requirements that have become mandatory in Europe. We believe our growth prospects are enhanced by increasing demand for high performance tires, which are now more commonly used by automakers as original equipment manufacturer specified tires in their vehicles as a result of regulatory reforms in the EU, Japan and Korea that are aimed at improving fuel efficiency and reducing carbon dioxide emissions.

ESBR. Our ESBR products are used in standard tires, technical goods, and footwear. Our ESBR product portfolio offers tire producers a comprehensive suite of synthetic rubber capabilities. For example, ESBR provides enhanced wet grip to tire treads and strength to the inner liner of tires, allowing the tires to be more easily processed. In 2017, ESBR represented approximately 34% of total segment net sales.

Ni-PBR and Nd-PBR. Throughout much of 2017, we sold Ni-PBR products for use in standard tires, performance tires, technical goods and footwear. In 2017, Ni-PBR represented approximately 8% of total segment net sales. In November 2015, we completed the conversion of our Ni-PBR production capacity at our Schkopau, Germany facility to a swing line, allowing for the production of Ni-PBR as well Nd-PBR, a more advanced, higher margin polybutadiene rubber that is a key material in the latest generation of performance tires, and is also sold for use in industrial rubber goods and polymer modification. In 2017, we began trials of Nd-PBR production, and expect to increase sales in this area in the future.

Competition and Customers

Our principal competitors in our Synthetic Rubber segment include Asahi Kasei Corporation, JSR Corporation, ARLANXEO, Zeon Corporation, Kumho Petrochemical Co., Ltd., PetroChina Company Limited, Reliance Rubber Industries, Sinopec Corp., Versalis S.p.A and Synthos S.A. In our Synthetic Rubber segment, we compete primarily based on our ability to offer differentiated and reliable products, the quality of our customer service and the length and depth of our relationships. We maintain deep and long-standing relationships with a large number of multinational customers, including many of the top global tire manufacturers, as well as fast growing Asian tire manufacturers. Our relationships with our top customers, including with our predecessor business operated by Dow prior to the Acquisition (as defined in Note 1 in the consolidated financial statements), range from 10 to more than 20 years. Our top three customers in this segment accounted for 56% of our net sales in this reporting segment. The loss of one or more of these customers could have a material adverse effect on the performance of the Synthetic Rubber segment.

We believe we have remained a supplier of choice given our broad rubber portfolio, including technologically differentiated grades, and our product customization capabilities. Our R&D and TS&D teams use our broad rubber portfolio to develop differentiated specialty products for customers. Once implemented with a customer, these newly-developed specialty products cannot be easily replaced with a competitor's product. As a result, we believe customers are likely to buy from us throughout the life cycle of specific tire models to avoid high switching costs and prevent repetition of the expensive development process.

Enhanced SSBR, which includes later generations of SSBR and functionalized SSBR and is used in the new generation of performance tires, is expected to approach 50% of the total SSBR market by 2019. We believe the Company is well-positioned to capture additional market share in the high-growth, high-performance tire application markets. We expect that demand for enhanced SSBR will grow at a rate in excess of supply, resulting in an expected increase in industry utilization rates.

In order to address this anticipated demand, the Company has added 125 kMT of SSBR capacity since 2012, including an additional 50kT in SSBR capacity that came online in January 2018 at our Schkopau, Germany facility. By the second half of 2018, we also expect to have operational a new SSBR rubber pilot plant that will expedite the product development process from lab sample to commercialization by delivering sufficient quantities of new formulations without the need to interrupt production in our industrial lines.

While we export our rubber products worldwide, our production facilities currently are solely in Europe. Therefore, we may face competitive challenges with rubber customers who would prefer local rubber manufacturers.

We seek to capture the value of our R&D and TS&D services through our pricing strategy. We estimate that approximately 84% of net sales in this segment relate to contracts that include raw material pass-through clauses.

Performance Plastics Segment

Overview

We are a producer of highly engineered compounds and blends for automotive end markets, as well as consumer electronics, medical, electrical, and lighting, or CEM. In 2017, approximately 44% of our Performance Plastics segment's net sales were generated in Europe, approximately 27% were generated in the United States, and approximately 19% were generated in Asia, with the remainder in other geographic areas, including Mexico and Canada.

Products and End Uses

Our Performance Plastics segment consists of compounds and blends and some specialized ABS grades. We have a significant position in PC/ABS blends, which combine the heat resistance and impact strength of PC with the easy-to-process qualities and resilience of ABS. Our Performance Plastics segment also compounds and blends our PC and ABS plastics into differentiated products for customers within these sectors, as well as compounds of polypropylene. We have also developed compounds containing post-consumer recycled polymers to respond to what we believe is a growing need for some customers to include recycled content in their products. We believe our ability to offer technologically differentiated products to meet customer needs sets us apart from our competitors, and with our history as a leading innovator in compounds and blends, we have established ourselves as a leading supplier of PC-based products.

For the automotive industry, we manufacture PC/ABS blends under the PULSE™ brand, and we innovate collaboratively with our customers to develop performance solutions to meet the industry's needs, such as reducing the weight of vehicles. As a result, we are a key supplier of these products to leading automotive companies in North America and Europe, who tend to specify these products on a per car program platform basis, making it difficult to be displaced as a supplier once selected and providing us with relatively stable and predictable cash flows for several years during the production lifecycle. We are also accelerating our development of similar supply capabilities in growing areas such as China. Through our acquisition of API Plastics, we have added thermoplastic elastomers (TPEs) and other soft polymers to our product offerings to the automotive industry.

For the consumer electronics, electrical and lighting and medical device industries, we manufacture our products under the EMERGE™ brand, among others, and we believe that we have substantial growth opportunities in tablets, notebooks, smart phones and other handheld devices, and electrical and lighting and medical device components. In serving these markets, we leverage our polymer and compound technologies to meet increasingly stringent performance requirements along with the aesthetic and color-matching requirements which are crucial characteristics for the products involved.

Competition and Customers

Our principal competitors in our Performance Plastics segment are Covestro AG, Saudi Basic Industries Corporation, Borealis AG, Celanese Corporation, Shanghai Kumho Sunny Plastics Co., Ltd., Shanghai Pret Composites Co. Ltd., INEOS Styrolution, Lotte Chemical Corporation, and LyondellBasell. In our Performance Plastics segment, we compete primarily based on our ability to offer differentiated and reliable products, the quality of our customer service and the length and depth of our customer relationships.

We believe growth in the Performance Plastic segment is due to a number of factors, including consumer preference for lighter weight and impact-resistant products and the development of new consumer electronics and continuing growth in medical device applications. Additionally, we believe growth is bolstered by sustainability trends, such as the substitution of lighter-weight plastics for metal in automobiles. Therefore, we believe our history of innovation and our focus on differentiated products enhances our growth prospects in this segment. Our innovation has contributed to long-standing relationships with customers who are recognized leaders in their respective end-markets. We also believe our global facilities are a competitive advantage that allows us to provide customers with consistent grades across markets and positions us to strategically serve emerging markets.

Basic Plastics Segment

Overview

Basic Plastics consists of styrenic-based polymers, including polystyrene, ABS, and SAN products, as well as PC. We do not anticipate investing in strategic growth initiatives in this segment in the near term. In 2017, approximately 70% of sales from our Basic Plastics segment were generated in Europe and an additional 25% of sales were generated in Asia.

Products and End Uses

Polystyrene. We are a leading producer of polystyrene and focus on sales to injection molding and thermoforming customers. Our product offerings include a variety of general purpose polystyrenes, or GPPS, and HIPS, which is polystyrene that has been modified with polybutadiene rubber to increase its impact resistant properties. These products provide customers with performance and aesthetics at a low cost across applications, including appliances, packaging, including food packaging and food service disposables, consumer electronics and building and construction materials.

We believe our STYRON™ brand is one of the longest established brands in the industry and is widely recognized in the global marketplace. We believe our R&D efforts have resulted in valuable, differentiated solutions for our customers. For instance, during 2015, we developed an innovative STYRON X-TECH™ resin that allows manufacturers to reduce the thickness, yet enhance the thermoformability, of their plastic refrigerator and freezer liners. In 2017, polystyrene represented approximately 60% of total segment net sales.

Acrylonitrile-Butadiene-Styrene (ABS). We are a leading producer of ABS in Europe and are one of the few producers with a presence in North America. We produce mass ABS, or mABS, a variation of ABS that has lower conversion and capital costs compared to the more common emulsion ABS, or eABS, process, marketed under our MAGNUM™ brand. mABS has similar properties to eABS but has greater colorability, thermal stability and lower gloss. mABS products can be manufactured to stricter specifications because they are produced in a continuous process as opposed to the batch process used in eABS. mABS also has environmental benefits such as waste reduction and higher yields. In addition to our own mABS production capacity, we have licensed our proprietary mABS technology to other producers. During the fourth quarter of 2017, the Company announced the successful start-up of a MAGNUM™ ABS production line at our manufacturing plant at the Zhangjiagang, China site. This will add additional regional production capabilities to our overall portfolio, meeting customer needs for MAGNUM™ ABS in the Asia Pacific automotive, appliance, electronics, lighting and consumer goods markets.

Primary end uses for our ABS products include automotive and construction sheet applications. We maintain a significant share of ABS sales into these markets, which we believe is due to the differentiating attributes of our mABS products, our reputation as a knowledgeable supplier, our broad product mix and our customer collaboration and design capabilities. In 2017, ABS products represented approximately 19% of total segment net sales.

Styrene-Acrylonitrile. SAN is composed of styrene and acrylonitrile, which together provide clarity, stiffness, enhanced ability to be processed, mechanical strength, barrier properties, chemical resistance and heat resistance. SAN is used mainly in appliances, consumer goods and construction sheets, due to its low-cost, clarity and chemical resistance properties. Within our Basic Plastics segment, we manufacture SAN under the TYRIL™ brand name for use in housewares, appliances, automotive, construction sheets, battery cases and lighting applications. In addition, TYRIL™ is suitable for self-coloring which adds value in many of these uses. In 2017, SAN represented approximately 9% of total segment net sales.

Polycarbonate. PC has high levels of clarity, impact resistance and temperature resistance. PC can be used in its neat form (prior to any compounding or blending) for markets such as construction sheet, optical media and LED lighting. Additionally, PC can be compounded or blended with other polymers, such as ABS, which imparts specific performance attributes tailored to the product's end-use.

Our products for glazing and construction sheets are marketed under the CALIBRE™ brand name and offer customers a combination of clarity, heat resistance and impact performance. Glazing and construction sheet represents our largest PC application, and is a key growth focus for us. Key end-markets include the construction industry, with additional opportunities for growth with compounded products in the medical device market, consumer electronics and other applications such as smart meter casings that require plastics with enhanced weatherability, ignition resistance and impact performance. In 2017, PC represented approximately 12% of total segment net sales.

Competition and Customers

Our principal competitors in our Basic Plastics segment are INEOS Styrolution, Versalis S.p.A., Total S.p.A., Covestro AG, LG Chem Ltd., Elix Polymers, Sinopec Corp., Formosa Chemicals & Fibre Corp., Jiangsu Laidun Baofu Plastifying Co. Ltd., Saudi Basic Industries Corporation, Toray Industries, Inc., and Chi Mei Corporation. In our Basic Plastics segment, we compete primarily based on our ability to offer differentiated and reliable products, the quality of our customer service and the length and depth of our relationships.

Our customer-centric model focuses on understanding customers' needs and developing tailored solutions that create value for both parties. For durable applications, we focus our TS&D, R&D and marketing teams on product design engineering initiatives for developing and specifying plastics in the next generation of construction applications, appliances, automotive, and consumer electronics. In non-durable applications, we focus on innovative products that provide clear cost advantages to our customers, serving customers with our cost-advantaged technology and operating excellence. We have leveraged industry-leading product development and technology capabilities in many of our product lines in this segment to develop long-standing customer relationships with many of our customers, including a number who have purchased from us, including our predecessor business operated by Dow prior to the Acquisition, for more than 20 years. We believe that our global presence is an advantage, allowing us to provide customers with consistent product grades and positioning us to strategically serve growth economies.

We have a leading competitive position in many of the products in our Basic Plastics segment. However, for PC, we have a lower competitive position than those of our peers, which may ultimately impact our ability to implement an effective pricing strategy. The ABS market has also experienced a number of capacity rationalizations since 2006. These rationalizations, combined with improved end-market demand, have resulted in a substantial improvement in operating rates since the most recent global economic downturn. We believe the Company's global footprint make the Basic Plastics segment well-positioned to compete in this market.

Feedstocks Segment

Overview

Our Feedstocks segment is primarily focused on the revenue and profitability related to the Company's production and procurement of styrene monomer outside of North America. The Feedstocks segment supplied 15% of the styrene monomer capacity out of Europe in 2017. In 2018, the Company expects to produce approximately 700 kilotons of styrene in Western Europe and purchase approximately 185 kilotons of styrene in Asia on a raw material cost basis. With all other inputs remaining equal, a $50 per metric ton change in styrene margin over raw materials would be expected to impact our Feedstock reporting segment's annual Adjusted EBITDA by approximately $35 million and $9 million in Europe and Asia, respectively.

Products and End Uses

Styrene monomer is a basic building block of plastics and a key input to many of the Company's products. Styrene monomer is a key raw material for the production of polystyrene, expandable polystyrene, SAN resins, SA latex, SB latex, ABS resins, unsaturated polyethylene resins, and styrene-butadiene rubber.

Competition and Customers

Our principal competitors in our Feedstocks segment are: INEOS Styrolution, Versalis S.p.A., Total S.p.A., BASF SE, Saudi Basic Industries Corporation, LyondellBasell, Repsol S.A., Sinopec Corp., and Royal Dutch Shell plc. The majority of styrene monomer produced within the Feedstocks segment is consumed by the Company in our own manufacturing activities.

Within styrene monomer, we believe there is a current and longer term trend towards higher styrene margins, due to demand growth, an aging industry asset base, and limited new capacity expected over the next several years that will allow the Company to remain competitive. Global styrene operating rates were approximately 86% in 2017 and are forecasted to increase slightly through 2020. These relatively high operating rates can result in periods of elevated margins due to planned or unplanned production outages.

Americas Styrenics Segment

Overview

This segment solely consists of the operations of our 50%-owned joint venture with Chevron Phillips Chemical Company, Americas Styrenics LLC ("Americas Styrenics"), which continues to be a leading producer in North America of both styrene and polystyrene. Specifically, Americas Styrenics is the #1 producer of polystyrene in North America. In 2017, Americas Styrenics supplied 17% of the styrene monomer capacity in North America. Additionally, we received $120.0 million in cash dividends from Americas Styrenics during 2017. We estimate that the contribution to our equity earnings from Americas Styrenics' polystyrene business was approximately 40% in 2017, 51% in 2016, and 55% in 2015. This translates to a contribution from Americas Styrenics' polystyrene business to our Adjusted EBITDA of approximately 8% in 2017, 11% in 2016, and 15% in 2015.

Products and End Uses

Styrene monomer is a basic building block of plastics and a key input to many of the Company's products. Styrene monomer is a key raw material for the production of polystyrene, and in 2017 approximately 58% of the styrene monomer produced by Americas Styrenics is consumed in its own production of polystyrene. The remainder of Americas Styrenics' product is sold as a key raw material to other manufacturers of polystyrene, expandable polystyrene, SB latex, ABS resins, unsaturated polyethylene resins, and styrene-butadiene rubber.

Americas Styrenics also produces GPPS, high heat, high impact resin, and STYRON A-TECH™ polystyrene products. Major applications for these polystyrene products include appliances, food packaging, food service disposables, consumer electronics and building and construction materials.

Competition and Customers

Americas Styrenics' principal competitors are INEOS Styrolution, Total S.p.A. and LyondellBasell. In our Americas Styrenics segment, we compete primarily based on our ability to offer differentiated and reliable products, the quality of our customer service and the length and depth of our relationships.

As a leading styrenics producer in North America, this segment is well-positioned to benefit from the recent consolidation dynamics in the styrene and polystyrene industries within the region. With global utilization rates expected to steadily improve as demand grows in end-markets, we believe opportunities will be created for us, given our scale and geographic reach that will benefit the Americas Styrenics segment. However, like many of competitors in the styrenics market, the aged assets associated with this segment may result in unplanned outages that may adversely impact our service levels and competitive position.

Seasonality

Some of our segments experience seasonality at various times during the year. For example, seasonal changes and weather conditions that typically affect the construction and building materials end markets may result in seasonally lower performance in our Latex Binders and Basic Plastics segments. Likewise, rising demand for consumer electronics for the year-end holiday season typically increases the demand for products within our Performance Plastics segment in the second half of the year. Additionally, certain segments may experience seasonality with respect to local holiday and vacation periods. Our Synthetic Rubber segment, for example, experiences some seasonality with its highest period of demand typically occurring during the first quarter of the year as inventories are built ahead of the summer season. The lowest period of demand normally occurs during the third quarter of the year due to the summer holidays.

Our Relationship with Dow

We have entered into certain agreements with Dow, including the Second Amended and Restated Master Outsourcing Services Agreement, which was modified on June 1, 2013 ("SAR MOSA"), the Amended and Restated MOD5 Computerized Process Control Software, Licenses and Services Agreement, with Rofan Services, Inc. which was modified on June 1, 2013 ("AR MOD5 Agreement"), site and operating services agreements ("SAR SSAs"), and supply agreements.

The SAR MOSA provides for ongoing worldwide services from Dow, in areas such as information technology, enterprise resource planning, finance, environmental health and safety, training, customer service, marketing and sales support, supply chain and certain sourcing and transactional procurement services. This agreement is effective through December 31, 2020, with automatic two year renewals, barring six months' notice of non-renewal provided by either party. Subsequent to June 1, 2015, the Company has the ability to terminate all or a portion of the services under the SAR MOSA, subject to payment of termination charges, noting that certain 'highly integrated' services follow a separate process for evaluation and termination. In addition, either party may terminate for cause, which includes a bankruptcy, liquidation or similar proceeding by the other party, for material breach which is not cured, or by Dow in the event of our failure to pay for the services thereunder. In the event of a change of control, as defined in the agreement, Dow has the right to terminate the SAR MOSA.

We use SAP's Enterprise Resource Planning ("ERP") software systems to support our operations worldwide and to manage our day-to-day business processes and relationships with customers and suppliers. Under the SAR MOSA, Dow provides us with ERP systems support, global data/voice network and server infrastructure for desktop computing, email, file sharing, intranet and internet website access, and mainframe and midrange computer access.

Under the AR MOD5 Agreement, Dow provides worldwide process control technology, including hardware, software licenses and support services, and related enterprise resource planning services. The AR MOD5 Agreement, with a term through December 2020, may be terminated by either party for cause, which includes a bankruptcy, liquidation or similar proceeding by the other party, for material breach which is not cured by us if we no longer wish to receive maintenance and support for any licensed software; or by Dow if we use the licensed software for any purposes other than Company business. Dow may terminate the maintenance and support terms at any time if we fail to make payments when due and the default is not corrected within 30 days from notice, or upon two years written notice us, if Dow has made the decision not to support the software systems, provided that Dow will use commercially reasonable efforts to assist us in locating and transitioning to an alternate service provider. While we are not permitted to use this automation technology for new plants or to substantially expand existing plants, we can use other technology solutions for those situations. We have converted nine of our plants from the AR MOD5 process control technology through a strategic external relationship with ABB Ltd. and expect to convert seven additional plants in 2018, with the remainder of our plants converted by 2020.

In addition, we entered into various site services agreements with Dow to provide site services to the Company at Dow owned sites, which were modified as of June 1, 2013 (the "Amendment Date"). Conversely, we entered into similar agreements with Dow in June 2010, where at Company owned sites, we provide such services to Dow. These SAR SSAs cover general services that are provided at specific facilities co-located with Dow, rather than organization-wide services, and include utilities, site administration, environmental health and safety, site maintenance and supply chain. In certain circumstances, the parties may adjust certain prices and volumes. These agreements generally have 25-year terms from the Amendment Date, with options to renew. These agreements may be terminated at any time by agreement of the parties, or, by either party, for cause, including a bankruptcy, liquidation or similar proceeding by the other party, or under certain circumstances for a material breach which is not cured. In addition, we may terminate for convenience any services that Dow has agreed to provide to us that are identified in any site services agreement as "terminable" with 12 months prior notice to Dow, dependent upon whether the service is highly integrated into Dow operations. Highly integrated services are agreed to be nonterminable. With respect to "nonterminable" services that Dow has agreed to provide to us, such as electricity and steam, we generally cannot terminate such services prior to the termination date unless we experience a production unit shut down for which we provide Dow with 15-months prior notice, or upon payment of a shutdown fee. Upon expiration or termination, we would be obligated to pay a monthly fee to Dow, which obligation extends for a period of 45 (in the case of expiration) to 60 months (in the case of termination) following the respective event of each site services agreement. The agreements under which Dow receives services from us may be terminated under the same circumstances and conditions.

For the years ended December 31, 2017, 2016, and 2015, we incurred a total of $236.4 million, $224.7 million, and $244.8 million in expenses under the SAR MOSA, AR MOD5 Agreement, and site services agreements (which include utilities), including $183.3 million, $174.8 million, and $194.1 million, respectively, for both the variable and fixed cost components of the site services agreements and $53.1 million, $49.9 million, and $50.7 million, respectively, covering all other agreements.

In addition, at the date of the Acquisition, we entered into a contract manufacturing agreement pursuant to which we operate and maintain our SAN facility in Midland, Michigan to produce products for Dow. This agreement has a

25-year term, with automatic renewals for five-year terms unless one party gives notice at least 18 months prior to the end of the period. We may terminate any operational service under the agreement in the event that we experience a production unit shutdown, with 15-months prior notice to Dow. Furthermore, the agreement may be terminated by mutual agreement between the parties, by either party on notice that the other party fails to cure non-performance or if the other party is in material breach of a material obligation under the agreement within certain parameters, or because of either party's insolvency.

We have also entered into certain license agreements pursuant to which we have obtained exclusive licenses to use certain of Dow's intellectual property in connection with the Styron business as it was conducted by Dow and non-exclusive licenses to use certain Dow intellectual property, other than patents, with respect to products outside of the Styron business as it was conducted by Dow prior to the Acquisition, subject to certain limitations. While our license rights are sufficient to allow us to operate our current business, new growth opportunities in latex binders and, to a lesser extent, plastics involving new products may fall outside of our license rights with Dow. Therefore, our ability to develop new products may be adversely impacted by intellectual property rights that have been retained by Dow.

For the years ended December 31, 2017, 2016, and 2015, purchases and other charges from Dow and its affiliated companies (excluding the SAR MOSA, AR MOD5 Agreement, and site services agreements) were approximately $1,120.8 million, $865.7 million, and $999.4 million, respectively. For the years ended December 31, 2017, 2016, and 2015, sales to Dow and its affiliated companies were approximately $235.2 million, $203.5 million, and $227.0 million, respectively.

We continue to leverage Dow's scale and operational capabilities by procuring certain raw materials, utilities, site services, and other information technology and business services from Dow. In connection with the Acquisition, we entered into several agreements with Dow relating to the provision of certain products and services and other operational arrangements. Dow provides significant operating and other services, and certain raw materials used in the production of our products, under agreements that are important to our business. The failure of Dow to perform their obligations, or the termination of these agreements, could adversely affect our operations. Significant capital expenditures would be required to integrate these capabilities into our own operations. See Item 1A—*Risk Factors*.

Sources and Availability of Raw Materials

The prices of our key raw materials are volatile and can fluctuate significantly over time. While the predominant reason for this volatility is the impact of market imbalances in supply and demand from time to time, energy prices may also impact the volatility of some of our raw materials. The table below shows our key raw materials by reporting segment.

	Performance Materials			Basic Plastics & Feedstocks		
	Latex Binders	**Synthetic Rubber**	**Performance Plastics**	**Basic Plastics**	**Feedstocks**	**Americas Styrenics**
Benzene					X	X
Bisphenol A				X		
Butadiene	X	X				
Ethylene					X	X
Polycarbonate			X			
Styrenic resins			X			
Styrene	X	X		X	X	X

We have supply contracts in place to help maintain our supply of raw materials at competitive market prices and seek to implement the most efficient and reliable raw material strategy for each of our segments, including maintaining a balance between contracted and spot purchases of raw materials. We also produce raw materials for use by our businesses, such as styrene monomer.

In 2017, we obtained approximately 31% of our raw materials from Dow (based on aggregate purchase price). While Dow provides a significant portion of our raw materials to us pursuant to supply agreements, we have developed a comprehensive strategy for obtaining additional sources of supply where needed. Our 2010 agreements with Dow for

ethylene, benzene, and butadiene have 10-year terms with automatic 2-year renewal provisions. Minimum and maximum monthly contract quantities were established based on historical consumption rates, and our pricing terms are based on commodity indices in the relevant geography.

In 2017, Dow supplied us with approximately 97% of our benzene requirements and 100% of our ethylene requirements through 10-year contracts that commenced in 2010 and include automatic 2-year renewal provisions. Dow is our largest supplier for these materials in Europe, where we purchase directly from Dow's existing butadiene extraction facilities pursuant to the terms of a 10-year contract that commenced in 2010 and includes an automatic 2-year renewal term. Other supply sources in Europe include major producers with contract terms of up to five years at competitive market prices. Supply to North America and Asia are exclusively from other major third party producers via supply contracts.

In addition to purchasing styrene through long-term strategic contracts and spot market purchases, we produce styrene internally from purchased ethylene and benzene at our own manufacturing sites. These sources provided 42%, 14%, and 44%, respectively, of our supply in 2017. With this mix of purchased and produced styrene, we seek to optimize our overall costs of securing styrene through efficient logistics, manufacturing economics and market dynamics.

BPA is the major raw material associated with PC production. This raw material is produced by a subsidiary of Olin Corporation and is supplied via pipeline to us through a supply contract in Europe that has an initial term expiring in December 2019.

Technology

Our R&D and TS&D activities across our segments focus on identifying needs in our customers' end-markets. As part of our customer-centric model, our R&D/TS&D organization interfaces with our sales and marketing teams and directly with customers to determine their product requirements in light of trends in their industries and market segments. This information is used to select R&D/TS&D projects that are value-enhancing for both our customers and us.

Our R&D facilities support our technological capabilities. In addition to our two SB latex pilot coaters and our product development centers, certain of our businesses operate "mini plants" in Stade and Schkopau, Germany. These mini plants are used to make samples of experimental products for testing, which we believe is a critical step in our new product development process. In addition, in 2017, we opened a new Plastics Research Center, which modernized two existing technical support centers and research lab operations in a single location at our Terneuzen, The Netherlands office location.

R&D and TS&D costs are included in expenses as incurred. Our R&D and TS&D costs were $51.9 million, $51.0 million, and $51.9 million for the years ended December 31, 2017, 2016, and 2015, respectively.

Sales and Marketing

We have a customer-centric business model that has helped us to develop strong relationships with many customers. Our sales and marketing professionals are primarily located at our facilities or at virtual offices within their respective geographies. We have approximately 131 professionals working in sales and marketing around the world, along with approximately 74 customer service professionals and we sell our products to customers in approximately 80 countries. We primarily market our products through our direct sales force. Typically our direct sales are made by our employees in the regions closest to the given customer.

Intellectual Property

We evaluate on a case-by-case basis how best to utilize patents, trademarks, copyrights, trade secrets and other intellectual property in order to protect our products and our critical investments in research and development, manufacturing and marketing. We focus on securing and maintaining patents for certain inventions, while maintaining other inventions as trade secrets, derived from our customer-centric business model, in an effort to maximize the value of our product portfolio and manufacturing capabilities. Our policy is to seek appropriate protection for significant product and process developments in the major markets where the relevant products are manufactured or sold. Patents may cover products, processes, intermediate products and product uses. Patents extend for varying periods in accordance with the date of patent application filing and the legal life of patents in the various countries. The protection afforded, which may also vary from country to country, depends upon the type of subject matter covered by the patent and the scope of the claims of the patent.

In most industrial countries, patent protection may be available for new substances and formulations, as well as for unique applications and production processes. However, given the geographical scope of our business and our continued growth strategy, there are regions of the world in which we do business or may do business in the future where intellectual property protection may be limited and difficult to enforce. We maintain strict information security policies and procedures wherever we do business. These information security policies and procedures include data encryption, controls over the disclosure and safekeeping of confidential information, as well as employee awareness training. Moreover, we monitor our competitors' products and, if circumstances were to dictate that we do so, we would vigorously challenge the actions of others that conflict with our patents, trademarks and other intellectual property rights.

The technologies we utilize in some of our business lines have been in use for many years (e.g., SB latex and ABS) and a number of our patents relating to such technologies have expired or will expire in within the next several years. As patents expire, or are allowed to lapse, the products and processes described and claimed in those patents become generally available for use by the public. We believe that the expiration of any single patent or family of patents that is scheduled to expire in the next 3 years would not materially adversely affect our business or financial results. We believe that our trade secrets relating to manufacturing and other processes used in connection with products to which expiring patents relate will continue to provide us with a competitive advantage after the expiration of these patents.

We use trademarks as a means of differentiating our products. We protect our trademarks against infringement where we deem appropriate. We have successfully registered the TRINSEO™ trademark in over 90 countries and have other trademark applications pending.

Dow has either transferred to us or granted perpetual, royalty-free licenses to us to use Dow's intellectual property that was used by Dow to operate the Styron business prior to the Acquisition. This intellectual property includes certain processes, compositions and apparatus used in the manufacture of our products. In addition to our license rights to use Dow's intellectual property related to the Styron business, we have obtained licenses to use Dow's intellectual property to the extent necessary to perform our obligations under the contracts transferred to us in the Acquisition and to use such intellectual property (other than patents) for products outside of the Styron business as it was conducted by Dow prior to the Acquisition, subject to certain limitations. While we believe our license rights with respect to Dow's intellectual property are sufficient to allow us to operate our current business, new growth opportunities in latex binders, and to a lesser extent plastics, involving new products may fall outside of our license rights with Dow. Therefore, our ability to develop new products may be impacted by intellectual property rights that have not been licensed to us by Dow. We have the right, with Dow's cooperation, to directly enforce the patents that are exclusively licensed to us by Dow where infringement is primarily within the scope of our business; but nothing obligates Dow to enforce against third parties the intellectual property rights of Dow that are licensed to us on a non-exclusive basis or where the infringement is primarily outside the scope of our business.

Since our formation on June 17, 2010, we have focused our product innovation on our segments within the Performance Materials division, including Synthetic Rubber, Latex Binders and Performance Plastics. The intellectual property that we have created or acquired since the Acquisition is largely in these segments and covers areas such as material formulations, material process technologies and various end-use industrial applications.

Environmental, Health, Safety and Product Stewardship

Obtaining, producing and distributing many of our products involve the use, storage, transportation and disposal of toxic and hazardous materials. We are subject to extensive, evolving and increasingly stringent national and local environmental and safety laws and regulations, which address, among other things, the following:

- emissions to the air;
- discharges to soils and surface and subsurface waters;
- other releases into the environment;
- prevention, remediation or abatement of releases of hazardous materials into the indoor or outdoor environment;
- generation, handling, storage, transportation, treatment and disposal of waste materials;
- climate change impacts;
- process and maintenance of safe conditions in the workplace;
- registration and evaluation of chemicals;
- production, handling, labeling or use of chemicals used or produced by us; and
- stewardship of products after manufacture.

We monitor compliance with applicable state, national, and international environmental, health and safety requirements and maintain policies and procedures to monitor and control environmental, health and safety risks, which may in some circumstances exceed the requirements imposed by applicable law. We have a strong environmental, health and safety organization with a staff of professionals who are responsible for environmental, health, safety and product regulatory compliance and stewardship in addition to the standards, tools and services purchased from Dow. We supplement our programs and Dow's services with our participation in trade associations which monitor developments in legislation impacting our businesses. Additionally, our Supplier Code of Conduct includes our expectations for our suppliers to comply with applicable laws and regulations and encourages them to adhere to the highest principles of environmental responsibility.

We follow the American Chemistry Council Responsible Care® Guiding Principles for our global facilities and products and last received third party certification of our Responsible Care® Management System in September 2016. Many of our facilities have been certified to ISO 14001 and other ISO management systems. We have a mature corporate environmental, health and safety audit program for all of our facilities. We focus on emergency preparedness and crisis planning and drills, at both the facility and corporate level. We expect that stringent environmental regulations will continue to be imposed on us and our industry in general.

Sustainability and Climate Change

We recognize that climate change has had and will continue to have significant impacts on our environment, particularly as it relates to extreme weather conditions, rising sea levels, and regulations limiting the emission of greenhouse gases. In some jurisdictions, like Germany, we comply with extensive regulations required as a result of nationwide or local greenhouse gas targets and resource conservation requirements.

We track and publicly report our greenhouse gas emissions, water usage, and energy consumptions and our facilities work to improve our performance at reducing chemical emissions, water usage and energy consumption. Our Sustainability and Corporate Social Responsibility Report, which is available on our website, provides our most recent sustainability highlights for our products, performance and operations. The report also profiles how our products help our customers improve their own sustainability in areas such as LED lighting, green tires, building insulation, smart meters, life-saving medical devices, and lighter weight vehicles.

In recognition of the importance of sustainability, climate change and corporate social responsibility, we have established a multidisciplinary Sustainability Council, made up of a cross-functional group of Company leaders focused on sustainability, including the benefits and risks related to climate change and our corporate social responsibility programs. We do not expect the costs to comply with legislation enacted as a result of climate change and other sustainability efforts will be material to our operations and consolidated financial position.

Chemical Registration and Regulation

We are also subject to a growing number of chemical control requirements globally, including the U.S. Toxic Substances Control Act ("TSCA"), which was recently amended, and requires companies to provide more information to the EPA as part of the EPA's increased responsibilities regarding the assessment of chemical risks so that unreasonable risks can be mitigated. Registration, Evaluation, and Authorization of Chemicals ("REACH"), the regulatory system for chemical management in the EU, requires EU manufacturers and importers to disclose information on the properties of their substances that meet certain volume or toxicological criteria and register the information in a central database to be maintained by the European Chemicals Agency. Other jurisdictions have enacted legislation similar to REACH, including China, Japan and Korea.

Some of our products are also subject to food contact regulations or are used in the production of medical devices, for which our customers are regulated. We actively monitor the progress of these and other legislative developments. We also maintain policies and programs to restrict the application of certain products in areas that could present safety or litigation risks, including a business risk review process to review new applications.

We also monitor the scientific and legislative dialogue around the safety of BPA, a feedstock material for PC. While this dialogue has taken place for a number of years, recently, it has focused on a concern by regulators and others that low levels of BPA could be released from plastics and impact human health and the environment. The European Chemicals Agency ("ECHA") is now regulating the use of BPA under REACH. However, we have not seen a material impact on our products or manufacturing operations as a result. Additionally, we have not been significantly impacted by BPA's appearance on the State of California's Proposition 65 list because our products contain concentrations less than the Maximum Allowable Dose Levels, and therefore are not subject to the warning requirements of this regulation. After releasing for public comment a new comprehensive study in February 2018 which addressed the potential for health effects from long-term, low dose exposure to BPA, the U.S. Food and Drug Administration reaffirmed that BPA is safe at the current levels occurring in food for food contact applications. This study will now be available to inform the European Food Safety Authority ("EFSA"), which has been tasked by ECHA with reevaluating the toxicity of BPA.

We do not expect that the costs to comply with chemical control requirements will be material to our operations and consolidated financial position.

Environmental Remediation

Environmental laws and regulations require mitigation or remediation of the effects of the disposal or release of chemical substances. Under some of these regulations, as the current owner or operator of a property, we could be held liable for the costs of removal or remediation of hazardous substances on or under the property, without regard to whether we knew of or caused the contamination, and regardless of whether the practices that resulted in the contamination were permitted at the time they occurred. At our Allyn's Point, Connecticut property we lease a portion of the property to our joint venture, Americas Styrenics, for its operations, which includes a regulated hazardous waste boiler. Potential liabilities resulting from our owner status are addressed through financial assurance mechanisms and other agreements. Many of our production sites have an extended history of industrial use, and it is impossible to predict precisely what effect these laws and regulations will have on us in the future. Soil and groundwater contamination has occurred at some of the sites, and might occur or be discovered at other sites. Subject to certain monetary and temporal limitations, Dow is obligated to indemnify and hold us harmless with respect to releases of hazardous material that existed at our sites prior to our separation from Dow in June 2010. However, we cannot be certain that Dow will fully honor the indemnity or that the indemnity will be sufficient to satisfy all claims that we may incur. In addition, we face the risk that future claims might fall outside of the scope of the indemnity, particularly if we experience a release of hazardous materials that occurs in the future or at any time after our separation from Dow. Except for minor monitoring activities that we are performing in Livorno, Italy pursuant to an agreement with Dow, we do not currently have any material obligations to perform environmental remediation on our properties, and any active remedial projects on our properties are being performed by Dow pursuant to its indemnification obligations or for any Superfund sites. We conduct comprehensive environmental due diligence for potential acquisitions to mitigate the risk of assuming obligations to conduct material levels of environmental remediation.

Security

We recognize the importance of security and safety to our employees and the community. Physical security measures have been combined with process safety measures (including the use of technology), and emergency response preparedness into integrated security plans. We have conducted vulnerability assessments at our operating facilities in the U.S. and high priority sites worldwide and identified and implemented appropriate measures to protect these facilities from physical and cyber-attacks. Effort and resources in assessing security vulnerabilities and taking steps to reinforce security at our manufacturing facilities will continue to be required to comply with U.S. Department of Homeland Security ("DHS") and other requirements.

We use Dow's information security program and systems and have expanded our own information security resources, policies, programs and preparedness to respond to potential information security breaches and to maintain compliance with the increasing amount of data privacy laws and regulation.

Employees

As of December 31, 2017, we had 2,214 employees worldwide. Nearly 78% of our personnel are located at the various manufacturing sites, research and development, pilot coating, paper fabrication and testing and technology centers. The remaining employees are located at operating centers, virtual locations or geographically dispersed marketing and sales locations. Our Midland, Michigan site is the only U.S. facility with union representation for its 52 hourly operations personnel, and employees at certain of our locations are represented by work councils. We consider relations with our personnel and the various labor organizations to be good. There have been no labor strikes or work stoppages in these locations in recent history.

Available Information

Our annual reports on Form 10-K, quarterly reports on Form 10-Q and current reports on Form 8-K, and amendments to those reports filed or furnished pursuant to Section 13(a) or 15(d) of the Securities Exchange Act of 1934, are available free of charge through the Investor Relations section of our website, www.trinseo.com, as soon as reasonably practicable after the reports are electronically filed or furnished with the U.S. Securities and Exchange Commission. We provide this website and the information contained in or connected to it for informational purposes only. That information is not part of this Annual Report.

Item 1A. *Risk Factors*

Risks Related to Our Business

Volatility in energy and the cost of the raw materials utilized for our products, or disruption in the supply of the raw materials utilized for our products, may adversely affect our financial condition and results of operations or cause our financial results to differ materially from our forecasts.

Our results of operations can be directly affected, positively and negatively, by volatility in the cost of our raw materials, which are subject to global supply and demand and other factors beyond our control. Our principal raw materials (benzene, ethylene, butadiene, BPA and styrene) together represent approximately 65% of our total cost of goods sold. Additionally, we use natural gas and electricity to operate our facilities and generate heat and steam for our various manufacturing processes. Crude oil prices also impact our raw material and energy costs. Generally, higher crude oil prices lead to higher costs of natural gas and raw materials, although some raw materials are impacted less than others. Volatility in the cost of energy or raw materials makes it more challenging to manage pricing and pass the increases on to our customers in a timely manner. We believe that rapid changes in pricing also can affect the volume our customers consume. As a result, our gross profit and margins could also be adversely affected and our financial results may differ materially from our forecasts.

We have long-term supply agreements with Dow for ethylene, benzene, and butadiene, which are critical raw materials to our business and expire in June 2020. These raw materials and other less critical materials amount to approximately 31% of our raw materials (based on aggregate purchase price). The remainder is purchased via other third-party suppliers on a global basis. As our Dow contracts and other third-party contracts expire, we may be unable to renew these contracts or obtain new long-term supply agreements on terms comparable or favorable to us, depending on market conditions, which may significantly impact our operations. See Item 1—*Business— Sources and Availability of Raw Materials*.

If the availability of any of our principal raw materials is limited, we may be unable to produce some of our products in the quantities demanded by our customers, which could have an adverse effect on plant utilization and our sales of products requiring such raw materials. Suppliers may have temporary limitations preventing them from meeting our requirements, and we may not be able to obtain substitute alternative suppliers in a timely manner or on favorable terms.

Conditions in the global economy and capital markets may adversely affect our results of operations, financial condition and cash flows.

Our products are sold in markets that are sensitive to changes in general economic conditions, such as sales of automotive and construction products. Downturns in general economic conditions can cause fluctuations in demand for our products, product prices, volumes and margins.

Turbulence in the credit markets, fluctuating commodity prices, volatile exchange rates and other challenges affecting the global economy can affect us and our customers. Instability in financial and commodity markets throughout the world may cause, among other things, severely diminished liquidity and credit availability, rating downgrades of certain investments and declining valuations and pricing volatility of others, volatile energy and raw materials costs, geopolitical issues and failure and the potential failure of major financial institutions. Adverse events affecting the health of the economy, including sovereign debt and economic crises, refugee crises, terrorism, Brexit, rising protectionism, and the threat of war, could have a negative impact on the health of the global economy. These developments, or the perception that any of them could occur, may have a material adverse effect on global economic conditions or on the stability of global financial markets. During any period of uncertainty or heightened market volatility, consumer confidence may decline which could lead to a decline in demand for our products or a shift to lower-margin products, which could adversely affect sales of our products and our profitability and could also result in impairments of certain of our assets.

Deterioration in the financial and credit market heightens the risk of customer bankruptcies and delay in payment. We are unable to predict the duration of the current economic conditions or their effects on financial markets, our business and results of operations. If economic conditions deteriorate, our results of operations, financial condition and cash flows could be materially adversely affected.

We may engage in strategic acquisitions or dispositions of certain assets and/or businesses that could affect our business, results of operations, financial condition and liquidity.

We may selectively pursue complementary acquisitions and joint ventures, each of which inherently involves a number of risks and presents financial, managerial and operational challenges, including, but not limited to:

- potential disruption of our ongoing business and distraction of management;
- difficulty with integration of personnel and financial and other systems;
- hiring additional management and other critical personnel; and
- increasing the scope, geographic diversity and complexity of our operations.

In addition, we may encounter unforeseen obstacles or costs in the integration of acquired businesses. Also, the presence of one or more material liabilities of an acquired company that are unknown to us at the time of acquisition may have a material adverse effect on our business or financial results. Our acquisition and joint venture strategy may not be successfully received by customers, and we may not realize any anticipated benefits from acquisitions or joint ventures.

We may also opportunistically pursue dispositions of certain assets and/or businesses, which may involve material amounts of assets or lines of business, and adversely affect our results of operations, financial condition and liquidity. If any such dispositions were to occur, under the terms of the Credit Agreement governing our Senior Credit Facility and the Indenture, we may be required to apply the proceeds of the sale to repay any borrowings under our Senior Credit Facility or our 2025 Senior Notes. Dispositions may also involve continued financial involvement in the divested business, such as through continuing equity ownership, transition service agreements, guarantees, indemnities or other

current or contingent financial obligations. Under these arrangements, performance by the divested businesses or other conditions outside our control could affect our future financial results.

Capital projects may have lengthy deadlines during which market conditions may deteriorate between the capital expenditure's approval date and the conclusion of the project, negatively impacting projected returns. If we are unable to execute on our capital projects within their expected budget and timelines, or if the market conditions assumed in our projections deteriorate, our business, financial condition, results of operations and cash flows could be materially and adversely affected.

Delays or cost increases related to capital spending programs involving engineering, procurement and construction of facilities or manufacturing lines could materially adversely affect our ability to achieve forecasted operating results. Project delays or budget overages may arise as a result of unpredictable events, which may be beyond our control, including, but not limited to:

- denial of or delay in receiving requisite regulatory approvals, licenses and/or permits;
- unanticipated increases in the cost of construction materials, labor, or utilities;
- disruptions in transportation of components or construction materials;
- adverse weather conditions or natural disasters, equipment malfunctions, explosions, fires or spills affecting our facilities, or those of vendors or suppliers;
- shortages of sufficiently skilled labor, or labor disagreements resulting in unplanned work stoppages; or
- non-performance by, or disputes with, vendors, partners, suppliers, contractors or subcontractors.

Furthermore, presumed demand for the technologies or products provided by the manufacturing facilities or lines being constructed may deteriorate during the project period. If we were unable to stay within a project's overall timeline or budget, or if market conditions change, it could materially and adversely affect our business, financial condition, results of operations and cash flows.

Production at our manufacturing facilities could be disrupted for a variety of reasons. Disruptions could expose us to significant losses or liabilities.

The hazards and risks of disruption associated with chemical manufacturing and the related storage and transportation of raw materials, products and wastes exist in our operations and the operations of other occupants with whom we share manufacturing sites. These potential risks of disruption include, but are not necessarily limited to:

- pipeline and storage tank leaks and ruptures;
- explosions and fires;
- inclement or unusual weather and natural disasters, which may be aggravated by climate change;
- terrorist attacks;
- failure of mechanical, process safety and pollution control equipment;
- failures or delays in properly implementing new technologies and processes;
- chemical spills and other discharge or releases of toxic or hazardous substances or gases; and
- exposure to toxic chemicals.

These hazards could expose employees, customers, the community and others to toxic chemicals and other hazards, contaminate the environment, damage property, result in personal injury or death, lead to an interruption or suspension of operations, damage our reputation and adversely affect the productivity and profitability of a particular manufacturing facility or us as a whole, and result in the need for remediation, governmental enforcement, regulatory shutdowns, the imposition of government fines and penalties, and claims brought by governmental entities or third parties. Legal claims and regulatory actions could subject us to both civil and criminal penalties, which could affect our product sales, reputation and profitability. Furthermore, the environmental, health and safety compliance, management systems, and emergency response and crisis management plans we have in place may not address or foresee all potential risks or causes of disruption.

If disruptions occur, alternative facilities with sufficient capacity or capabilities may not be available, may cost substantially more or may take a significant time to start production. Each of these scenarios could negatively affect our business and financial performance. If one of our key manufacturing facilities is unable to produce our products for an extended period of time, our sales may be reduced by the shortfall caused by the disruption and we may not be able to meet our customers' needs, which could cause them to seek other suppliers. Furthermore, to the extent a production disruption occurs at a manufacturing facility that has been operating at or near full capacity, the resulting shortage of our product could be particularly harmful because production at the manufacturing facility may not be able to reach levels achieved prior to the disruption. Our insurance policies may not fully insure against all potential causes of disruption due to limitations and exclusions in those policies. Therefore, incidents that significantly disrupt our operations may expose us to significant losses and/or liabilities.

We are subject to customs, international trade, export control, and antitrust laws that could require us to modify our current business practices and incur increased costs.

We are subject to numerous regulations, including customs and international trade laws, export/import control laws, and associated regulations. These laws and regulations limit the countries in which we can do business; the persons or entities with whom we can do business; the products which we can buy or sell; and the terms under which we can do business, including anti-dumping restrictions. In addition, we are subject to antitrust laws and zoning and occupancy laws that regulate manufacturers generally and/or govern the importation, promotion and sale of our products, the operation of factories and warehouse facilities and our relationship with our customers, suppliers and competitors. If any of these laws or regulations were to change or were violated by our management, employees, suppliers, buying agents or trading companies, the costs of certain goods could increase, or we could experience delays in shipments of our goods, be subject to fines or penalties, or suffer reputational harm, which could reduce demand for our products and hurt our business and negatively impact results of operations. In addition, in some areas we benefit from certain trade protections, including anti-dumping protection and the EU's Authorized Economic Operator program, which provides expedited customs treatment for materials crossing national borders. If we were to lose these protections, our results of operations could be adversely affected.

Dow provides significant operating and other services, and certain raw materials used in the production of our products, under agreements that are important to our business. The failure of Dow to perform its obligations, or the termination of these agreements, could adversely affect our operations.

Prior to our inception, we were operated by Dow, which has provided and continues to provide services under certain agreements that are important to our business. We are a party to:

- The SAR MOSA, an outsourcing service agreement pursuant to which Dow provides certain administrative and business services to us for our operations;
- The AR MOD5 agreement, an outsourcing service agreement pursuant to which Dow provides worldwide process control technology and related enterprise resource planning services;
- supply and sales agreements pursuant to which Dow, among other things, provides us with raw materials, including ethylene, benzene, and butadiene; and
- an operating services agreement pursuant to which Dow will operate and maintain certain of our facilities at Rheinmunster, Germany as well as employ and provide almost all of the staff for this facility.

Under the terms of the above agreements, either party is permitted to terminate the applicable agreement in a variety of situations, including in the event of the other party's uncured material breach, insolvency, change of control or cessation of operations. Should Dow fail to provide these services or raw materials, or should any of the above agreements be terminated, we would be forced to obtain these services and raw materials from third parties or provide them ourselves. Additionally, if Dow terminates agreements pursuant to which we are obligated to provide certain services, we may lose the fees received by us under these agreements. The failure of Dow to perform its obligations under, or the termination of, any of these contracts could adversely affect our operations and, depending on market conditions at the time of any such termination, we may not be able to enter into substitute arrangements in a timely manner, or on terms as favorable to us. For more information regarding our relationship with Dow, please see Item 1—*Business — Our Relationship with Dow*.

Joint ventures may not operate according to their business plans if we or our partners fail to fulfill our or their obligations, or differences in views among our joint venture partners result in delayed decisions, which may

adversely affect our results of operations and may force us to dedicate additional resources to these joint ventures.

For the year ended December 31, 2017, we received dividends of $120.0 million from our Americas Styrenics joint venture. We may enter into additional joint ventures in the future. The nature of a joint venture requires us to share control with unaffiliated third parties. If joint venture partners do not fulfill their obligations, the affected joint venture may not be able to operate according to its business plan. In that case, our results of operations may be adversely affected and we may be required to increase the level of our commitment to the joint venture. Differences in views among joint venture participants and our inability to unilaterally implement sales and production strategies or determine cash distributions from joint ventures may significantly impact short-term and longer term financial results, financial condition and the value of our ordinary shares.

Our current and future level of indebtedness of our subsidiaries could adversely affect our financial condition.

As of December 31, 2017, our indebtedness totaled approximately $1.2 billion. Additionally, as of December 31, 2017, the Company had $360.2 million (net of $14.8 million outstanding letters of credit) of funds available for borrowings under our 2022 Revolving Facility, as well as $122.1 million of funds available for borrowings under our Accounts Receivable Securitization Facility. Our level of indebtedness could have important consequences, including, but not limited to:

- increasing our vulnerability to economic downturns and adverse industry conditions;
- compromising our flexibility to capitalize on business opportunities and to react to competitive pressures, as compared to our competitors;
- placing us at a disadvantage compared to other, less leveraged competitors or competitors with comparable debt at more favorable interest rates; and
- increasing our cost of borrowing.

Although the Senior Credit Facility and the Indenture governing our 2025 Senior Notes contain restrictions on the incurrence of additional indebtedness, these restrictions are subject to a number of qualifications and exceptions and the indebtedness incurred in compliance with these restrictions could be substantial. Also, we are not prevented from incurring obligations that do not constitute "indebtedness" as defined in the Senior Credit Facility or the Indenture, such as operating leases and trade payables. If new debt is added to our subsidiaries' current debt levels, the risks related to indebtedness that we now face could intensify.

In addition, a substantial portion of our subsidiaries' current indebtedness is secured by substantially all of our assets, which may make it more difficult to secure additional borrowings at reasonable costs. If we default or declare bankruptcy, after these obligations are met, there may not be sufficient funds or assets to satisfy our subordinate interests, including those of our shareholders. For more information regarding our indebtedness, please see Item 7—*Management's Discussion and Analysis of Financial Conditions and Results of Operations— Capital Resources, Indebtedness and Liquidity.*

The terms of our subsidiaries' indebtedness may restrict our current and future operations, particularly our ability to respond to change or to take certain actions.

The Indenture and the Credit Agreement governing the Borrowers' Senior Credit Facility contain a number of covenants imposing certain restrictions on our subsidiaries' businesses. These restrictions may affect our ability to operate our business and may limit our ability to take advantage of business opportunities. These agreements restrict, among other things, our subsidiaries' ability to:

- sell assets;
- incur additional indebtedness;
- pay dividends to Trinseo S.A.;
- make investments or acquisitions;
- incur liens;
- repurchase or redeem capital stock;
- engage in mergers or consolidations;
- materially alter the business they conduct;

- engage in transactions with affiliates; and
- consolidate, merge or transfer all or substantially all of their assets.

The ability of our subsidiaries to comply with the covenants and financial ratios and tests contained in the Indenture and Credit Agreement, to pay interest on indebtedness, fund working capital, and make anticipated capital expenditures depends on our future performance, which is subject to general economic conditions and other factors, some of which are beyond our control. There can be no assurance that our business will generate sufficient cash flow from operations or that future borrowings will be available under our Senior Credit Facility to fund liquidity needs in an amount sufficient to enable them to service their indebtedness. Furthermore, if we need additional capital for general corporate purposes or to execute on an expansion strategy, there can be no assurance that this capital will be available on satisfactory terms or at all.

A failure to repay amounts owed under the Senior Credit Facility or 2025 Senior Notes at maturity would result in a default. In addition, a breach of any of the covenants in the Senior Credit Facility or Indenture governing our 2025 Senior Notes or our inability to comply with the required financial ratios or limits could result in a default. If a default occurs, lenders may refuse to lend us additional funds and the lenders or noteholders could declare all of the debt and any accrued interest and fees immediately due and payable. A default under one of our subsidiaries' debt agreements may trigger a cross-default under our other debt agreements. For more information regarding our indebtedness, please see Item 7—*Management's Discussion and Analysis of Financial Conditions and Results of Operations— Capital Resources, Indebtedness and Liquidity.*

We may be subject to losses due to liabilities or lawsuits related to contaminated land we own or operate or arising out of environmental damage or personal injuries associated with exposure to chemicals or the release of chemicals.

Under the Comprehensive Environmental Response, Compensation and Liability Act, or CERCLA and similar statutes outside the U.S., the current or former owner or operator of a property contaminated by hazardous substance releases is subject to strict, unlimited, joint, several and retroactive liability for the investigation and remediation of the property, and also may be liable for natural resource damages associated with the releases. We also face the risk that individuals could seek damages for personal injury due to exposure to chemicals at our facilities, chemicals which have been released from our facilities, chemicals otherwise owned or controlled by us, or chemicals which allegedly migrated from products containing our materials. We may be subject to claims with respect to workplace exposure, workers' compensation and other health and safety matters. Legal claims and regulatory actions could subject us to both civil and criminal penalties, which could affect our reputation as well as our results of operations, financial condition, and liquidity.

There are several properties which we now own on which Dow has been conducting remediation to address historical contamination. Those properties include Allyn's Point, Connecticut; Dalton, Georgia; and Livorno, Italy. There are other properties with historical contamination that are owned by Dow that we lease for our operations, including our facility in Midland, Michigan. While we did not assume the liabilities associated with these properties in the U.S., because CERCLA and similar laws can impose liability for contamination on the current owner or operator of a property, even if it did not create the contamination, there is a possibility that a governmental authority or private party could seek to include us in an action or claim for remediation or damages, even though the contamination may have occurred prior to our ownership or occupancy. While Dow has agreed to indemnify us for liability for releases of hazardous materials that occurred prior to our separation from Dow, the indemnity is subject to monetary and temporal limitations, and we cannot be certain that Dow will fully honor the indemnity or that the indemnity will be sufficient to satisfy all claims that we may incur. In addition, we face the risk that future claims might fall partially or fully outside of the scope of the indemnity, particularly if there is a release of hazardous materials that occurs in the future or at any time after our separation from Dow or if the condition requiring remediation is attributable to a combination of events or operations occurring prior to and after our separation from Dow.

We are party to certain license agreements with Dow relating to intellectual property that is essential to our business. Because of this relationship, we may have limited ability to expand our use of certain intellectual property beyond the field of the license or to police infringement that may be harmful to our business.

In connection with the Acquisition, we acquired ownership of, or in some cases, a worldwide right and license to use, certain patents, patent applications and other intellectual property of Dow that were used by Dow to operate our

business segments or held by Dow primarily for the benefit of our business segments, prior to the Acquisition. Generally, we acquired ownership of the intellectual property that was primarily used in our business segments and acquired a license to a more limited set of intellectual property that had broader application within Dow beyond our core business segments. Our license from Dow is perpetual, irrevocable, fully paid, and royalty-free. Furthermore, our license from Dow is exclusive within our business segments for certain patents and patent applications that were used by Dow primarily in the Styron business prior to the Acquisition, subject to licenses previously granted by Dow, and to certain retained rights of Dow, including Dow's retained right to use patents and patent applications outside of our business segments and for internal consumption by Dow. Our license from Dow relates to polymeric compositions, manufacturing processes and end applications for the polymeric compositions; and is limited to use in defined areas corresponding to our current business segments excluding certain products and end-use application technology retained by Dow. Our ability to develop, manufacture or sell products and technology outside of these defined areas may be impeded by the intellectual property rights that have been retained by Dow, which could adversely affect our business, financial condition and results of operations. Additionally, infringement on these intellectual property rights could also impact our business and competitive position. We may not be able to enforce our rights, and Dow may be unwilling to enforce its rights, with respect to this intellectual property that has been licensed by Dow.

Regulatory and statutory changes applicable to our raw materials and products and our customers' products could require material expenditures, changes in our operations and could adversely affect our financial condition and results of operations.

Changes in environmental, health and safety regulations, in jurisdictions where we manufacture and sell our products, could lead to a decrease in demand for our products. In addition to changes in regulations, health and safety concerns could increase the costs incurred by our customers to use our products and otherwise limit the use of these products, which could lead to decreased demand for these products. Such a decrease in demand likely would have an adverse effect on our business and results of operations. Materials such as acrylonitrile, ethylbenzene, styrene, butadiene, BPA and halogenated flame retardant are used in the manufacturing of our products and have come under scrutiny due to potentially significant or perceived health and safety concerns.

Additionally, these regulatory regimes currently require significant compliance expenditures by us, and changes applicable to our raw materials and products or our customers' products could require significant additional expenditures by us, or changes in our operations.

Our products are also used in a variety of end-uses that have specific regulatory requirements such as those relating to products that have contact with food or medical device end-uses. Our customers or distributors may not follow our policies and advice regarding the safe use and application of our products, which may unknowingly expose us to third-party claims. We and many of the applications for the products in the end markets in which we sell our products are regulated by various national and local rules, laws and regulations, such as the TSCA. Changes in regulations could result in additional compliance costs, seizures, confiscations, recall or monetary fines, any of which could prevent or inhibit the development, distribution and sale of our products. Changes in environmental and safety laws and regulations banning or restricting the use of these residual materials in our products, or our customers' products, could adversely affect our results of operations and financial condition. Failure to appropriately manage safety, human health, product liability and environmental risks associated with our products, product life cycles and production processes could adversely impact employees, communities, stakeholders, our reputation and the results of our operations.

Compliance with extensive and evolving environmental, health and safety laws may require substantial expenditures.

We use large quantities of hazardous substances, generate hazardous wastes and emit wastewater and air pollutants in our manufacturing operations. Consequently, our operations are subject to extensive environmental, health and safety laws and regulations at both the national and local level in multiple jurisdictions. Many of these laws and regulations have become more stringent over time and the costs of compliance with these requirements may increase, including costs associated with any capital investments for pollution control facilities. In addition, our production facilities and operations require operating permits, licenses or other approvals that may be subject to periodic renewal and, in circumstances of noncompliance, may be subject to revocation. The necessary licenses, permits or other approvals may not be issued or continue in effect, and any issued licenses, permits or approvals may contain more stringent limitations that restrict our operations or that require further expenditures to meet the permit requirements.

This continuing focus on climate change in jurisdictions in which we operate could result in new, potentially diverging or inconsistent, environmental regulations that may negatively affect us. This could cause us to incur additional costs in complying with any new regulations, which may adversely impact our operations and financial condition. Compliance with more stringent environmental requirements would likely increase our costs of transportation and storage of raw materials and finished products, as well as the costs of storage and disposal of wastes. Additionally, we may incur substantial costs, including penalties, fines, damages, criminal or civil sanctions and remediation costs for the failure to comply with these laws or permit requirements.

Fluctuations in currency exchange rates may significantly impact our results of operations and may significantly affect the comparability of our results between financial periods.

Our operations are conducted by subsidiaries in many countries. The results of the operations and the financial position of these subsidiaries are reported in the relevant foreign currencies and then translated into U.S. dollars at the applicable exchange rates for inclusion in our consolidated financial statements. The main currency to which we are exposed is the euro, noting that approximately 60% of our net sales were generated in Europe for the year ended December 31, 2017. To a lesser degree, we are also exposed to other currencies, including the Chinese yuan, Swiss franc, and Indonesian rupiah. The exchange rates between these currencies and the U.S. dollar in recent years have fluctuated significantly and may continue to do so in the future. A depreciation of these currencies against the U.S. dollar, in particular the euro, will decrease the U.S. dollar equivalent of the amounts derived from these operations reported in our consolidated financial statements and an appreciation of these currencies will result in a corresponding increase in such amounts. Because some of our raw material costs are procured in U.S. dollars rather than on these currencies, depreciation of these currencies may have an adverse effect on our profit margins or our reported results of operations. Conversely, to the extent that we are required to pay for goods or services in foreign currencies, the appreciation of such currencies against the U.S. dollar will tend to negatively impact our results of operations. In addition, currency fluctuations may affect the comparability of our results of operations between financial periods.

We incur currency translation risk whenever we enter into either a purchase or sale transaction using a currency other than the local currency of the transacting entity. From time to time, we enter into foreign exchange forward contracts to hedge fluctuations associated with certain monetary assets and liabilities, primarily accounts receivable, accounts payable and certain intercompany obligations. However, attempts to hedge against foreign currency fluctuation risk may be unsuccessful and result in an adverse impact to our operating results. Given the volatility of exchange rates, there can be no assurance that we will be able to effectively manage our currency translation risks or that any volatility in currency exchange rates will not have a material adverse effect on our financial condition or results of operations.

If we are not able to continue the technological innovation and successful commercial introduction of new products, our customers may turn to other producers to meet their requirements.

Our industry and the end markets into which we sell our products experience periodic technological changes and ongoing product improvements. Our customers may introduce new generations of their own products or require new technological and increased performance specifications that would require us to develop customized products. Innovation or other changes in our customers' product performance requirements may also adversely affect the demand for our products. Our future growth will depend on our ability to gauge the direction of the commercial and technological progress in all key end markets, and upon our ability to successfully develop, manufacture and market products in such changing end markets. We need to continue to identify, develop and market innovative products on a timely basis to replace existing products in order to maintain our profit margins and our competitive position. We may not be successful in developing new products and technology that successfully compete with these materials, and our customers may not accept any of our new products. If we fail to keep pace with evolving technological innovations or fail to modify our products in response to our customers' needs, then our business, financial condition and results of operations could be adversely affected as a result of reduced sales of our products.

As a global business, we are exposed to local business risks in different countries, which could have a material adverse effect on our financial condition or results of operations.

We have significant operations worldwide, including manufacturing facilities, R&D facilities, sales personnel and customer support operations. As of December 31, 2017, we operated, or others operated on our behalf, 30 manufacturing plants (which include a total of 75 production units) at 23 sites around the world, including in Colombia, Germany, The

Netherlands, Belgium, Finland, Sweden, Italy, China, South Korea, Indonesia, Taiwan, and the United States. Our international operations are subject to risks inherent in doing business in foreign countries, including, but not necessarily limited to:

- new and different legal and regulatory requirements in local jurisdictions;
- restrictive labor and employment laws;
- uncertainties regarding interpretation and enforcement of laws and regulations;
- variation in political and economic policy of the local governments and social conditions;
- export duties or import quotas;
- domestic and foreign customs and tariffs or other trade barriers;
- potential staffing difficulties and labor disputes;
- managing and obtaining support and distribution for local operations;
- increased costs of transportation or shipping;
- credit risk and financial conditions of local customers and distributors;
- potential difficulties in protecting intellectual property;
- risk of nationalization of private enterprises by foreign governments;
- potential imposition of restrictions on investments;
- potentially adverse tax consequences, including imposition or increase of withholding and other taxes on remittances and other payments by subsidiaries;
- legal restrictions on doing business in or with certain nations, certain parties and/or certain products;
- foreign currency exchange restrictions and fluctuations; and
- local economic, political and social conditions, including the possibility of hyperinflationary conditions and political instability.

We may not be successful in developing and implementing policies and strategies to address the foregoing factors in a timely and effective manner at each location where we do business. Consequently, the occurrence of one or more of the foregoing factors could have a material adverse effect on our international operations or upon our financial condition and results of operations.

Our operations in developing markets could expose us to political, economic and regulatory risks that are greater than those we may face in established markets. For example, we operate in some nations that have experienced significant levels of governmental corruption. Any failure by us to ensure that our employees and agents comply with applicable laws and regulations in foreign jurisdictions could result in substantial civil and criminal penalties or restrictions on our ability to conduct business in certain foreign jurisdictions or reputational damage, and our results of operations and financial condition could be materially and adversely affected.

Our business relies on intellectual property and other proprietary information and our failure to adequately protect or effectively enforce our rights could harm our competitive advantages with respect to the manufacturing of some of our products.

Our success depends to a significant degree upon our ability to protect, preserve and enforce our intellectual property rights, including patents, trademarks, licenses, trade secrets and other proprietary information of our business. However, we may be unable to prevent third parties from using our intellectual property and other proprietary information without our authorization or independently developing intellectual property and other proprietary information that is similar to or competes with ours. Any inability by us to effectively prevent the unauthorized use of our intellectual property and other proprietary information by others could reduce or eliminate any competitive advantage we have developed, cause us to lose sales or otherwise harm our business or goodwill. If it becomes necessary for us to initiate litigation to protect our proprietary rights, any proceedings could be burdensome and costly, and we may not prevail.

We may be unable to determine when third parties are using our intellectual property rights without our authorization, particularly our manufacturing processes. In addition, we cannot be certain that any intellectual property rights that we have licensed to third parties are being used only as authorized by the applicable license agreement. The undetected, unremedied, or unauthorized use of our intellectual property rights or the legitimate development or acquisition of intellectual property that is similar to or competes with ours by third parties could reduce or eliminate the competitive advantage we have as a result of our intellectual property, adversely affecting our financial condition and results of operations.

If we fail to adequately protect our intellectual property and other proprietary information, including our processes, apparatuses, technology, trade secrets, trade names and proprietary manufacturing know how, methods and compounds, through obtaining patent protection, securing trademark registrations and securing our trade secrets through the use of confidentiality agreements of appropriate scope and other means, our competitive advantages over other producers could be materially adversely affected. If we determine to take legal action to protect, defend or enforce our intellectual property rights, any suits or proceedings could result in significant costs and diversion of our resources and our management's attention. We may not prevail in any such suits or proceedings. A failure to protect, defend or enforce our intellectual property rights could have an adverse effect on our financial condition and results of operations.

Our products may infringe the intellectual property rights of others, which may cause us to incur unexpected costs or prevent us from selling our products.

Many of our competitors have a substantial amount of intellectual property that we must continually strive to avoid infringing as we improve our own business processes and develop new products and applications. Although it is our policy and intention not to infringe valid patents of which we are aware, we cannot provide assurances that our processes and products and other activities do not and will not infringe issued patents (whether present or future) or other intellectual property rights belonging to others. There nonetheless could be third-party patents that cover our products, processes or technologies, and it is possible that we could be liable for infringement of such patents and could be required to take remedial or curative actions to continue our manufacturing and sales activities with respect to one or more products that are found to be infringing. We may also be subject to indemnity claims by our business partners arising out of claims of their alleged infringement of the patents, trademarks and other intellectual property rights of third parties in connection with their use of our products. Intellectual property litigation often is expensive and time-consuming, regardless of the merits of any claim, and our involvement in such litigation could divert our management's attention from operating our business. If we were to discover that any of our processes, technologies or products infringe on the valid intellectual property rights of others, we may not be able to obtain the necessary licenses on acceptable terms, or at all, or be able to modify our processes or technologies or re-engineer our products in a manner that is successful in avoiding infringement. Moreover, if we are sued for infringement and lose, we could be required to pay substantial damages and/or be enjoined from using or selling the infringing products or technology. Any of the foregoing could cause us to incur significant costs and prevent us from selling our products and could have an adverse effect on our financial condition and results of operations.

Data security breaches could compromise sensitive information related to our business or the private information of our employees, vendors, and customers, which could adversely affect our business and our reputation.

Cyberattacks or data security breaches could compromise confidential, private, business critical information or cause a failure in our computer or operating systems that may disrupt our operations. We have attractive information assets, including intellectual property, trade secrets and other sensitive, business critical information. We face an ever growing risk of attack from outside our organization (including attack by organized crime, so-called "hacktivists," and state-sponsored actors) using sophisticated technical and non-technical methodologies (including social engineering and "spear phishing" attacks). We also face risks from internal threats to information security, such as from negligent or dishonest employees or consultants. A successful cyberattack or other breach of security could result in the loss of critical business information and/or could negatively impact operations, which could have a negative impact on our financial results. Furthermore, in addition to using our own systems and infrastructure, we use information systems and infrastructure operated by third-party service providers, including Dow. If our third-party service providers experience an information security breach, depending on the nature of the breach, it could compromise confidential, business critical information or cause a disruption in our operations. In addition, the loss or disclosure of sensitive or private information about our employees, vendors, or customers as a result of such a breach may result in violations of various data privacy

regulations and expose us to litigation, fines and other penalties. Therefore, any such disruptions to our operations or violations of data privacy laws could negatively impact our reputation and results of operations.

Risks Related to Our Ordinary Shares

We are a Luxembourg company and, as a result, shareholders may have difficulty effecting service of process or litigation against us or our officers and directors.

We are organized under the laws of the Grand Duchy of Luxembourg. Many of our assets are located outside the United States and some of our directors and officers reside outside the United States and most of their assets are located outside the United States. As a result, investors may find it more difficult to effect service of process within the United States upon us or these persons or to enforce outside the United States judgments obtained against us or these persons in U.S. courts, including judgments in actions predicated upon the civil liability provisions of the U.S. federal securities laws. Likewise, it may also be difficult for an investor to enforce in U.S. courts judgments obtained against us or these persons in courts located in jurisdictions outside the United States, including actions predicated upon the civil liability provisions of the U.S. federal securities laws. It may also be difficult for an investor to bring an original action in a Luxembourg court predicated upon the civil liability provisions of the U.S. federal securities laws against us or these persons. Luxembourg law does not recognize a shareholder's right to bring a derivative action on behalf of a company.

Provisions in our organizational documents and Luxembourg law may deter takeover efforts or other actions that could be beneficial to shareholder value.

Our articles of association and Luxembourg law contain provisions that could make it harder for a third party to acquire us, even if doing so might be beneficial to our shareholders. These provisions include a classified board of directors, the ability of the board of directors to approve a merger or other acquisition and to issue additional ordinary shares without shareholder approval that could be used to dilute a potential hostile acquirer. As a result, you may lose your ability to sell your ordinary shares for a price in excess of the prevailing market price due to these protective measures, and efforts by shareholders to change the direction or management of the company may be unsuccessful.

Pursuant to Luxembourg corporate law, existing shareholders are generally entitled to pre-emptive subscription rights in the event of capital increases and issues of shares against cash contributions. However, our board of directors is authorized to waive, limit or suppress such pre-emptive subscription rights until May 13, 2019. Furthermore, our shareholders may renew, expand or amend this authorization, which could result in the extension of the waiver beyond the initial five year period, at a future general meeting of shareholders.

Item 1B. *Unresolved Staff Comments*

None.

Item 2. *Properties*

We own and operate 61 production units at 16 sites around the world. In addition, we source products from another 14 production units at 7 joint venture sites. We also own or lease other properties, including office buildings, warehouses, research and development facilities, testing facilities and sales offices.

The following table sets forth a list of our principal offices, production sites and other facilities as of December 31, 2017:

Site Name	Location	Leased/owned	Products/Functions	Business Segments
Corporate Offices				
Berwyn	USA (PA)	Leased	Global operating headquarters	Not applicable
Hong Kong	Hong Kong	Leased	Regional operating center	Not applicable
Horgen	Switzerland	Leased	Regional operating center	Not applicable
Midland	USA (MI)	Leased	Regional operating center	Not applicable
Production Sites				
Boehlen*	Germany	Leased	Styrene monomer	Feedstocks
Dalton	USA (GA)	Owned	Latex	Latex Binders
Hamina	Finland	Owned	Latex	Latex Binders
Hsinchu	Taiwan	Owned	Compounds and blends	Performance Plastics
Merak++	Indonesia	Owned	Latex, Polystyrene	Latex Binders, Basic Plastics
Midland*	USA (MI)	Leased	ABS, Latex, PC, Compounds and blends	Latex Binders, Performance Plastics, Basic Plastics
Mussolente	Italy	Owned	Soft-touch polymers and bioplastics	Performance Plastics
Norrkoping	Sweden	Owned	Latex	Latex Binders
Rheinmunster*	Germany	Leased	Latex	Latex Binders
Schkopau*	Germany	Leased	ESBR, SSBR, PBR, Polystyrene	Synthetic Rubber, Basic Plastics
Stade*	Germany	Leased	PC	Basic Plastics
Terneuzen*	The Netherlands	Leased	Compounds and blends, Latex, Styrene monomer, ABS	Latex Binders, Performance Plastics, Basic Plastics, Feedstocks
Tessenderlo*	Belgium	Leased	Polystyrene	Basic Plastics
Tsing Yi+	Hong Kong	Leased	Polystyrene	Basic Plastics
Ulsan	Korea	Owned	Latex	Latex Binders
Zhangjiagang*	China	Leased	Latex, Polystyrene, ABS	Latex Binders, Performance Plastics, Basic Plastics
R&D Facilities				
Dalton	USA (GA)	Owned	Latex	Latex Binders
Hsinchu	Taiwan	Owned	Performance plastics	Performance Plastics
Midland 1300	USA (MI)	Leased	Latex	Latex Binders
Midland 1604	USA (MI)	Leased	Performance plastics and Latex	Performance Plastics, Latex Binders
Mussolente	Italy	Owned	Soft-touch polymers and bioplastics	Performance Plastics
Rheinmunster	Germany	Leased	Latex	Latex Binders
Samstagern	Switzerland	Leased	Latex	Latex Binders
Schkopau	Germany	Leased	Synthetic rubber	Synthetic Rubber
Shanghai	China	Leased	Latex	Latex Binders
Terneuzen	The Netherlands	Leased	Performance plastics	Performance Plastics
Tsing Yi	Hong Kong	Leased	Performance plastics	Performance Plastics
Joint Venture				
Americas Styrenics				
Allyn's Point	USA (CT)	Leased	Polystyrene	Americas Styrenics
Cartegena	Colombia	Owned	Polystyrene	Americas Styrenics
Hanging Rock	USA (OH)	Leased	Polystyrene	Americas Styrenics
Joliet	USA (IL)	Owned	Polystyrene	Americas Styrenics
Marietta	USA (OH)	Owned	Polystyrene	Americas Styrenics
St. James	USA (LA)	Owned	Styrene monomer	Americas Styrenics
Torrance	USA (CA)	Leased	Polystyrene	Americas Styrenics

* Facility co-located with Dow facilities under ground lease agreements. Plant facilities are owned by us.
\+ Facility located on property owned by the applicable government.
++ Facility located on property under certification with right to build.

We believe that our properties and equipment are generally in good operating condition and are adequate for our present needs. Production capacity at our sites can vary depending upon product mix and operating conditions.

Our global production facilities are certified to ISO 9001 standards. Our manufacturing facilities have established reliability and maintenance programs and leverage production between sites to maximize efficiency.

Our plants have similar layouts, technology and manufacturing processes, depending upon the product being manufactured. We believe this global uniformity creates a key competitive advantage for us, and helps lower overall operating costs.

Item 3. *Legal Proceedings*

From time to time we may be subject to various legal claims and proceedings incidental to the normal conduct of business, relating to such matters as product liability, antitrust, competition, waste disposal practices, release of chemicals into the environment and other matters that may arise in the ordinary course of our business. We currently believe that there is no litigation pending that is likely to have a material adverse effect on our business. Regardless of the outcome, legal proceedings can have an adverse impact on us because of defense and settlement costs, diversion of management resources and other factors.

Item 4. *Mine Safety Disclosures*

Not applicable.

PART II

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

The principal market on which our ordinary shares is traded is the New York Stock Exchange, under the ticker symbol "TSE". As of February 26, 2018, there were two record holders of our ordinary shares and 48,777,934 ordinary shares issued and 43,280,500 ordinary shares outstanding. By including persons holding shares in broker accounts under street names, however, we estimate that we have approximately 19,930 beneficial holders.

The table below sets forth the market prices and dividends declared for each quarter of 2017 and 2016.

	Price Range		Dividends Declared
	High	Low	per share(1)
2017			
Quarter ended March 31, 2017	$ 72.60	$ 59.25	$ 0.30
Quarter ended June 30, 2017	$ 70.15	$ 59.55	$ 0.36
Quarter ended September 30, 2017	$ 72.05	$ 57.70	$ 0.36
Quarter ended December 31, 2017	$ 75.20	$ 66.20	$ 0.36
2016			
Quarter ended March 31, 2016	$ 39.23	$ 21.92	$ —
Quarter ended June 30, 2016	$ 49.72	$ 36.19	$ 0.30
Quarter ended September 30, 2016	$ 60.02	$ 41.60	$ 0.30
Quarter ended December 31, 2016	$ 62.30	$ 44.70	$ 0.30

(1) The dividends paid for the periods presented are considered repayments of equity under Luxembourg law.

While the Company anticipates paying cash dividends for the foreseeable future, future determination to pay dividends or make other cash distributions to our shareholders will be at the discretion of our board of directors, subject to compliance with covenants in current and future agreements governing our indebtedness and applicable Luxembourg law, and will depend upon our results of operations, financial condition, capital requirements and other factors that our board of directors deems relevant. Further discussion of these restrictions is included in Item 7—*Management's Discussion and Analysis of Financial Conditions and Results of Operations*.

Performance Graph

The following performance graph reflects the comparative changes in the value from June 12, 2014, the first trading day of our ordinary shares on the NYSE, through December 31, 2017, assuming an initial investment of $100 and the reinvestment of dividends or other cash distributions, if any, in (1) our ordinary shares, (2) the S&P 500 Index, and (3) the S&P Small Cap 600 Chemicals Index. The share price performance shown in the graph is not necessarily indicative of future price performance.

Purchases of equity securities by the Company and affiliated purchasers

Issuer Purchases of Equity Securities

Period	Total number of shares purchased	Average price paid per share	Total number of shares purchased as part of publicly announced plans or programs	Approximate number of shares that may yet be purchased under the plans or programs
October 1 - October 31, 2017	—	$ —	—	1,856,345 (1)
November 1 - November 30, 2017	—	$ —	—	1,856,345 (1)
December 1 - December 31, 2017	346,257	$ 72.12	346,257	1,510,088 (1)
Total	346,257	$ 72.12	346,257	

(1) The general meeting of our shareholders on June 21, 2017 authorized the Company to sunset the 2016 share repurchase authorization and replace it with a new authorization to repurchase up to 4.0 million ordinary shares at a price per share of not less than $1.00 and not more than $1,000. This authorization ends on June 21, 2020 or on the date of its renewal by a subsequent general meeting of shareholders. On June 22, 2017 the Company announced that the board of directors had authorized the Company to repurchase, subject to market and other conditions, up to 2.0 million shares over the subsequent 18 months under the 2017 share repurchase authorization.

Luxembourg Tax Considerations

Tax Regime Applicable to Capital Gains Realized Upon Disposal of Shares

The following is a summary discussion of the material Luxembourg tax considerations of the acquisition, ownership and disposition of your ordinary shares that may be applicable to you. It is not intended to be, nor should it be construed to be, legal or tax advice. This discussion is based on Luxembourg laws and regulations as they stand on the date of this report and is subject to any change in law or regulations or changes in interpretation or application thereof (and which may possibly have a retroactive effect). Investors should therefore consult their own professional advisers as to the effects of state, local or foreign laws and regulations, including Luxembourg tax law and regulations, to which they may be subject. As used herein, a "Luxembourg individual" means an individual resident in Luxembourg who is subject to personal income tax (impôt sur le revenu) on his or her worldwide income from Luxembourg or foreign sources, and a "Luxembourg corporate holder" means a company (that is, a fully taxable collectivité within the meaning of Article 159 of the Luxembourg Income Tax Law) resident in Luxembourg subject to corporate income tax (impôt sur le revenu des collectivités) on its worldwide income from Luxembourg or foreign sources. For purposes of this discussion, Luxembourg individuals and Luxembourg corporate holders of our ordinary shares are collectively referred to as "Luxembourg Holders." A "non-Luxembourg Holder" means any investor in our ordinary shares other than a Luxembourg Holder.

Luxembourg individual holders. For Luxembourg individuals holding (together, directly or indirectly, with his or her spouse or civil partner or minor children) 10% or less of the share capital of Trinseo, capital gains will only be taxable if they are realized on a sale of shares, which takes place before their acquisition or within the first six months following their acquisition. The capital gain or liquidation proceeds will be taxed at progressive income tax rates.

For Luxembourg individuals holding (together with his/her spouse or civil partner and minor children) directly or indirectly more than 10% of the capital of Trinseo, capital gains will be taxable at a special rate, if the disposal or liquidation takes place:

- within six months from the acquisition, the capital gain or liquidation proceeds will be taxed at progressive income tax rates (ranging from 0 to 42.0% for 2018).
- after six months from the acquisition, the capital gain or the liquidation proceeds will be taxed at a reduced tax rate corresponding to half of the investor's global tax rate and EUR 50,000 (doubled for taxpayers filing jointly) of gains realized over a ten-year period are exempt from taxation.

Luxembourg corporate holders. Capital gains realized upon the disposal of shares by a Luxembourg corporate holder will in principle be subject to corporate income tax and municipal business tax. The combined applicable rate for Luxembourg corporate holders with taxable income in excess of EUR 30,000 will be 24.75% for fiscal year ended 2018 for a Luxembourg corporate holder established in Luxembourg-City. An exemption from such taxes may be available to the Luxembourg corporate holder pursuant to Article 166 of the Luxembourg Income Tax law subject to the fulfillment of the conditions set forth therein. The scope of the capital gains exemption may be limited in the cases provided by the Grand Ducal Decree of December 21, 2001.

Non-Luxembourg Holders

An individual non-Luxembourg Holder of shares will only be subject to Luxembourg taxation on capital gains arising upon disposal of such shares if such holder has (together with his or her spouse or civil partner and underage children) directly or indirectly held more than 10% of the capital of Trinseo, at any time during the five years preceding the disposal, and either (i) such holder has been a resident of Luxembourg for tax purposes for at least 15 years and has become a non-resident within the five years preceding the realization of the gain, subject to any applicable tax treaty, or (ii) the disposal of shares occurs within six months from their acquisition (or prior to their actual acquisition), subject to any applicable tax treaty. If we and a U.S. relevant holder are eligible for the benefits of the Convention Between the Government of the Grand Duchy of Luxembourg and the Government of the United States for the Avoidance of Double Taxation and the Prevention of Fiscal Evasion with Respect to Taxes on Income and Capital (the "Luxembourg-U.S.

Treaty"), such U.S. relevant holder generally should not be subject to Luxembourg tax on the gain from the disposal of such shares unless such gain is attributable to a permanent establishment of such U.S. relevant holder in Luxembourg. Subject to any restrictions imposed by the substantially and regularly traded clause in the limitation on benefits article of the Luxembourg-U.S. treaty, we expect to be eligible for the benefits of the Luxembourg-U.S. Treaty.

A corporate non-Luxembourg Holder (that is, a collectivité within the meaning of Article 159 of the Luxembourg Income Tax Law), which has a permanent establishment, a permanent representative or fixed place of business in Luxembourg to which shares would be attributable, will bear corporate income tax and municipal business tax on a gain realized on a disposal of such shares as set forth above for a Luxembourg corporate holder. However, gains realized on the sale of the shares may benefit from the full exemption provided for by Article 166 of the Luxembourg Income Tax Law and by the Grand Ducal Decree of December 21, 2001 subject in each case to fulfillment of the conditions set out therein.

A corporate non-Luxembourg Holder, which has a permanent establishment, permanent representative or fixed place of business in Luxembourg to which the shares would be attributable will not be subject to any Luxembourg tax on a gain realized on a disposal of such shares unless such holder holds, directly or through tax transparent entities, more than 10% of the share capital of Trinseo, and the disposal of shares occurs within six months from their acquisition (or prior to their actual acquisition), subject to any applicable tax treaty. If we and a U.S. corporate holder without a permanent establishment in Luxembourg are eligible for the benefits of the Luxembourg-U.S. Treaty, such U.S. corporate holder generally should not be subject to Luxembourg tax on the gain from the disposal of such shares.

Tax Regime Applicable to Distributions

Withholding Tax. Dividend distributions by Trinseo are subject to a withholding tax of 15%. Distributions by the Company sourced from a reduction of capital as defined in Article 97 (3) of the Luxembourg Income Tax Law including, among others, share premium should not be subject to withholding tax provided that such reduction of capital is motivated by serious business reasons as meant in said provision. We or the applicable paying agent will withhold on a distribution if required by applicable law.

Where a withholding needs to be applied, the rate of the withholding tax may be reduced pursuant to the double tax treaty existing between Luxembourg and the country of residence of the relevant holder, subject to the fulfillment of the conditions set forth therein. If we and a U.S. relevant holder are eligible for the benefits of the Luxembourg-U.S. Treaty, the rate of withholding on distributions generally is 15% or 5% if the U.S. relevant holder is a beneficial owner that owns at least 10% of our voting stock.

No withholding tax applies if the distribution is made to (i) a Luxembourg resident corporate holder (that is, a fully taxable collectivité within the meaning of Article 159 of the Luxembourg Income Tax Law), (ii) a corporation which is resident of a Member State of the European Union and is referred to by article 2 of the Council Directive of July 23, 1990 concerning the common fiscal regime applicable to parent and subsidiary companies of different member states (90/435/EEC), (iii) a corporation or a cooperative resident in Norway, Iceland or Liechtenstein and subject to a tax comparable to corporate income tax as provided by Luxembourg Income Tax Law, (iv) a corporation resident in Switzerland which is subject to corporate income tax in Switzerland without benefiting from an exemption, (v) a corporation subject to a tax comparable to corporate income tax as provided by Luxembourg Income Tax Law which is resident in a country that has concluded a tax treaty with Luxembourg and (vi) a Luxembourg permanent establishment of one of the above-mentioned categories, provided each time that at the date of payment, the holder has held or commits itself to continue to hold directly or through a tax transparent vehicle, during an uninterrupted period of at least twelve months, shares representing at least 10% of the share capital of Trinseo or which had an acquisition price of at least EUR 1,200,000.

Equity Repayment. The repayment of equity, by the Company is not treated as a dividend distribution under Luxembourg law, and therefore is not subject to any withholding tax, provided: (i) the Company has no statutory reserves or profits at the Company level, and (ii) the capital decrease is motivated by sound business reasons. The Company did not have any statutory profits or reserves as of December 31, 2017. In case the Company does not have sound business reasons to provide a repayment of equity, the entire amount repaid will be subject to a 15% withholding tax, unless the conditions for an exemption or a reduction from the withholding tax on dividends set forth above are met.

Luxembourg Holders

Dividend and liquidation proceeds are in principle taxable at the general income tax rates indicated above. A partial dividend exemption may be available to Luxembourg Holders pursuant to Article 115.15a of the Luxembourg Income Tax law or a full dividend exemption may be available to a Luxembourg corporate holder pursuant to Article 166 of the Luxembourg Income Tax law, subject to the fulfillment of the conditions set forth therein.

Non-Luxembourg Holders

Non-Luxembourg holders of the shares who have neither a permanent establishment, permanent representative nor a fixed place of business in Luxembourg to which the shares would be attributable are not liable for any Luxembourg tax on dividends paid on the shares, other than a potential withholding tax as described above.

Net Wealth Tax

Luxembourg Holders

Luxembourg net wealth tax will not be levied on a Luxembourg Holder with respect to the shares held unless the Luxembourg Holder is an entity subject to net wealth tax in Luxembourg.

Net wealth tax is levied annually at the rate of 0.5% on the net wealth of enterprises resident in Luxembourg, as determined for net wealth tax purposes. The shares may be exempt from net wealth tax subject to the conditions set forth by Article 60 of the Law of October 16, 1934 on the valuation of assets (Bewertungsgesetz), as amended.

Non-Luxembourg Holders

Luxembourg net wealth tax will not be levied on a non-Luxembourg Holder with respect to the shares held unless the shares are attributable to an enterprise or part thereof which is carried on through a permanent establishment or a permanent representative in Luxembourg.

Stamp and Registration Taxes

No registration tax or stamp duty will be payable by a holder of shares in Luxembourg solely upon the disposal of shares or by sale or exchange.

Item 6. *Selected Financial Data*

The following tables set forth our selected historical financial and operating data and other information, certain of which has been revised to correct immaterial errors included within previously issued financial statements. For more information on these revisions, refer to Note 2 in the consolidated financial statements included in this Annual Report.

The historical results of operations data for the years ended December 31, 2017, 2016, and 2015, and the historical balance sheet data as of December 31, 2017 and 2016 presented below were derived from our audited consolidated financial statements and the related notes thereto included elsewhere within this Annual Report. The historical results of operations data for the years ended December 31, 2014 and 2013 and the historical balance sheet data as of December 31, 2015, 2014, and 2013 were derived from our audited financial statements and the related notes thereto not included within this Annual Report. Our historical results are not necessarily indicative of the results to be expected for any future periods.

You should read the information contained in this table in conjunction with Item 7—*Management's Discussion and Analysis of Financial Condition and Results of Operations* and the audited financial statements and the related notes thereto included elsewhere in this Annual Report.

Definitions of capitalized terms not defined herein appear in the notes to our consolidated financial statements.

(In millions, except per share data)		Year Ended December 31,			
	2017	2016	2015	2014	2013
Statement of Operations Data:					
Net sales[1]	$ 4,448.1	$ 3,716.6	$ 3,971.9	$ 5,128.0	$ 5,307.4
Cost of sales[1]	3,794.1	3,129.0	3,502.8	4,830.6	4,949.4
Gross profit	654.0	587.6	469.1	297.4	358.0
Selling, general and administrative expenses	239.0	241.5	208.0	232.6	216.9
Equity in earnings of unconsolidated affiliates	123.7	144.7	140.2	47.7	39.1
Operating income	538.7	490.8	401.3	112.5	180.2
Interest expense, net	70.1	75.0	93.2	124.9	132.0
Loss on extinguishment of long-term debt[2]	65.3	—	95.2	7.4	20.7
Other expense (income), net	(7.8)	10.5	9.1	27.8	27.9
Income (loss) before income taxes	411.1	405.3	203.8	(47.6)	(0.4)
Provision for income taxes	82.8	87.0	70.2	19.7	21.8
Net income (loss)	**$ 328.3**	**$ 318.3**	**$ 133.6**	**$ (67.3)**	**$ (22.2)**
Weighted average shares— basic	43.8	46.5	48.8	43.5	37.3
Net income (loss) per share— basic	$ 7.49	$ 6.84	$ 2.74	$ (1.55)	$ (0.60)
Weighted average shares— diluted	45.0	47.5	49.0	43.5	37.3
Net income (loss) per share— diluted	$ 7.30	$ 6.70	$ 2.73	$ (1.55)	$ (0.60)
Dividends per share	$ 1.38	$ 0.90	$ —	$ —	$ —

(In millions)		Year Ended December 31,			
	2017	2016	2015	2014	2013
Other Financial Data:					
Depreciation and amortization	$ 110.6	$ 96.4	$ 96.8	$ 103.7	$ 95.2
Capital expenditures, net of subsidy[3]	147.4	123.9	107.1	98.6	54.8
Balance Sheet Data:					
Cash and cash equivalents	$ 432.8	$ 465.1	$ 431.3	$ 220.8	$ 196.5
Working capital[4]	1,019.6	890.7	839.8	748.7	810.2
Total assets	2,772.0	2,421.3	2,270.7	2,367.9	2,588.4
Debt[5]	1,199.7	1,187.4	1,207.8	1,202.2	1,336.4
Total liabilities	2,097.2	1,973.6	1,879.0	2,044.4	2,243.0
Total shareholders' equity	674.8	447.7	391.7	323.6	345.5

(1) Net sales and cost of sales increase or decrease, in part, based on fluctuations in raw material prices. Consistent with industry practice, and as permitted under agreements with many of our customers, raw material price changes are generally passed through to customers by means of corresponding price changes. See Item 7A—*Quantitative and Qualitative Disclosures about Market Risk—Commodity Price Risk.*

(2) This charge for the year ended December 31, 2017 relates to the Company's third quarter debt refinancing and was comprised of a $53.0 million call premium paid to retire the Company's 2022 Senior Notes and a $12.3 million write-off of unamortized deferred financing fees and unamortized original issue discount. The charge for the year ended December 31, 2015 related to our May 2015 debt refinancing. The charge for the year ended December 31, 2014 related to the July 2014 redemption of $132.5 million in aggregate principal amount of the Company's Senior Notes due 2019. And the charge for the year ended December 31, 2013, related to the January 2013 amendment of our 2018 Senior Secured Credit Facility and the repayment of $1,239.0 million of outstanding term loans.

(3) Represents capital expenditures, net of government subsidies received for SSBR expansion of $2.2 million and $18.8 million for the years ended December 31, 2015 and 2013, respectively. No government subsidies were received for the other periods presented above. Included in capital expenditures for the year ended December 31, 2017 were amounts related to a number of key growth initiatives, including the Company's ABS capacity expansion in China, a 50 KT increase to our global production capabilities in SSBR, and the opening of our new SSBR pilot plant in Germany. During the year ended December 31, 2016, the Company completed the upgrade of our legacy

enterprise resource planning ("ERP") environment to the latest version of SAP, resulting in capitalized software of $57.4 million. The majority of the capital spending for this project occurred in 2016. For the year ended December 31, 2014, capital expenditures include approximately $26.1 million for the reacquisition of production capacity rights at the Company's rubber production facility in Schkopau, Germany.

(4) Working capital is defined as current assets minus current liabilities.

(5) Balances presented for all periods within the "Debt" caption above reflect gross debt balances outstanding at each period end and are not net of unamortized deferred financing fees and unamortized original issue discount.

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

The following discussion summarizes the significant factors affecting the operating results, financial condition, liquidity and cash flows of our Company as of and for the periods presented below. The following discussion and analysis should be read in conjunction with Item 6 — "Selected Financial Data" and the audited consolidated financial statements and the accompanying notes thereto, included elsewhere within this Annual Report. The statements in this discussion regarding industry outlook, our expectations regarding our future performance, liquidity and capital resources and all other non-historical statements in this discussion are forward-looking statements and are based on the beliefs of our management, as well as assumptions made by, and information currently available to, our management. Actual results could differ materially from those discussed in or implied by forward-looking statements as a result of various factors, including those discussed below and elsewhere within this Annual Report, particularly in Item 1A—"Risk Factors." Definitions of capitalized terms not defined herein appear in the notes to our consolidated financial statements.

2017 Highlights

We had record performance in fiscal year 2017, with net income of $328.3 million and Adjusted EBITDA of $642.5 million. Additionally, our Latex Binders, Basic Plastics, and Feedstocks segments each had record Adjusted EBITDA for the year. We continued to focus efforts on investing in growth areas, reducing costs through streamlining our portfolio and asset footprint, generating cash, and improving our net leverage and reducing interest expense. Refer to "Non-GAAP Performance Measures" below for further discussion of our use of non-GAAP measures in evaluating our performance. Other highlights of 2017 are described below.

2017 Debt Refinancing

During the third quarter, the Company executed a refinancing of our debt, including:

- Issuing $500.0 million aggregate principal amount of 5.375% 2025 Senior Notes;
- Entering the new Senior Credit Facility, which consists of the $375.0 million 2022 Revolving Facility and the $700.0 million 2024 Term Loan B, bearing an interest rate of LIBOR plus 2.50%, subject to a 0.00% LIBOR floor; and
- Using the net proceeds from the above along with available cash to redeem all outstanding indebtedness under our existing 2022 Senior Notes and to repay all outstanding borrowings under our existing 2020 Senior Credit Facility, together with a $53.0 million call premium on the 2022 Senior Notes, accrued and unpaid interest, and fees and other expenses related to the refinancing.

Additionally, on September 1, 2017, the Company entered into certain fixed-for-fixed cross currency swaps ("CCS"), swapping U.S. dollar principal and interest payments on the newly issued 2025 Senior Notes for euro-denominated payments. Refer to Note 11 in the consolidated financial statements for further details.

The Company expects the aggregate cash interest savings from the refinancing and CCS to be approximately $25.0 million annually at current LIBO rates.

As a result of the refinancing, the Company recorded a loss on extinguishment of long-term debt of $65.3 million during the year ended December 31, 2017. Refer to Note 10 in the consolidated financial statements for further information.

Acquisition of API Plastics

On July 10, 2017, the Company completed the acquisition of API Plastics, for a gross purchase price of $90.6 million, inclusive of $8.4 million of cash acquired, yielding a net purchase price of $82.3 million which is subject to certain customary post-closing adjustments. API Plastics, based in Mussolente, Italy, is a manufacturer of soft-touch polymers and bioplastics, such as thermoplastic elastomers, or TPEs. TPEs can be molded over rigid plastics such as ABS and PC/ABS, which presents opportunities for complementary technology product offerings within our Performance Plastics segment. Refer to Note 3 in the consolidated financial statements for further information.

Sale of Sumika Styron Polycarbonate

On January 31, 2017, the Company completed the sale of our 50% share in Sumika Styron Polycarbonate to Sumitomo Chemical Company Limited for total sales proceeds of approximately $42.1 million. As a result, the Company recorded a gain on sale of $9.3 million during the year ended December 31, 2017. In addition, the parties have entered into a long-term agreement to continue sourcing polycarbonate resin from Sumika Styron Polycarbonate to the Company's Performance Plastics segment.

Share Repurchases and Dividends

In June 2017, the Company's board of directors authorized an increase to our quarterly dividend, from $0.30 per share to $0.36 per share, a 20% increase. In addition, the board of directors authorized the repurchase of up to two million of the Company's ordinary shares.

During the year ended December 31, 2017, under existing authority from our board of directors, the Company purchased approximately 1.4 million ordinary shares from our shareholders through a series of open market transactions for an aggregate purchase price of $88.9 million (with $1.3 million of additional repurchases not yet settled accrued on the consolidated balance sheet as of December 31, 2017). Additionally, during the year ended December 31, 2017, the Company's board of directors declared quarterly dividends for an aggregate value of $1.38 per ordinary share, or $61.6 million.

Results of Operations

Results of Operations for the Years Ended December 31, 2017, 2016 and 2015

The table below sets forth our historical results of operations, and these results as a percentage of net sales for the periods indicated.

References to portfolio adjustments below represent the impacts of the Company's acquisition and divestiture activity, including the acquisition of API Plastics and the sale of our joint venture Sumika Styron Polycarbonate during 2017, as well as the sale of our business in Brazil during 2016. Refer to the consolidated financial statements for further information.

	Year Ended December 31,					
($ in millions)	**2017**	**%**	**2016**	**%**	**2015**	**%**
Net sales	$ 4,448.1	100 %	$ 3,716.6	100 %	$ 3,971.9	100 %
Cost of sales	3,794.1	85 %	3,129.0	84 %	3,502.8	88 %
Gross profit	654.0	15 %	587.6	16 %	469.1	12 %
Selling, general and administrative expenses	239.0	5 %	241.5	7 %	208.0	5 %
Equity in earnings of unconsolidated affiliates	123.7	3 %	144.7	4 %	140.2	4 %
Operating income	538.7	12 %	490.8	13 %	401.3	10 %
Interest expense, net	70.1	2 %	75.0	2 %	93.2	2 %
Loss on extinguishment of long-term debt	65.3	2 %	—	— %	95.2	2 %
Other expense (income), net	(7.8)	(0)%	10.5	0 %	9.1	0 %
Income before income taxes	411.1	9 %	405.3	11 %	203.8	5 %
Provision for income taxes	82.8	2 %	87.0	2 %	70.2	2 %
Net income	$ 328.3	7 %	$ 318.3	9 %	$ 133.6	3 %

2017 vs. 2016

Net Sales

Of the 20% increase, 18% was due to higher selling prices primarily from the pass through of higher raw material costs, including higher styrene and butadiene costs to customers across our segments. Additionally, 1% of the increase was due to slightly higher sales volume, as increases in Performance Plastics, Feedstocks, and Synthetic Rubber sales volume were partially offset by decreases in Latex Binders and Basic Plastics sales volume.

Cost of Sales

Of the 21% increase, 19% was attributable to higher prices for raw materials, primarily related to styrene monomer and butadiene, and an additional 1% of the increase was due to increased sales volume, primarily in Performance Plastics and Synthetic Rubber. Partially offsetting these increases was a 1% decrease related a curtailment gain recorded in the current year as a result of changes to certain of the Company's pension plans in Europe.

Gross Profit

The increase was primarily attributable to higher margins per unit sold, especially within the Latex Binders, Basic Plastics, and Feedstocks segments, due to more favorable market conditions. Higher sales volume in Performance Plastics, Feedstocks, and Synthetic Rubber was partially offset by lower sales volume in Latex Binders and Basic Plastics, as well as margin compression in Performance Plastics, due to higher raw material costs, and in Synthetic Rubber, due to unfavorable raw material timing impacts.

Selling, General and Administrative Expenses

The $2.5 million year-over-year decrease is comprised of several offsetting factors. Restructuring expenses decreased by $15.9 million, noting $19.9 million in asset impairment and other charges recorded in the prior year as a result of our decision to cease manufacturing operations at our latex facility in Livorno, Italy, partially offset by $3.3 million in charges in the current year related to the upgrade and replacement of the Company's compounding facility in Terneuzen, The Netherlands as well as an additional $3.1 million of charges related to the Livorno, Italy action discussed above (refer to Note 19 in the consolidated financial statements for further information). Additionally, we recorded a $3.1 million curtailment gain in the current year on certain of the Company's pension plans in Europe. Offsetting the above decreases in expenses were increased costs incurred supporting growth initiatives of approximately $5.0 million, transaction and integration related costs of $3.4 million related to the API Plastics acquisition, and $3.6 million of asset impairment charges on certain long-lived assets within the Performance Plastics segment.

Equity in Earnings of Unconsolidated Affiliates

Equity earnings decreased in 2017, as equity earnings from Americas Styrenics decreased from $135.8 million in 2016 to $122.9 million in 2017, primarily due to the planned and extended first quarter styrene outage at its St. James, LA facility, including lower margins on second quarter sales of styrene purchased during the outage. Additionally, equity earnings from Sumika Styron Polycarbonate decreased from $8.9 million in 2016 to $0.8 million in 2017, as the Company completed the sale of our 50% share in the entity to Sumitomo Chemical Company Limited in January 2017, and therefore did not have an ownership interest in the joint venture for the majority of the year ended December 31, 2017. Refer to Note 4 in the consolidated financial statements for further information.

Interest Expense, Net

The decrease was primarily attributable to a reduction in interest rates from the Company's debt refinancing during the third quarter of 2017 as well as lower deferred financing fee amortization recorded into interest expense from our Accounts Receivable Securitization Facility. Refer to Note 10 in the consolidated financial statements for further information.

Loss on Extinguishment of Long-Term Debt

Loss on extinguishment of long-term debt was $65.3 million for the year ended December 31, 2017, which related to the Company's debt refinancing during the third quarter of 2017. This amount was comprised of a $53.0 million call premium paid to retire the Company's 2022 Senior Notes and a $11.5 million write-off of unamortized deferred financing fees related to these notes, as well as the write-off of $0.8 million of unamortized deferred financing fees and unamortized original issue discount related to the termination of the Company's 2021 Term Loan B.

Other Expense (Income), net

Other income, net for the year ended December 31, 2017 was $7.8 million, which primarily includes a $9.3 million gain related to the sale of the Company's 50% share in Sumika Styron Polycarbonate in January 2017 (refer to Note 4 in the consolidated financial statements for further information). Additionally, net foreign exchange transaction gains for the period were $1.4 million, which included $20.6 million of foreign exchange transaction gains primarily due to the remeasurement of our euro denominated payables due to the relative changes in rates between the U.S. dollar and the euro during the period, offset by $19.2 million of losses from our foreign exchange forward contracts. Additionally, other expenses included $1.2 million of fees incurred in conjunction with the Company's debt refinancing during the third quarter of 2017.

Other expense, net for the year ended December 31, 2016 was $10.5 million, primarily due to an impairment charge for the loss on sale of our latex binders and automotive businesses in Brazil of approximately $15.1 million. Refer to Note 3 in the consolidated financial statements for further information. Additionally, net foreign exchange transaction losses for the period were $1.8 million. Included in these net losses of $1.8 million were foreign exchange transaction losses of $5.5 million, primarily from the remeasurement of our euro denominated payables due to the relative changes in rates between the U.S. dollar and the euro during the period, offset by $3.7 million in gains from our foreign exchange forward contracts. Partially offsetting these net losses was $6.4 million of other income, which primarily related to the effective settlement of certain value-added tax positions during the period.

Provision for Income Taxes

Provision for income taxes for 2017 totaled $82.8 million resulting in an effective tax rate of 20%. Provision for income taxes for 2016 totaled $87.0 million resulting in an effective tax rate of 21%. The decrease in provision for income taxes was primarily due to the recording of a previously unrecognized tax benefit in the amount of $8.5 million, including penalties and interest, upon completion of the 2010 through 2013 audit with the German taxing authority during the year ended December 31, 2017. This decrease was partially offset by $3.1 million of one-time income tax expense related to the revaluation of our U.S. federal deferred tax assets and liabilities at the new U.S. federal corporate income tax rate of 21% in accordance with the enactment of the "Tax Cuts and Jobs Act" signed into law on December 22, 2017.

In addition, the decrease in provision for income taxes was partially offset by the tax effect on the increase in income before income taxes from, $405.3 million for the year ended December 31, 2016 to $411.1 million for the year ended December 31, 2017.

2016 vs. 2015

Net Sales

Of the 6% decrease in net sales, 5% was due to lower selling prices primarily due to the pass through of lower raw material costs, particularly lower styrene and butadiene costs to customers across our segments. Also impacting this reduction in net sales was a decrease of 1% due to sales volume, primarily within Performance Plastics and Basic Plastics.

Cost of Sales

Of the 11% decrease in cost of sales, 9% was attributable to lower prices for raw materials, primarily butadiene and styrene monomer, while an additional 1% of the decrease was due to lower sales volume primarily within Performance Plastics and Basic Plastics. Also contributing to the decrease was a 1% impact from the reduction in fixed costs due to prior year plant maintenance activities.

Gross Profit

The increase in gross profit was primarily attributable to higher margins across our segments, especially in styrene, styrenic polymers, and PC within Feedstocks and Basic Plastics. Partially offsetting this increase was an unfavorable volume impact, primarily within Performance Plastics and Basic Plastics.

Selling, General and Administrative Expenses

The majority of the increase in SG&A expenses was due to $15.8 million of increased restructuring charges, primarily related to the Company's decision to cease manufacturing activities at our latex binders facility in Livorno, Italy. In addition, $8.4 million of the increase was related to an increase in stock-based compensation expense, which included $2.9 million of one-time accelerated expense as a result of the complete liquidation of the former Parent's ownership interest in the Company through secondary offerings. Refer to Notes 19 and 16, respectively, in the consolidated financial statements for further information. Also impacting this change were increased employee benefit costs, costs from additional resources supporting growth initiatives, and certain costs incurred to support secondary offerings of the former Parent.

Equity in Earnings of Unconsolidated Affiliates

Equity earnings increased slightly in 2016, as equity earnings from Americas Styrenics increased by $0.5 million, from $135.3 million in 2015 to $135.8 million in 2016, and equity earnings from Sumika Styron Polycarbonate increased by $4.0 million, from $4.9 million in 2015 to $8.9 million in 2016. The improvement in results from Sumika Styron Polycarbonate was primarily due to improved PC market conditions.

Interest Expense, Net

The decrease in interest expense, net was primarily attributable to the impact of the debt refinancing executed in May 2015, which reduced applicable interest rates. Refer to Note 10 in the consolidated financial statements for further information.

Loss on Extinguishment of Long-Term Debt

Loss on extinguishment of long-term debt was $95.2 million for the year ended December 31, 2015 related to the Company's debt refinancing in May 2015. This amount was comprised of a $68.6 million call premium paid to retire the Company's 2019 Senior Notes and a $25.9 million write-off of unamortized deferred financing fees related to these notes, as well as the write-off of $0.7 million of unamortized deferred financing fees related to the termination of the Company's 2018 Revolving Facility.

Other Expense (Income), net

Other expense, net for the year ended December 31, 2016 was $10.5 million, primarily resulting from an impairment charge for the loss on sale of our latex binders and automotive businesses in Brazil of approximately $15.1 million. Refer to Note 3 in the consolidated financial statements for further information. Additionally, net foreign exchange transaction losses for the period were $1.8 million. Included in these net losses of $1.8 million were foreign exchange transaction losses of $5.5 million, primarily due to the remeasurement of our euro denominated payables due to the relative changes in rates between the U.S. dollar and the euro during the period, offset by $3.7 million in gains from our foreign exchange forward contracts. Partially offsetting these net losses was $6.4 million of other income, which primarily related to the effective settlement of certain value-added tax positions during the period.

Other expense, net for the year ended December 31, 2015 was $9.1 million, which consisted primarily of net foreign exchange transaction losses of approximately $10.4 million. These net foreign exchange transactions losses were comprised of foreign exchange transaction gains of $6.1 million primarily due to the remeasurement of our euro denominated payables due to the relative changes in rates between the U.S. dollar and the euro during the period, more than offset by losses of $16.5 million recorded during the period related to the Company's foreign exchange forward contracts. Partially offsetting these net foreign exchange transactions losses was other miscellaneous income of $1.3 million.

Provision for Income Taxes

Provision for income taxes for 2016 totaled $87.0 million resulting in an effective tax rate of 21%. Provision for income taxes for 2015 totaled $70.2 million resulting in an effective tax rate of 34%. The increase in provision for income taxes was primarily due to the $201.5 million increase in income before income taxes, from $203.8 million for the year ended December 31, 2015 to $405.3 million for the year ended December 31, 2016.

This increase in the provision for income taxes was partially offset by the impact of a higher proportion of income before taxes in 2016 being attributable to non-U.S. jurisdictions, particularly in Europe, where the statutory income tax rates are lower than the U.S. statutory income tax rate.

Additionally, this increase in the provision for income taxes in 2016 was offset by a net reduction of losses generated within companies which are not anticipated to provide a tax benefit to the Company in the future. These losses are primarily generated within our holding companies incorporated in Luxembourg and our former primary operating company incorporated in Brazil. For the year ended December 31, 2016, these losses totaled approximately $65.1 million and included an impairment charge of $15.1 million for the estimated loss on the sale of Trinseo Brazil. Refer to Note 3 in the consolidated financial statements for further information.

For the year ended December 31, 2015, these losses totaled approximately $84.7 million and included payments made in our Luxembourg entities of $19.0 million related to a portion of the fees associated with the call premium paid to retire the Company's 2019 Senior Notes and $5.6 million related to the write off of the related unamortized deferred financing fees (refer to Note 10 in the consolidated financial statements for further information). Also included in these losses was non-deductible interest of $28.1 million and stock-based compensation expense.

In addition, for the year ended December 31, 2015, the provision for income taxes was unfavorably impacted by the recognition of a valuation allowance of $7.3 million on the net deferred tax asset of one of our China subsidiaries during the fourth quarter, as this entity was in a three year cumulative loss position as of December 31, 2015.

Selected Segment Information

The Company's reportable segments are as follows: Latex Binders, Synthetic Rubber, Performance Plastics, Basic Plastics, Feedstocks, and Americas Styrenics. Refer to Item 1—*Business* for a description of our segments, including a detailed overview, products and end uses, and competition and customers.

The following sections describe net sales, Adjusted EBITDA, and Adjusted EBITDA margin by segment for the years ended December 31, 2017, 2016, and 2015. Inter-segment sales have been eliminated. Refer to Note 18 in the consolidated financial statements for a detailed definition of Adjusted EBITDA and a reconciliation of income before income taxes to segment Adjusted EBITDA.

References to portfolio adjustments below represent the impacts of the Company's acquisition and divestiture activity, including the acquisition of API Plastics and the sale of our joint venture Sumika Styron Polycarbonate during 2017, as well as the sale of our business in Brazil during 2016. Refer to the consolidated financial statements for further information.

Latex Binders Segment

	Year Ended December 31,			Percentage Change	
($ in millions)	**2017**	**2016**	**2015**	**2017 vs. 2016**	**2016 vs. 2015**
Net sales	$ 1,097.1	$ 925.3	$ 966.2	19 %	(4)%
Adjusted EBITDA	$ 138.5	$ 94.3	$ 79.0	47 %	19 %
Adjusted EBITDA margin	13 %	10 %	8 %		

2017 vs. 2016

Of the 19% increase in net sales, 25% was due to higher selling prices, primarily due to the pass through of higher butadiene and styrene costs to our customers. Offsetting this increase was a 4% decrease due to lower sales volume and a 3% decrease due to portfolio adjustments.

Full year Adjusted EBITDA was a record $138.5 million, noting stronger results from the Company's diversified chemistries and cost actions, as well as improved market conditions in Asia. Specifically, Adjusted EBITDA increased by $44.2 million, or 47%, year-over-year primarily due to margin improvements resulting from favorable market conditions, particularly in Asia, which resulted in a 65% increase. Partially offsetting these margin improvements was a

14% decrease due to lower sales volume, primarily within the North America and European paper and carpet markets. Portfolio adjustments resulted in a 3% decrease to Adjusted EBITDA.

2016 vs. 2015

The 4% decrease in net sales was due to lower selling prices, primarily due to the pass through of lower butadiene and styrene costs to our customers.

The increase in Adjusted EBITDA was primarily due to margin improvements of $12.2 million during the period, noting price increases in North America and freight and utility savings, particularly in Asia. Additionally, fixed cost improvements contributed to 3% of the increase, which includes the impact of the sale of our business in Brazil. Refer to Note 3 in the consolidated financial statements for further information.

Synthetic Rubber Segment

	Year Ended December 31,			Percentage Change	
($ in millions)	2017	2016	2015	2017 vs. 2016	2016 vs. 2015
Net sales	$ 582.8	$ 450.7	$ 474.6	29 %	(5)%
Adjusted EBITDA	$ 83.3	$ 110.9	$ 93.0	(25)%	19 %
Adjusted EBITDA margin	14 %	25 %	20 %		

2017 vs. 2016

Net sales increased 29% from the prior year, with higher selling prices contributing to 25% of the increase, primarily resulting from the pass through of higher butadiene and styrene costs to customers. Additionally, 3% of the increase was due to record sales volume which was a result of higher customer demand for SSBR, as well as higher sales of Ni-PBR.

The majority of the overall $27.6 million decrease in Adjusted EBITDA was primarily due to unfavorable raw material timing resulting from a favorable impact in the prior period compared to an unfavorable impact in the current period, which resulted in a 15% decrease due to lower margins. Higher fixed costs as well as sales volume mix resulted in a 10% decrease primarily from growth initiatives, including our SSBR capacity expansion and SSBR pilot plant development.

2016 vs. 2015

Of the 5% decrease in net sales, 5% was due to lower selling prices, primarily resulting from the pass through of lower butadiene and styrene costs to customers, and 1% of the decrease was due to an unfavorable currency impact as the euro weakened in comparison to the U.S. dollar. Partially offsetting these decreases was a 1% increase due to increased sales volume, as higher customer demand for SSBR and other products was partially offset by lower sales of Ni-PBR, as production decreased due to Nd-PBR plant trials.

The increase in Adjusted EBITDA was primarily due to improved fixed costs, which resulted in 11% of the increase, as the prior year included lower fixed cost absorption and higher maintenance costs due primarily to a planned turnaround. Additionally, improved margins contributed to 3% of the increase and higher sales volume contributed to 5% of the increase, which was primarily related to higher demand and availability of SSBR.

Performance Plastics Segment

	Year Ended December 31,			Percentage Change	
($ in millions)	2017	2016	2015	2017 vs. 2016	2016 vs. 2015
Net sales	$ 808.3	$ 693.4	$ 742.8	17 %	(7)%
Adjusted EBITDA	$ 122.4	$ 136.2	$ 107.6	(10)%	27 %
Adjusted EBITDA margin	15 %	20 %	14 %		

2017 vs. 2016

Of the 17% increase in net sales, 9% was due to record sales volume in 2017, primarily related to higher sales to the automotive markets in all regions and in the consumer electronics market in Asia. In addition, a 6% increase was due to higher selling prices primarily due to the pass through of higher raw material costs to our customers.

The overall decrease in Adjusted EBITDA of $13.8 million was the result of several factors. Unfavorable raw material timing led to lower margins for the period. In addition, the Company experienced margin compression, especially in the first half of the year, from increased costs of raw materials, not all of which were able to be passed through to our customers. These two factors contributed to a combined 28% decrease in Adjusted EBITDA due to lower margins compared to the prior year. The Company did note improved margins in the second half of the year, as raw material volatility subsided, along with our implementation of certain pricing initiatives. Additionally, increased fixed costs contributed to a 3% decrease in Adjusted EBITDA.

Partially offsetting these decreases was a 17% increase in Adjusted EBITDA due to record full year sales volume, noting growth to the automotive markets in all regions and in the consumer electronics market in Asia, and a 3% increase due to portfolio adjustments.

2016 vs. 2015

Of the 7% decrease in net sales, 4% was due to lower selling prices, primarily related to the pass through of lower raw material costs to our customers, and 3% was due to decreased sales volume, due to lower sales to the consumer electronics market in Asia.

The increase in Adjusted EBITDA was primarily due to a 25% increase due to higher margins, including favorable raw material timing, and a 6% increase due to improved fixed costs, which includes the impact of the sale of our business in Brazil (refer to Note 3 in the consolidated financial statements for further information). These increases were partially offset by a 5% decrease from lower sales volume, primarily caused by lower sales to the consumer electronics market in Asia, which were partially offset by higher sales to the automotive market.

Basic Plastics Segment

	Year Ended December 31,			Percentage Change	
($ in millions)	2017	2016	2015	2017 vs. 2016	2016 vs. 2015
Net sales	$ 1,552.2	$ 1,352.7	$ 1,478.1	15 %	(8)%
Adjusted EBITDA	$ 156.7	$ 148.2	$ 115.6	6 %	28 %
Adjusted EBITDA margin	10 %	11 %	8 %		

2017 vs. 2016

Of the 15% increase in net sales, 15% was due to higher selling prices due to the pass through of higher styrene costs to customers, partially offset by a 2% decrease due to lower sales volume, primarily related to lower polystyrene sales in Asia, as we have increased our focus on higher margin business.

Full year Adjusted EBITDA was a record $156.7 million, noting favorable market dynamics across our polystyrene, polycarbonate, and ABS product lines, and strong year-over-year profitability, despite an $8.0 million reduction in Adjusted EBITDA due to the sale of Sumika Styron Polycarbonate during the first quarter of 2017.

Specifically, Adjusted EBITDA increased 6%, or $8.5 million, of which 20% was due to higher margins, primarily within ABS and polycarbonate. Partially offsetting this increase was a 6% decrease due to increased fixed costs, which includes start-up costs incurred related to our new ABS capacity in Asia. Lower sales volume resulted in a 2% decrease, primarily related to Asia polystyrene sales, with an increased focus on higher margins in Asia. Portfolio adjustments resulted in a 5% decrease in Adjusted EBITDA, which includes the impact of the sale of Sumika Styron Polycarbonate mentioned above.

2016 vs. 2015

Of the 8% decrease in net sales, 6% was due to lower selling prices from the pass through of lower styrene costs to customers, and 2% of the decrease was due to lower sales volume, primarily related to lower polystyrene sales in Europe and Asia.

The increase in Adjusted EBITDA was primarily due to a 28% increase from higher margins in styrenic polymers and PC, and a 4% increase from equity earnings from our joint venture, Sumika Styron Polycarbonate, noting improved PC market conditions as well as favorable raw material timing. Partially offsetting these increases was a 4% decrease due to lower sales volume, primarily related to Europe and Asia polystyrene sales.

Feedstocks Segment

	Year Ended December 31,			Percentage Change	
($ in millions)	**2017**	**2016**	**2015**	**2017 vs. 2016**	**2016 vs. 2015**
Net sales	$ 407.7	$ 294.5	$ 310.2	38 %	(5)%
Adjusted EBITDA	$ 110.5	$ 80.2	$ 51.3	38 %	56 %
Adjusted EBITDA margin	27 %	27 %	17 %		

2017 vs. 2016

The 38% increase in net sales was mainly due to the pass through of higher styrene prices, which contributed to 27% of the increase. Higher styrene-related sales volume also resulted in a 10% increase in net sales.

The increase in Adjusted EBITDA was primarily due to higher margins as a result of favorable market conditions, which resulted in a 44% increase in Adjusted EBITDA, slightly offset by a 7% decrease due to higher maintenance-related fixed costs.

2016 vs. 2015

The 5% decrease in net sales was due to lower selling prices, resulting from the pass through of lower styrene costs to customers.

The increase in Adjusted EBITDA was due to a 50% increase resulting from higher margins in styrene, as well as a 6% increase due to improved fixed costs.

Americas Styrenics Segment

	Year Ended December 31,			Percentage Change	
($ in millions)	**2017**	**2016**	**2015**	**2017 vs. 2016**	**2016 vs. 2015**
Adjusted EBITDA*	$ 122.9	$ 135.8	$ 135.3	(9)%	0 %

**The results of this segment are comprised entirely of earnings from Americas Styrenics, our equity method investment. As such, Adjusted EBITDA related to this segment is included within "Equity in earnings of unconsolidated affiliates" in the consolidated statements of operations.*

2017 vs. 2016

The decrease in Adjusted EBITDA was primarily due to the planned first quarter of 2017 styrene outage at the Americas Styrenics St. James, LA facility, which was extended in order to complete repairs on critical equipment. The facility came back online at full production in early April 2017. As a result of this extended outage, the Company incurred an unfavorable impact of approximately $23 million to Adjusted EBITDA, of which approximately $15 million was related to lost production margin and the remaining was related to sales of excess spot styrene following the outage.

Partially offsetting the impact of this outage was an increase in Adjusted EBITDA due to higher styrene sales volume, including impacts from a stronger export market.

2016 vs. 2015

The slight increase in Adjusted EBITDA was due to increased equity earnings from our styrenics joint venture Americas Styrenics, as higher styrene margins and polystyrene volume were offset by lower polystyrene margins and the impacts of the second quarter planned styrene production outage.

Outlook

We expect strong performance for the Company in the first quarter of 2018 due to higher styrene margins, including impacts from planned and unplanned styrene production outages, as well as continued, healthy fundamentals across our segments. For full year 2018, we also expect continued strength in business fundamentals and higher overall profitability, noting significant contributions from our growth initiatives as well as favorable impacts from unplanned styrene outages in the first quarter. In addition, we expect continued strong cash generation for the year.

Additionally, effective for the first quarter of 2018, the Company realigned our reporting segments to reflect the new model under which the business will be managed and results will be reviewed by the chief executive officer, who is the Company's chief operating decision maker. Under this new segmentation, we will continue to report operating results for six segments, four of which will remain unchanged from the Company's current segmentation: Latex Binders, Synthetic Rubber, Feedstocks, and Americas Styrenics. The results of our Polystyrene business, which is currently included within the results of the Basic Plastics segment, will now be reported as a standalone segment. Performance Plastics, which previously consisted of compounds, blends, and ABS products sold to the automotive market, will now also include the remaining portion of our ABS business, as well as the results of our SAN and polycarbonate businesses. This segmentation change will provide enhanced clarity to investors by concentrating the Company's more specialized plastics into a single reporting segment, while also reducing complexity as polycarbonate and ABS are the primary inputs into the downstream production of our compounds and blends. The Company's quarterly report on Form 10-Q for the quarter ended March 31, 2018 will be presented under this new segmentation.

Non-GAAP Performance Measures

We present Adjusted EBITDA as a non-GAAP financial performance measure, which we define as income from continuing operations before interest expense, net; provision for income taxes; depreciation and amortization expense; loss on extinguishment of long-term debt; asset impairment charges; gains or losses on the dispositions of businesses and assets; restructuring; acquisition related costs and other items. In doing so, we are providing management, investors, and credit rating agencies with an indicator of our ongoing performance and business trends, removing the impact of transactions and events that we would not consider a part of our core operations.

There are limitations to using the financial performance measures such as Adjusted EBITDA. This performance measure is not intended to represent net income or other measures of financial performance. As such, it should not be used as an alternative to net income as an indicator of operating performance. Other companies in our industry may define Adjusted EBITDA differently than we do. As a result, it may be difficult to use this or similarly-named financial measures that other companies may use, to compare the performance of those companies to our performance. We compensate for these limitations by providing a reconciliation of this performance measure to our net income, which is determined in accordance with GAAP.

Adjusted EBITDA is calculated as follows for the years ended December 31, 2017, 2016, and 2015, respectively:

(In millions)	Year Ended December 31, 2017	2016	2015
Net income	$ 328.3	$ 318.3	$ 133.6
Interest expense, net	70.1	75.0	93.2
Provision for income taxes	82.8	87.0	70.2
Depreciation and amortization	110.6	96.4	96.8
EBITDA[(a)]	$ 591.8	$ 576.7	$ 393.8
Loss on extinguishment of long-term debt	65.3	—	95.2
Net loss (gain) on disposition of businesses and assets[(b)]	(9.7)	15.1	—
Restructuring and other charges[(c)]	6.0	23.5	0.8
Acquisition transaction and integration costs[(d)]	4.7	—	—
Asset impairment charges or write-offs[(e)]	4.3	—	—
Other items[(f)]	(19.9)	(4.4)	2.2
Adjusted EBITDA	$ 642.5	$ 610.9	$ 492.0

(a) EBITDA is a non-GAAP financial performance measure that we refer to in making operating decisions because we believe it provides our management as well as our investors and credit agencies with meaningful information regarding the Company's operational performance. We believe the use of EBITDA as a metric assists our board of directors, management and investors in comparing our operating performance on a consistent basis. Other companies in our industry may define EBITDA differently than we do. As a result, it may be difficult to use EBITDA, or similarly-named financial measures that other companies may use, to compare the performance of those companies to our performance. We compensate for these limitations by providing reconciliations of our EBITDA results to our net income, which is determined in accordance with GAAP.

(b) Net gain on disposition of businesses and assets during the year ended December 31, 2017 relates primarily to the sale of our 50% share in Sumika Styron Polycarbonate to Sumitomo Chemical Company Limited, for which the Company recorded a gain on sale of $9.3 million during the period. During the year ended December 31, 2016, the Company recorded impairment charges for the loss on sale of our primary operating entity in Brazil, which includes both latex binders and automotive businesses. Refer to Note 4 and Note 3, respectively, in the consolidated financial statements for further information.

(c) Restructuring and other charges for the year ended December 31, 2017 relate to employee termination benefit and decommissioning charges incurred in connection with the decision to cease manufacturing activities at our latex binders manufacturing facility in Livorno, Italy, as well as employee termination benefit charges and contract termination charges related to the upgrade and replacement of the Company's compounding facility in Terneuzen, The Netherlands. Restructuring and other charges for the year ended December 31, 2016 relate primarily to approximately $20.0 million in charges incurred in connection with the Livorno, Italy action discussed above. The remaining restructuring charges for 2016 relate to the Company's decision to divest our operations in Brazil as well as the closure of our Allyn's Point latex binders manufacturing facility. Restructuring and other charges for the year ended December 31, 2015 relate primarily to the polycarbonate restructuring within our Basic Plastics segment and employee termination benefit charges incurred in connection with the Allyn's Point shutdown discussed above. Refer to Note 19 in the consolidated financial statements for further information regarding restructuring activities.

Note that the accelerated depreciation charges incurred as part of both the upgrade and replacement of the Company's compounding facility in Terneuzen, The Netherlands as well as the Allyn's Point shutdown are included within the "Depreciation and amortization" caption above, and therefore are not included as a separate adjustment within this caption.

(d) Acquisition transaction and integration costs for the year ended December 31, 2017 relate to advisory and professional fees and a non-cash fair value inventory adjustment incurred in conjunction with the Company's acquisition of API Plastics, which closed in July 2017. Refer to Note 3 in the consolidated financial statements for further information.

(e) Asset impairment charges for the year ended December 31, 2017 relate to the impairment of certain long-lived assets within the Company's Performance Plastics segment.

(f) Other items for the year ended December 31, 2017 primarily relate to a curtailment gain recorded on certain of the Company's pension plans in Europe, offset by fees incurred in conjunction with the Company's debt refinancing which was completed during the third quarter of 2017. Other items for the year ended December 31, 2016 include other income of $6.9 million from the effective settlement of certain value-added tax positions, offset by $2.5 million of fees incurred in conjunction with the Company's secondary offerings completed during the year. Other items incurred for the year ended December 31, 2015 primarily consist of costs related to the process of changing our corporate name from Styron to Trinseo.

Liquidity and Capital Resources

Cash Flows

The table below summarizes our primary sources and uses of cash for the years ended December 31, 2017, 2016, and 2015. We have derived the summarized cash flow information from our audited financial statements. The tables and discussions below have been recast as a result of our adoption of new cash flow guidance effective September 30, 2017 which was applied retrospectively. Refer to Note 2 of the consolidated financial statements for further information regarding this adoption.

(In millions)	Year Ended December 31, 2017	2016	2015
Net cash provided by (used in):			
Operating activities	$ 391.3	$ 403.7	$ 421.9
Investing activities	(182.6)	(117.3)	(106.7)
Financing activities	(253.0)	(247.6)	(94.8)
Effect of exchange rates on cash	12.0	(5.0)	(9.9)
Net change in cash and cash equivalents	$ (32.3)	$ 33.8	$ 210.5

Operating Activities

Net cash provided by operating activities during the year ended December 31, 2017 totaled $391.3 million, inclusive of $120.0 million in dividends from Americas Styrenics, as well as dividends from Sumika Styron Polycarbonate, $8.9 million of which were classified as operating activities, with the remaining $0.9 million classified as investing activities. Refer to Note 4 in the consolidated financial statements for further information. Net cash used in operating assets and liabilities for the year ended December 31, 2017 totaled $126.7 million, noting increases in accounts receivable of $51.8 million and inventories of $80.2 million, respectively. The increase in accounts receivable was primarily due to the pass through of increased raw material prices to our customers while the increase in inventories was primarily a result of building inventories in advance of certain growth initiatives.

Net cash provided by operating activities during the year ended December 31, 2016 totaled $403.7 million, driven primarily due to improved net income for the period. Also impacting cash flow from operating activities for the period was $130.0 million in dividends from Americas Styrenics. Net cash used in operating assets and liabilities for the year ended December 31, 2016 totaled $69.8 million, noting increases in accounts receivable of $96.4 million and inventories of $51.0 million, respectively, offset by an increase in accounts payable and other current liabilities of $57.1 million. The increase in accounts receivable was primarily due to higher sales and lower collections, due to timing, during the fourth quarter of 2016 compared to the same period in 2015. The increase in inventory was primarily due to increases in raw material prices in the fourth quarter of 2016 as compared to the same period in 2015. The increase in accounts payable and other current liabilities was primarily due to increases in raw material prices, as noted above, as well as timing of vendor payments.

Net cash provided by operating activities during the year ended December 31, 2015 totaled $421.9 million, primarily due to earnings for the period. Also impacting our cash from operating activities for the period was $125.0 million in dividends from Americas Styrenics. These increases were noted despite significant decreases to operating cash flows, including $81.7 million in interest payments made on our 2019 Senior Notes prior to their May 2015 retirement. Net cash provided by operating assets and liabilities for the year ended December 31, 2015 totaled $103.9 million, the most significant components of which were decreases in inventories of $97.2 million and decreases in accounts receivable of $65.1 million, offset by a decrease in accounts payable and other current liabilities of $71.9 million. Inventory decreased due to higher volume sold during the fourth quarter of 2015 when compared to the fourth quarter of 2014, as well as significant decreases in raw materials prices when comparing the periods. The decrease in accounts receivable is primarily due to lower sales and higher collections during the fourth quarter of 2015, compared to the fourth quarter of 2014, primarily due to decreasing raw material prices. The decrease in accounts payable and other current liabilities is primarily due to timing of payments as well as decreases in prices for raw materials purchases.

Investing Activities

Net cash used in investing activities for the year ended December 31, 2017 totaled $182.6 million, resulting from capital expenditures of $147.4 million and cash paid to acquire API Plastics of $82.3 million during the period, net of cash acquired (refer to Note 3 in the consolidated financial statements for further information). Offsetting these uses of cash was an increase from proceeds received of $42.1 million from the sale of Sumika Styron Polycarbonate during the year.

Net cash used in investing activities for the year ended December 31, 2016 totaled $117.3 million, resulting from capital expenditures of $123.9 million during the period, a significant portion of which related to our project to upgrade our legacy ERP environment to the latest version of SAP. Partially offsetting these capital expenditures were $1.8 million in proceeds received from the sale of our businesses in Brazil and dividends received from Sumika Styron Polycarbonate during the period, $4.8 million of which were classified as investing activities in the consolidated statement of cash flows, with the remaining $1.4 million classified as operating activities.

Net cash used in investing activities for the year ended December 31, 2015 totaled $106.7 million, consisting primarily of capital expenditures of $107.1 million during the period, net of proceeds received from a government subsidy of $2.2 million related to our capital expansion project at our rubber facility in Schkopau, Germany.

Financing Activities

Net cash used in financing activities during the year ended December 31, 2017 totaled $253.0 million. The most significant activity during the period related to the third quarter debt refinancing, which included net proceeds of $1,200.0 million from the issuance of our 2024 Term Loan B and our 2025 Senior Notes, offset by the retirement of our existing 2021 Term Loan B and 2022 Senior Notes totaling $1,238.5 million and deferred financing fees paid in conjunction with the refinancing of $21.5 million. The Company also paid a call premium of $53.0 million in conjunction with the redemption of the 2022 Senior Notes. In addition, we paid $88.9 million related to the repurchase of ordinary shares as well as $58.0 million of dividends. Partially offsetting these uses of cash was $9.3 million of proceeds received from the exercise of option awards.

Net cash used in financing activities during the year ended December 31, 2016 totaled $247.6 million. This activity was primarily from $215.1 million of payments related to the repurchase of ordinary shares during the period and $27.3 million of dividends paid, as well as $5.0 million of principal payments related to our 2021 Term Loan B.

Net cash used in financing activities during the year ended December 31, 2015 totaled $94.8 million. The most significant activity during the period related to the May 2015 debt refinancing, which included net proceeds of $1,215.4 million from the issuance of our 2021 Term Loan B and our 2022 Senior Notes, offset by the retirement of our existing 2019 Senior Notes totaling $1,192.5 million and deferred financing fees paid in conjunction with the refinancing of $28.2 million. Additionally, the Company paid a call premium of $68.6 million related to the retirement of the 2019 Senior Notes. During the period, we had net repayments of short-term borrowings of $18.4 million, which largely consisted of borrowings under our short-term revolving credit facility through our subsidiary in China. On a limited basis, we continued to utilize our Accounts Receivable Securitization Facility to fund our working capital requirements, with borrowings from and repayments of our Accounts Receivable Securitization Facility totaling $25.0 million during the period.

Free Cash Flow

We use Free Cash Flow as a non-GAAP measure to evaluate and discuss the Company's liquidity position and results. Free Cash Flow is defined as cash from operating activities, less capital expenditures. We believe that Free Cash Flow provides an indicator of the Company's ongoing ability to generate cash through core operations, as it excludes the cash impacts of various financing transactions as well as cash flows from business combinations that are not considered organic in nature. We also believe that Free Cash Flow provides management and investors with a useful analytical indicator of our ability to service our indebtedness, pay dividends (when declared), and meet our ongoing cash obligations.

Free Cash Flow is not intended to represent cash flows from operations as defined by GAAP, and therefore, should not be used as an alternative for that measure. Other companies in our industry may define Free Cash Flow differently than we do. As a result, it may be difficult to use this or similarly-named financial measures that other companies may use, to compare the liquidity and cash generation of those companies to our own. We compensate for these limitations by providing a reconciliation to cash provided by operating activities, which is determined in accordance with GAAP.

Prior period information below has been recast from its previous presentation to reflect the Company's current method for calculating Free Cash Flow. Prior to the third quarter of 2016, we calculated Free Cash Flow as cash from both operating and investing activities less the impact of changes in restricted cash. The Company believes our revised method is more aligned to investors' common understanding of Free Cash Flow and allows for easier comparisons between the Company and its peers. Additionally, the Company has not reported material restricted cash balances since 2012 and is not expected to do so under its current practices.

	Year Ended December 31,		
(In millions)	**2017**	**2016**	**2015**
Cash provided by operating activities	$ 391.3	$ 403.7	$ 421.9
Capital expenditures	(147.4)	(123.9)	(109.3)
Free Cash Flow	$ 243.9	$ 279.8	$ 312.6

Refer to the discussion above for significant impacts to cash provided by operating activities for the years ended December 31, 2017, 2016, and 2015, respectively.

Capital Resources, Indebtedness and Liquidity

We require cash principally for day-to-day operations, to finance capital investments and other initiatives, to purchase materials, to service our outstanding indebtedness, and to fund dividend payments to our shareholders. Our sources of liquidity include cash on hand, cash flow from operations, and amounts available under the Senior Credit Facility and the Accounts Receivable Securitization Facility (discussed further below).

As of December 31, 2017 and 2016, we had $1,199.7 million and $1,187.4 million, respectively, in outstanding indebtedness and $1,019.6 million and $890.7 million, respectively, in working capital. In addition, as of December 31, 2017 and 2016, we had $128.3 million and $88.8 million, respectively, of foreign cash and cash equivalents on our consolidated balance sheets, outside of our country of domicile of Luxembourg, all of which is readily convertible into other foreign currencies, including the U.S. dollar. Our intention is not to permanently reinvest our foreign cash and cash equivalents. Accordingly, we record deferred income tax liabilities related to the unremitted earnings of our subsidiaries.

As noted in Note 10 of the consolidated financial statements, the Company completed a debt refinancing during the third quarter of 2017, the results of which are reflected in the table below. For a detailed description of the Company's debt structure, borrowing rates, and expected future payment obligations, refer to Note 10 in the consolidated financial statements.

The following table outlines our outstanding indebtedness as of December 31, 2017 and 2016 and the associated interest expense, including amortization of deferred financing fees and debt discounts. Effective interest rates for the borrowings included in the table below exclude the impact of deferred financing fee amortization and certain other fees charged to interest expense (such as fees for unused commitment fees during the period).

	As of and for the Year Ended December 31, 2017			As of and for the Year Ended December 31, 2016		
($ in millions)	Balance	Effective Interest Rate	Interest Expense	Balance	Effective Interest Rate	Interest Expense
Senior Credit Facility						
2024 Term Loan B	$ 698.3	3.9 %	$ 9.6	$ —	—	$ —
2022 Revolving Facility	—	—	1.0	—	—	—
2020 Senior Credit Facility						
2021 Term Loan B	—	4.3 %	15.9	491.5	4.3 %	23.3
2020 Revolving Facility	—	—	2.3	—	—	3.3
2025 Senior Notes	500.0	5.4 %	9.4	—	—	—
2022 Senior Notes						
USD Notes	—	6.8 %	14.4	300.0	6.8 %	21.1
Euro Notes	—	6.4 %	18.8	394.3	6.4 %	27.4
Accounts Receivable Securitization Facility	—	—	2.8	—	—	3.3
Other indebtedness	1.4	4.8 %	0.1	1.6	4.8 %	0.1
Total	$ 1,199.7		$ 74.3	$ 1,187.4		$ 78.5

Our Senior Credit Facility includes the 2022 Revolving Facility, which matures in September 2022, and has a borrowing capacity of $375.0 million. As of December 31, 2017, the Company had no outstanding borrowings, and had $360.2 million (net of $14.8 million outstanding letters of credit) of funds available for borrowing under this facility. Further, as of December 31, 2017, the Company is required to pay a quarterly commitment fee in respect of any unused commitments under the 2022 Revolving Facility equal to 0.375% per annum.

Also included in our Senior Credit Facility is our 2024 Term Loan B (with original principal of $700.0 million, maturing in September 2024), which requires scheduled quarterly payments in amounts equal to 0.25% of the original principal. During the year ended December 31, 2017, the Company made principal payments of $1.8 million on the 2024 Term Loan B, with an additional $7.0 million of scheduled future payments classified as current debt on the Company's consolidated balance sheet as of December 31, 2017.

Our 2025 Senior Notes, as issued under the Indenture, include $500.0 million aggregate principal amount of 5.375% senior notes that mature on September 1, 2025. Interest on the 2025 Senior Notes is payable semi-annually on May 3 and November 3 of each year, commencing on May 3, 2018. These notes may be redeemed prior to their maturity at the option of the Company under certain circumstances at specific redemption prices. Refer to Note 10 in the consolidated financial statements for further information.

We also continue to maintain our Accounts Receivable Securitization Facility, as amended during the fourth quarter of 2017, which matures in May 2019 and contains a borrowing capacity is $150.0 million. As of December 31, 2017, there were no amounts outstanding under this facility, with approximately $122.1 million of funds available for borrowing, based on the pool of eligible accounts receivable.

The Senior Credit Facility and Indenture contain certain customary affirmative, negative and financial covenants. As of December 31, 2017, the Company was in compliance with all of these debt covenant requirements. Refer to Note 10 in the consolidated financial statements for further information on the details of these covenant requirements.

Our ability to raise additional financing and our borrowing costs may be impacted by short- and long-term debt ratings assigned by independent rating agencies, which are based, in significant part, on our performance as measured by certain credit metrics such as interest coverage and leverage ratios.

We and our subsidiaries, affiliates or significant direct or indirect shareholders may from time to time seek to retire or purchase our outstanding debt through cash purchases in the open market, privately negotiated transactions, exchange transactions or otherwise. Such repurchases or exchanges, if any, will depend on prevailing market conditions, our liquidity requirements, contractual restrictions and other factors. The amounts involved may be material.

Trinseo Materials Operating S.C.A. and Trinseo Materials Finance, Inc. (the Issuers of our 2025 Senior Notes and Borrowers under our Senior Credit Facility) are dependent upon the cash generation and receipt of distributions and dividends or other payments from our subsidiaries and joint ventures in order to satisfy their debt obligations. There are no known significant restrictions by third parties on the ability of subsidiaries of the Company to disburse or dividend funds to the Issuers and the Borrowers in order to satisfy these obligations. However, as the Company's subsidiaries are located in a variety of jurisdictions, the Company can give no assurances that our subsidiaries will not face transfer restrictions in the future due to regulatory or other reasons beyond our control.

The Senior Credit Facility and Indenture also limit the ability of the Borrowers and Issuers, respectively, to pay dividends or make other distributions to Trinseo S.A., which could then be used to make distributions to shareholders. During the year ended December 31, 2017, the Company declared total dividends of $1.38 per ordinary share (totaling $61.6 million), of which $16.9 million remains accrued as of December 31, 2017, and the majority of which will be paid in January 2018. These dividends are well within the available capacity under the terms of the restrictive covenants contained in the Senior Credit Facility and Indenture. Further, significant additional capacity continues to be available under the terms of these covenants to support expected future dividends to shareholders, should the Company continue to declare them.

The Company's cash flow generation from operations continues to be strong (see discussion above). We believe that funds provided by operations, our existing cash and cash equivalent balances, and borrowings available under our 2022 Revolving Facility and our Accounts Receivable Securitization Facility will be adequate to meet planned operating and capital expenditures for at least the next 12 months under current operating conditions. Nevertheless, our ability to generate future cash and to pay our indebtedness and fund other liquidation needs is subject to certain risks described under Item 1A—*Risk Factors*. As of December 31, 2017 and 2016, we were in compliance with all the covenants and default provisions under our debt agreements.

Derivative Instruments

The Company's ongoing global business operations and debt structure expose it to fluctuating foreign exchange rates as well as variability in interest rates. To manage this risk, the Company periodically enters into derivative financial instruments, such as foreign exchange forward contracts and interest rate swap agreements. A brief summary of these derivative financial instrument programs is described below; however, refer to Note 11 of the consolidated financial statements for further information. The Company does not hold or enter into financial instruments for trading or speculative purposes.

Foreign Exchange Forward Contracts

Certain subsidiaries have assets and liabilities denominated in currencies other than their respective functional currencies, which creates foreign exchange risk. Our principal strategy in managing exposure to changes in foreign currency exchange rates is to naturally hedge the foreign currency-denominated liabilities on our consolidated balance sheets against corresponding assets of the same currency such that any changes in liabilities due to fluctuations in exchange rates are offset by changes in their corresponding foreign currency assets. In order to further reduce our exposure, the Company also uses foreign exchange forward contracts to economically hedge the impact of the variability in exchange rates on our assets and liabilities denominated in certain foreign currencies. These derivative contracts are not designated for hedge accounting treatment.

Foreign Exchange Cash Flow Hedges

The Company also enters into forward contracts with the objective of managing the currency risk associated with forecasted U.S. dollar-denominated raw materials purchases by one of our subsidiaries whose functional currency is the euro. By entering into these forward contracts, which are designated as cash flow hedges, the Company buys a designated amount of U.S. dollars and sells euros at the prevailing market rate to mitigate the risk associated with the fluctuations in the euro-to-U.S. dollar foreign currency exchange rates.

Interest Rate Swaps

The Company enters into interest rate swap agreements to manage our exposure to variability in interest payments associated with the Company's variable rate debt. Under these interest rate swap agreements, which are designated as cash flow hedges, the Company is effectively converting a portion of our variable rate borrowings into a fixed rate obligation to mitigate the risk of variability in interest rates.

Net Investment Hedge

As of December 31, 2017, the Company had certain fixed-for-fixed cross currency swaps outstanding, swapping U.S. dollar principal and interest payments on the Company's 2025 Senior Notes for euro-denominated payments. These cross currency swaps have been designated as a hedge of the Company's net investment in certain European subsidiaries. As such, changes in their fair value, to the extent effective, are recorded within the cumulative translation adjustment account as a component of accumulated other comprehensive income or loss ("AOCI").

Contractual Obligations and Commercial Commitments

The following table reflects our contractual obligations as of December 31, 2017. Amounts we pay in future periods may vary from those reflected in the table:

(In millions)	**Payments due by year**						
Contractual Obligations as of December 31, 2017	**2018**	**2019**	**2020**	**2021**	**2022**	**Thereafter**	**Total**
Purchase commitments[1]	$ 1,480.1	$ 1,007.5	$ 866.6	$ 4.8	$ —	$ —	$ 3,359.0
Long-term Indebtedness[2]	7.0	7.0	7.0	7.0	7.0	1,163.3	1,198.3
Interest payments on long-term debt (net of interest rate swap effects)[3]	61.0	55.8	55.6	55.2	54.8	122.7	405.1
Pension and other postretirement benefits[4]	5.5	21.2	6.2	5.7	6.5	50.5	95.6
Minimum operating lease commitments and other obligations[5]	13.5	12.6	9.4	10.3	3.6	16.2	65.6
Uncertain tax positions, including interest and penalties[6]	—	—	—	—	—	5.7	5.7
Total	$ 1,567.1	$ 1,104.1	$ 944.8	$ 83.0	$ 71.9	$ 1,358.4	$ 5,129.3

(1) We have certain raw material purchase contracts where we are required to purchase certain minimum volumes at the then prevailing market prices. These commitments range from 1 to 4 years. In certain raw material purchase contracts, we have the right to purchase less than required minimums and pay a liquidated damages fee, or, in case of a permanent plant shutdown, to terminate the contracts. In such cases these obligations would be less than the obligations shown in the table above.

(2) As part of the third quarter of 2017 debt refinancing, we redeemed our existing 2021 Term Loan B and 2022 Senior Notes, replacing those borrowings with a $700.0 million 2024 Term Loan B due September 2024 and $500.0 million 2025 Senior Notes due September 2025. The 2024 Term Loan B requires scheduled quarterly payments in amounts equal to 0.25% of the original principal, or $7.0 million per year. The long-term indebtedness line included in the table above excludes the impacts of certain fixed-for-fixed cross currency swaps (discussed in Note 11 to the consolidated financial statements) as well as all other debt outstanding as of December 31, 2017 totaling $1.4 million.

(3) Interest payments on debt are calculated for future periods using interest rates in effect as of December 31, 2017. The amounts above include estimated interest on the 2024 Term Loan B and the related effects of interest rate swap agreements, as well as interest on the 2025 Senior Notes. This line excludes the impacts of certain fixed-for-fixed cross currency swaps discussed in further detail in Note 11 to the consolidated financial statements. Interest on the 2024 Term Loan B is payable quarterly, while interest on the 2025 Senior Notes is payable semi-annually on May 3rd and November 3rd of each year. Refer to Item 7A—*Quantitative and Qualitative Disclosures about Market Risk* for further discussion of interest rate and foreign currency risks. Certain of these projected interest payments may differ in the future based on changes in floating interest rates or other factors and events. Estimated interest payments do not include the 2022 Revolving Facility or Accounts Receivable Securitization Facility as amounts

outstanding under these facilities vary due to periodic borrowings and repayments. There are no amounts outstanding under either facility as of December 31, 2017.

(4) Includes minimum contributions required to be made to the funded pension plans and expected benefit payments to the employees for unfunded pension plans. With respect to our minimum funding requirements under our pension obligations, we may elect to make contributions in excess of the minimum funding requirements in response to investment performance or changes in interest rates or when we believe that it is financially advantageous to do so and based on our other cash requirements. Our minimum funding requirements after 2017 will depend on several factors, including investment performance and interest rates. Our minimum funding requirements may also be affected by changes in applicable legal requirements. We also have payments due with respect to our postretirement benefit obligations, which we do not fund in advance. Rather, payments are made as costs are incurred by covered retirees. We expect benefit payments related to our postretirement benefit obligations to be $3.2 million through 2027. The payments identified above as subsequent to 2022 represent estimated pension and postretirement payments from 2023 through 2027. Also included in the above is a $16.0 million expected benefit obligation for payments estimated to be payable in 2019 under the Company's non-qualified supplemental employee retirement plan. Refer to Note 15 in the consolidated financial statements for further information.

(5) Excludes certain estimated future commitments under agreements with Dow, including the SAR MOSA, under which Dow provides administrative and operational services to us, and the 25-year SAR SSAs, under which Dow provides utilities and site services to certain of our facilities co-located with Dow. For more information regarding these agreements, including details regarding the rights of the Company and Dow to terminate said agreements, refer to Item 1— *Business— Our Relationship with Dow*.

As of December 31, 2017, we estimate our minimum obligation under the SAR MOSA to be approximately $16.9 million. Utilizing current year known costs and assuming that we continue with this agreement through its completion on December 31, 2020, we estimate our contractual obligations for the SAR MOSA to be approximately $47.0 million annually for 2018 through 2020.

Additionally, utilizing current year known costs and assuming that we continue with the SAR SSAs, we estimate our contractual obligations under these agreements to be approximately $186.0 million annually for 2018 through 2022, and a total of $2,877.1 million thereafter through June 2038.

Refer to Note 17 in the consolidated financial statements for further information.

(6) Due to uncertainties in the timing of the effective settlement of tax positions with the respective taxing authorities, we are unable to determine the timing of payments related to our uncertain tax positions, including interest and penalties. Amounts are therefore reflected in "Thereafter".

Critical Accounting Policies and Estimates

Our discussion and analysis of results of operations and financial condition are based upon our financial statements, which have been prepared in accordance with GAAP. The preparation of these financial statements requires us to make estimates and judgments that affect the amounts reported. We base these estimates and judgments on historical experiences and assumptions believed to be reasonable under the circumstances. Actual results could vary from our estimates under different conditions. Our significant accounting policies, which may be affected by our estimates and assumptions, are more fully described in Note 2 in the consolidated financial statements. An accounting policy is deemed to be critical if it requires an accounting estimate to be made based on assumptions about matters that are highly uncertain at the time the estimate is made, and if different estimates that reasonably could have been used, or changes in the accounting estimates that are reasonably likely to occur periodically, could materially impact the financial statements. The following critical accounting policies reflect our most significant estimates and assumptions used in the preparation of the consolidated financial statements.

Pension Plans and Postretirement Benefits

We have various company-sponsored retirement plans covering substantially all employees. We also provide certain health care and life insurance benefits to retired employees in the United States. Prior to the divestiture of our latex binders and automotive businesses in Brazil in 2016 (refer to Note 3 in the consolidated financial statements), we also provided health care and life insurance benefits to retired employees in Brazil. The U.S.-based plan provides health care benefits, including hospital, physicians' services, drug and major medical expense coverage, and life insurance benefits. We recognize the underfunded or overfunded status of a defined benefit pension or postretirement plan as an asset or liability in our consolidated balance sheets and recognize changes in the funded status in the year in which the changes occur through AOCI, which is a component of shareholders' equity.

A settlement is a transaction that is an irrevocable action that relieves the employer (or the plan) of primary responsibility for a pension or postretirement benefit obligation, and that eliminates significant risks related to the obligation and the assets used to effect the settlement. The Company does not record settlement gains or losses during interim periods when the cost of all settlements in a year is less than or equal to the sum of the service cost and interest cost components of net periodic pension cost for the plan in that year.

Pension benefits associated with these plans are generally based on each participant's years of service, compensation, and age at retirement or termination. The discount rate is an important element of expense and liability measurement. We evaluate our assumptions at least once each year, or as facts and circumstances dictate, and make changes as conditions warrant.

We determine the discount rate used to measure plan liabilities as of the December 31 measurement date for the pension and postretirement benefit plans. The discount rate reflects the current rate at which the associated liabilities could be effectively settled at the end of the year. We set our rate to reflect the yield of a portfolio of high quality, fixed-income debt instruments that would produce cash flows sufficient in timing and amount to settle projected future benefits. Using this methodology, we determined a weighted-average discount rate of 1.79% for pension and 3.68% for postretirement benefits to be appropriate as of December 31, 2017.

In 2016, we changed the method used to estimate the future service and interest cost components of net periodic benefit cost for our defined benefit pension and other postretirement benefit plans. Historically, we estimated the future service and interest cost components using a single weighted-average discount rate derived from the yield curve that was used to measure the benefit obligation at the beginning of the period. For 2017 and beyond, we have elected to use a full yield curve approach in the estimation of these components of benefit cost by applying the specific spot rates along the yield curve used in the determination of the benefit obligation to the relevant projected cash flows. We have made this change to improve the correlation between projected benefit cash flows and the corresponding yield curve spot rates and to provide a more precise measurement of service and interest costs. This change did not affect the measurement of our total benefit obligations, as the change in the service cost and interest cost was entirely offset in the actuarial loss reported. We have accounted for this as a change in estimate that was applied prospectively beginning in the first quarter of 2017.

The weighted-average discount rates that we used to measure service cost for pension and postretirement plans during 2017 were 1.64% and 4.18%, respectively. The weighted-average discount rates that we used to measure interest cost for pension and postretirement plans during 2017 were 1.42% and 3.81%, respectively. Had we not changed our estimation approach, we would have utilized the December 31, 2016 liability discount rates of 1.65% for pension and 4.16% for postretirement benefits to determine service and interest cost. The changes to service cost and interest cost for 2017 associated with this change are not material to the consolidated financial statements.

We determine the expected long-term rate of return on assets by performing a detailed analysis of historical and expected returns based on the underlying assets, which generally are insurance contracts. We also consider our historical experience with the pension fund asset performance. The expected return of each asset class is derived from a forecasted future return confirmed by current and historical experience. The weighted-average long-term rate of return assumptions used for determining net periodic pension expense were 1.44% and 1.79% for 2017 and 2016, respectively. The decrease was primarily due to lower interest rates during 2017 on certain assets with guaranteed returns. Future actual pension expense will depend on the performance of the underlying assets and changes in future discount rates, among other factors.

Holding all other factors constant, a 0.25 percentage point increase (decrease) in the discount rate used to determine net periodic cost would decrease (increase) 2018 pension expense by approximately \$1.4 million and \$(1.2) million, respectively. Holding all other factors constant, a 0.25 percentage point increase (decrease) in the long-term rate of return on assets used to determine net periodic cost would decrease (increase) 2018 pension expense by approximately \$0.1 million and \$(0.1) million, respectively.

As noted above, plan assets are invested primarily in insurance contracts that provide for guaranteed returns. As of December 31, 2017 and 2016, respectively, plan assets totaled \$140.1 million and \$114.2 million. Investments in the pension plan insurance are valued utilizing unobservable inputs, which are contractually determined based on cash surrender values, returns, fees, and the present value of the future cash flows of the contracts, and are classified as Level 3 investments.

Business Combinations and Asset Impairments

Business Combinations

Acquisitions that qualify as a business combination are accounted for using the purchase accounting method. Amounts paid for an acquisition are allocated to the assets acquired and liabilities assumed based on their fair value as of the date of acquisition. Goodwill is recorded as the difference in the fair value of the acquired assets and liabilities assumed (net assets acquired) and the purchase price. Goodwill is not amortized, but is reviewed for impairment annually as of October 1st, or when events or changes in the business environment indicate that the carrying value of a reporting unit may exceed its fair value. Refer to discussion below for further information regarding asset impairments.

Under the purchase accounting method, the Company completes valuation procedures for an acquisition, often with the assistance of third-party valuation specialists, to determine the fair value of the assets acquired and liabilities assumed. These valuation procedures require management to make assumptions and apply significant judgment to estimate the fair value of the assets acquired and liabilities assumed. If the estimates or assumptions used should significantly change, the resulting differences could materially affect the fair value of net assets.

Specifically, the calculation of the fair value of tangible assets, including property, plant and equipment, utilizes the cost approach, which computes the cost to replace the asset, less accrued depreciation resulting from physical deterioration, and functional and external obsolescence. The calculation of the fair value of identified intangible assets is determined using cash flow models following the income approach. Significant inputs include estimated future cash flows, discount rates, royalty rates, growth rates, sales projections, retention rates, and terminal values, all of which require significant management judgment. Definite-lived intangible assets, which are primarily comprised of developed technology, customer relationships, manufacturing capacity rights, and software, are amortized over their estimated useful lives using the straight-line method and are assessed for impairment whenever events or changes in circumstances indicate the carrying value of the asset may not be recoverable.

Asset Impairments

As of December 31, 2017, net property, plant and equipment, net identifiable finite-lived intangible assets, and goodwill totaled \$627.0 million, \$207.5 million, and \$72.5 million, respectively. Management makes estimates and assumptions in preparing the consolidated financial statements for which actual results will emerge over long periods of time. This includes the recoverability of long-lived assets employed in the business. These estimates and assumptions are closely monitored by management and periodically adjusted as circumstances warrant. For instance, expected asset lives may be shortened or impairment may be recorded based on a change in the expected use of the asset or performance of the related asset group.

We evaluate long-lived assets and identifiable finite-lived intangible assets for impairment whenever events or changes in circumstances indicate that the carrying amount of an asset or asset grouping may not be recoverable. In the event the carrying value of the asset exceeds its undiscounted future cash flows and the carrying value is not considered recoverable, impairment may exist. An impairment loss, if any, is measured as the excess of the asset's carrying value over its fair value, generally based on a discounted future cash flow method, independent appraisals, etc.

In August 2016, we announced our plan to cease manufacturing activities at the Company's latex binders manufacturing facility in Livorno, Italy. As a result, we determined that the long-lived assets at this facility, which included land and depreciable long-lived assets, should be assessed for impairment. This assessment indicated that the carrying value of the asset group was not recoverable when compared to the expected undiscounted cash flows from the operation and eventual disposition of these assets. The fair value of the depreciable assets was determined under the income approach, utilizing a discounted cash flow model. The key assumption in this model was cash flow projections, which were determined to be nil, as the plant ceased manufacturing operations in October 2016. The fair value of the land was determined utilizing a combination of the market and income approaches, utilizing key inputs such as recent comparable market transactions, expected date of sale, and discount rate. Based upon this assessment, for the year ended

December 31, 2016, we recorded an impairment loss of approximately $13.7 million. The amount was included in "Selling, general and administrative expenses" in the consolidated statement of operations and was allocated entirely to the Latex Binders segment.

Through December 31, 2017, we have continued to assess the recoverability of certain assets, and concluded there are no additional significant events or circumstances identified by management that would indicate these assets are not recoverable. However, the current environment is subject to changing market conditions and requires significant management judgment to identify the potential impact to our assessment. If we are not able to achieve certain actions or our future operating results do not meet our expectations, it is possible that impairment charges may need to be recorded on one or more of our operating facilities.

Long-lived assets to be disposed of by sale are classified as held-for-sale and are reported at the lower of carrying amount or fair value less cost to sell, and depreciation is ceased. Long-lived assets to be disposed of in a manner other than by sale are classified as held-and-used until they are disposed.

As noted above, our goodwill impairment testing is performed annually as of October 1st at a reporting unit level. We perform more frequent impairment tests when events or changes in circumstances indicate that the fair value of a reporting unit has more likely than not declined below its carrying value. As of our annual assessment date of October 1, 2017, each of our reporting units had fair values that exceeded the carrying value of their net assets, indicating that no impairment of goodwill is warranted.

An impairment loss generally would be recognized when the carrying amount of the reporting unit's net assets exceeds the estimated fair value of the reporting unit. The estimated fair value of a reporting unit is determined using a market approach and an income approach (under the discounted cash flow method). When supportable, the Company employs the qualitative assessment of goodwill impairment prescribed by ASC 350. As of December 31, 2017, our $72.5 million in total goodwill is allocated to our reportable segments as follows: $16.5 million to Latex Binders, $11.7 million to Synthetic Rubber, $36.4 million to Performance Plastics, and $7.9 million to Basic Plastics, with no amounts allocated to the Feedstocks or Americas Styrenics segments.

Factors which could result in future impairment charges, among others, include changes in worldwide economic conditions, changes in technology, changes in competitive conditions and customer preferences, and fluctuations in foreign currency exchange rates. These factors are discussed in Item 7A—*Quantitative and Qualitative Disclosures about Market Risk* and Item 1A— *Risk Factors* included in this Annual Report

Income Taxes

We account for income taxes using the asset and liability method. Under this method, deferred tax assets and liabilities are recognized for the future tax consequences of temporary differences between the carrying amounts and tax bases of assets and liabilities using enacted rates. The effect of a change in tax rates on deferred taxes is recognized in income in the period that includes the enactment date.

On December 22, 2017, the "Tax Cuts and Jobs Act" was signed into law in the U.S. This tax reform legislation includes a broad range of new tax laws affecting businesses, including corporate tax rates, business deductions, and international tax provisions. The Company has evaluated and accounted for all material impacts of this reform within the consolidated financial statements for the year ended December 31, 2017. The resulting impact was a one-time $3.1 million increase to tax expense related to the revaluation of the Company's U.S. federal deferred tax assets and liabilities at the new U.S. federal corporate tax rate of 21%. There were no other applicable provisions of this newly enacted tax law that have a significant impact to the Company's financial statements.

Deferred taxes are provided on the outside basis differences and unremitted earnings of subsidiaries outside of Luxembourg. All undistributed earnings of foreign subsidiaries and affiliates are expected to be repatriated as of December 31, 2017. Based on the evaluation of available evidence, both positive and negative, we recognize future tax benefits, such as net operating loss carryforwards and tax credit carryforwards, to the extent that realizing these benefits is considered to be more likely than not.

As of December 31, 2017, we had deferred tax assets of $39.2 million, after valuation allowances of $149.6 million. In evaluating the ability to realize the deferred tax assets, we rely on, in order of increasing subjectivity, taxable income in prior carryback years, the future reversals of existing taxable temporary differences, tax planning strategies and forecasted taxable income using historical and projected future operating results.

As of December 31, 2017, we had deferred tax assets for tax loss carryforward of approximately $535.6 million, $42.1 million of which is subject to expiration in the years between 2018 and 2022. We continue to evaluate our historical and projected operating results for several legal entities for which we maintain valuation allowances on net deferred tax assets.

We are subject to income taxes in Luxembourg, the United States and numerous foreign jurisdictions, and are subject to audit within these jurisdictions. Therefore, in the ordinary course of business there is inherent uncertainty in quantifying our income tax positions. The tax provision includes amounts considered sufficient to pay assessments that may result from examinations of prior year tax returns; however, the amount ultimately paid upon resolution of issues raised may differ from the amounts accrued. Since significant judgment is required to assess the future tax consequences of events that have been recognized in our financial statements or tax returns, the ultimate resolution of these events could result in adjustments to our financial statements and such adjustments could be material. Therefore, we consider such estimates to be critical in preparation of our financial statements.

The financial statement effect of an uncertain income tax position is recognized when it is more likely than not, based on the technical merits, that the position will be sustained upon examination. Accruals are recorded for other tax contingencies when it is probable that a liability to a taxing authority has been incurred and the amount of the contingency can be reasonably estimated. Uncertain income tax positions have been recorded in "Other noncurrent obligations" in the consolidated balance sheets for the periods presented.

Management judgment is required in determining our provision for income taxes, our deferred tax assets and liabilities, and any valuation allowance recorded against our deferred tax assets. The valuation allowance is based on our estimates of future taxable income and the period over which we expect the deferred tax assets to be recovered. Our assessment of future taxable income is based on historical experience and current and anticipated market and economic conditions and trends. In the event that actual results differ from these estimates or we adjust our estimates in the future, we may need to adjust our valuation allowance, which could materially impact our financial position and results of operations.

Off-balance Sheet Arrangements

We do not have any off-balance sheet arrangements.

Recent Accounting Pronouncements

We describe the impact of recent accounting pronouncements in Note 2 to the consolidated financial statements, included elsewhere within this Annual Report.

Item 7A. *Quantitative and Qualitative Disclosures About Market Risk*

We are exposed to changes in interest rates and foreign currency exchange rates because we finance certain operations through fixed and variable rate debt instruments and denominate our transactions in a variety of foreign currencies. We are also exposed to changes in the prices of certain commodities that we use in production. Changes in these rates and commodity prices may have an impact on future cash flows and earnings. We manage these risks through normal operating and financing activities and, when deemed appropriate, through the use of derivative financial instruments. We do not enter into financial instruments for trading or speculative purposes.

By using derivative instruments, we are subject to credit and market risk. The fair market value of the derivative instruments is determined by using valuation models whose inputs are derived using market observable inputs, including interest rate yield curves, as well as foreign exchange and commodity spot and forward rates, and reflects the asset or liability position as of the end of each reporting period. When the fair value of a derivative contract is positive, the counterparty owes us, thus creating a receivable risk for us. We are exposed to counterparty credit risk in the event of non-performance by counterparties to our derivative agreements. We minimize counterparty credit (or repayment) risk by entering into transactions with various major financial institutions of investment grade credit rating.

Our exposure to market risk is not hedged in a manner that completely eliminates the effects of changing market conditions on earnings or cash flows.

Interest Rate Risk

Given the Company's debt structure, we have certain exposure to changes in interest rates. Refer to Note 10 in the consolidated financial statements for further information regarding the Company's debt facilities.

On September 6, 2017, the Company issued the 2024 Term Loan B, which bears an interest rate of LIBOR plus 2.50%, subject to a 0.00% LIBOR floor. In order to reduce the variability in interest payments associated with the Company's variable rate debt, during the third quarter of 2017, the Company entered into certain interest rate swap agreements to convert a portion of these variable rate borrowings into a fixed rate obligation. These interest rate swap agreements are designated as cash flow hedges, and as such, the contracts are marked to market at each reporting date and any unrealized gains or losses are included in AOCI to the extent effective, and reclassified to interest expense in the period during which the transaction effects earnings or it becomes probable that the forecasted transaction will not occur.

Based on weighted-average outstanding borrowings under the 2024 Term Loan B from the date of issuance through December 31, 2017, an increase in 100 basis points in the LIBO rate would have resulted in approximately $1.4 million of additional interest expense for the period, inclusive of the impact of the interest rate swap agreements discussed above.

Loans under the 2022 Revolving Facility, at the Borrowers' option, may be maintained as (a) LIBO rate loans, which bear interest at a rate per annum equal to the LIBO rate plus the applicable margin (as defined in the Credit Agreement), if applicable, or (b) base rate loans which shall bear interest at a rate per annum equal to the base rate plus the applicable margin (as defined in the Credit Agreement). As of December 31, 2017, the Borrowers are required to pay a quarterly commitment fee in respect of any unused commitments under the 2022 Revolving Facility equal to 0.375% per annum. As of and throughout the year ended December 31, 2017, we had no variable rate debt issued under our 2022 Revolving Facility (or under our previous 2020 Revolving Facility) and as such we incurred no variable rate interest related to these facilities during the period.

Our Accounts Receivable Securitization Facility is subject to interest charges against both the amount of outstanding borrowings as well as the amount of available, but undrawn commitments under the facility. As a result of an amendment to the facility during the fourth quarter, as of December 31, 2017, fixed interest charges on outstanding borrowings for this facility are 1.95% plus variable commercial paper rates which vary by month and by currency, as outstanding balances can be denominated in euro and U.S. dollar. Fixed interest charges on available, but undrawn commitments for this facility are 1.0%. As of and throughout the year ended December 31, 2017, we had no variable rate debt issued under our Accounts Receivable Securitization Facility, and as such we incurred no variable rate interest related to this facility during the period.

Foreign Currency Risks

The Company's ongoing business operations expose it to foreign currency risks, including fluctuating foreign exchange rates. Our primary foreign currency exposure is to the U.S. dollar to euro, noting that approximately 60% of our net sales were generated in Europe for the year ended December 31, 2017. To a lesser degree, we are also exposed to other currencies, including the Chinese yuan, Swiss franc, and Indonesian rupiah. To manage these risks, the Company periodically enters into derivative financial instruments such as foreign exchange forward contracts.

Certain subsidiaries have assets and liabilities denominated in currencies other than their respective functional currencies, which creates foreign exchange risk. Our principal strategy in managing exposure to changes in foreign currency exchange rates is to naturally hedge the foreign currency-denominated liabilities on our consolidated balance sheets against corresponding assets of the same currency such that any changes in liabilities due to fluctuations in exchange rates are offset by changes in their corresponding foreign currency assets. In order to further reduce our exposure, we also use foreign exchange forward contracts to economically hedge the impact of the variability in exchange rates on our assets and liabilities denominated in certain foreign currencies. These derivative contracts are not designated for hedge accounting treatment.

The Company also enters into forward contracts with the objective of managing the currency risk associated with forecasted U.S. dollar-denominated raw materials purchases by one of our subsidiaries whose functional currency is the euro. By entering into these forward contracts, which are designated as cash flow hedges, the Company buys a designated amount of U.S. dollars and sells euros at the prevailing market rate to mitigate the risk associated with the fluctuations in the euro-to-U.S. dollar foreign currency exchange rates. The qualifying hedge contracts are marked-to-

market at each reporting date and any unrealized gains or losses are included in AOCI to the extent effective, and reclassified to cost of sales in the period during which the transaction affects earnings or it becomes probable that the forecasted transaction will not occur. For 2018, the Company has hedged approximately 60% of our exposure to the euro at a rate of 1.15. Inclusive of these hedges, a 1% change in the euro will impact our annual profitability by approximately $2.0 million on a pre-tax basis.

We have legal entities consolidated in our financial statements that have functional currencies other than U.S. dollar, our reporting currency. As a result of currencies fluctuating against the U.S. dollar, currency translation gains and losses are recorded in other comprehensive income, primarily as a result of the remeasurement of our euro functional legal entities as of December 31, 2017 and 2016.

Commodity Price Risk

We purchase certain raw materials such as benzene, ethylene, butadiene, BPA and styrene primarily under short- and long-term supply contracts. The pricing terms for these raw material purchases are generally determined based on commodity indices and prevailing market conditions within the relevant geography. The selling prices of our products are generally based, in part, on the current or forecasted costs of our key raw materials, but are often subject to a predetermined lag period for the pass through of these costs. As such, during periods of significant raw material price volatility, the Company may experience material volatility in earnings and cash flows due to the lag in passing through raw material costs, primarily benzene, ethylene, butadiene, and styrene. Assuming no changes in sales price, volume or mix, a hypothetical 10% change in the market price of our raw materials would have impacted cost of sales by approximately $300.0 million for the year ended December 31, 2017.

We mitigate the risk of volatility in commodity prices where possible by passing changes in raw material costs through to our customers by adjusting our prices or including provisions in our contracts that allow us to adjust prices in such a circumstance or by including pricing formulas which utilize commodity indices. Nevertheless, we may be subject to the timing differences described above for the pass through of these costs. In addition, even when raw material costs may be passed on to our customers, during periods of high raw material price volatility, customers without minimum purchase requirements with us may choose to delay purchases of our materials or, in some cases, substitute purchases of our materials with less costly products.

We do not currently enter into derivative financial instruments for trading or speculative purposes to manage our commodity price risk relating to our raw material contracts.

Item 8. ***Financial Statements and Supplementary Data***

The financial statements and supplementary data required by Regulation S-X are included in Item 15- *Exhibits, Financial Statements Schedules* contained in Part IV of this Annual Report.

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

None.

Item 9A. ***Controls and Procedures***

Evaluation of Disclosure Controls and Procedures

Our management is responsible for establishing and maintaining disclosure controls and procedures designed to provide reasonable assurance that information required to be disclosed by us in our reports that we file or submit under the Exchange Act (as defined in Rules 13a-15(e) and 15d-15(e) of the Securities Exchange Act of 1934, as amended) is recorded, processed, summarized and reported within the time periods specified in the SEC's rules and forms, and that such information is accumulated and communicated to our management, including our Chief Executive Officer and Chief Financial Officer, as appropriate, to allow timely decisions regarding required disclosures. Our management, with the participation of our Chief Executive Officer and Chief Financial Officer, evaluated the effectiveness of the Company's disclosure controls and procedures as of December 31, 2017. Based on that evaluation, the Chief Executive

Officer and Chief Financial Officer concluded that our disclosure controls and procedures as of the end of the period covered by this Annual Report were effective to provide the reasonable level of assurance described above.

Management's Annual Report on Internal Control over Financial Reporting

Management is responsible for establishing and maintaining adequate internal control over financial reporting, as defined in Rules 13a-15(f) and 15d-15(f) under the Exchange Act. Internal control over financial reporting is a process designed to provide reasonable assurance regarding the reliability of the Company's financial reporting and the preparation of financial statements for external purposes in accordance with generally accepted accounting principles.

As discussed in Note 3 to the consolidated financial statements, in July 2017, the Company completed the acquisition of API Plastics. The Company began to integrate API Plastics into our internal control over financial reporting structure subsequent to the acquisition date and expects to complete this integration by June 2018. As permitted by the SEC, management has elected to exclude this acquisition from our assessment of the effectiveness of our internal control over financial reporting as of December 31, 2017. API Plastics constituted approximately 2% of the Company's total assets as of December 31, 2017, and approximately 1% of the Company's net sales for the year then ended.

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 policies and procedures may deteriorate.

Management conducted an assessment of the Company's internal control over financial reporting as of December 31, 2017 based on the framework in Internal Control—Integrated Framework (2013) issued by the Committee of Sponsoring Organizations of the Treadway Commission. Based on the assessment, management concluded that, as of December 31, 2017, the Company's internal control over financial reporting is effective.

The effectiveness of the Company's internal control over financial reporting as of December 31, 2017 has been audited by PricewaterhouseCoopers LLP, an independent registered public accounting firm, as stated in their report which appears herein.

Changes in Internal Control over Financial Reporting

There was no change in our internal control over financial reporting (as defined in Rules 13a-15(f) and 15d-15(f) of the Exchange Act) that occurred during the quarter ended December 31, 2017 that has materially affected, or is reasonably likely to materially affect, our internal control over financial reporting.

Item 9B. *Other Information*

None.

Part III

Item 10. *Directors, Executive Officers and Corporate Governance*

The information required by this Item 10 is incorporated herein by reference from the sections captioned "Election of Directors," "Corporate Governance," "Stock Ownership Information," and "Section 16(a) Beneficial Ownership Reporting Compliance" of the Company's definitive proxy statement for the 2018 annual general meeting of shareholders to be filed with the Securities and Exchange Commission pursuant to Regulation 14A under the Securities Exchange Act of 1934 (the "2018 Proxy Statement").

Code of Ethics

The Company has adopted a Code of Business Conduct applicable to all of our directors, officers and employees, and a Code of Ethics for Senior Financial Employees applicable to our principal executive, financial and accounting officers, and all persons performing similar functions. A copy of each of those Codes is available on the Company's corporate website at www.trinseo.com under Investor Relations—Corporate Governance—Ethics and Compliance. If we

make any substantive amendments to these Codes, or grant any waivers, including any implicit waivers from the provisions of these Codes, we will make a disclosure on our website or in a report on Form 8-K. Our Code of Business of Conduct is supported by a number of subsidiary policies which are specifically referenced in the Code, and several of which are also available on our corporate website. Our website and the information contained on that site, or accessible through that site, are not incorporated into and are not a part of this Annual Report.

Item 11. Executive Compensation

The information required by this Item 11 will be contained in our 2018 Proxy Statement and is incorporated by reference herein.

Item 12. *Security Ownership of Certain Beneficial Owners and Management and Related Stockholder Matters*

The information required by this Item 12 will be contained in our 2018 Proxy Statement and is incorporated by reference herein.

Item 13. *Certain Relationships and Related Transactions, and Director Independence*

The information required by this Item 13 will be contained in our 2018 Proxy Statement and is incorporated by reference herein.

Item 14. *Principal Accounting Fees and Services*

The information required by this Item 14 will be contained in our 2018 Proxy Statement and is incorporated by reference herein.

Part IV

Item 15. *Exhibits, Financial Statement Schedules*

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

1. Financial statements:

Americas Styrenics LLC
Audited Consolidated Financial Statements

2. Exhibits: The exhibits to this report are listed in the exhibit index below.

EXHIBIT INDEX

Exhibit No.		Description
3.1		Amended and Restated Articles of Association of Trinseo S.A., as amended (incorporated herein by reference to Exhibit 3.1 to the Quarterly Report filed on Form 10-Q, File No. 001-36473, filed August 3, 2017)
4.1		Indenture among Trinseo Materials Operating S.C.A., Trinseo Materials Finance, Inc. and The Bank of New York Mellon, as Trustee, dated as of August 29, 2017 (incorporated herein by reference to Exhibit 4.1 to the Current Report filed on Form 8-K, File No. 001-36473, filed September 5, 2017)
4.2		Form of Specimen Share Certificate of Trinseo S.A. (incorporated herein by reference to Exhibit 4.1 to Amendment No. 3 of the Registration Statement filed on Form S-1, File No. 333-194561, filed May 16, 2014)
10.1		Credit Agreement among Trinseo Materials Operating S.C.A., Trinseo Materials Finance, Inc. together with Trinseo Holdings S.à r.l., and Trinseo Materials S.à r.l., Deutsche Bank AG New York Branch, as administrative agent, collateral agent, L/C issuer and swing line lender, and the guarantors and lenders from time to time party thereto, dated as of September 6, 2017 (incorporated herein by reference to Exhibit 10.1 to the Current Report filed on Form 8-K, No. 001-36473, filed September 7, 2017)
10.2		Form of Cross-Currency Rate Swap Transaction Confirmation (incorporated herein by reference to Exhibit 10.2 to the Current Report filed on Form 8-K, File No. 001-36473, filed September 7, 2017)
10.3		Amended and Restated Employment Agreement, among Trinseo US Holding, Inc. and Christopher D. Pappas, dated December 20, 2017 (incorporated herein by reference to Exhibit 10.1 to the Current Report filed on Form 8-K, File No. 001-36473, filed December 27, 2017)
10.4		Employment Agreement between Trinseo LLC and Barry Niziolek, dated May 20, 2016 (incorporated herein by reference to Exhibit 10.1 to the Current Report filed on Form 8-K, File No. 001-36473, filed May 23, 2016)
10.5		Employment Agreement, dated September 14, 2015 by and between Trinseo Europe GmbH. and Timothy M. Stedman (incorporated herein by reference to Exhibit 10.11 to the Annual Report filed on Form 10-K, File No. 001-36473, filed March 11, 2016)
10.6		Employment Agreement, dated August 7, 2015, by and between Trinseo Europe GmbH and Hayati Yarkadas (incorporated herein by reference to Exhibit 10.12 to the Annual Report filed on Form 10-K, File No. 001-36473, filed March 11, 2016)
10.7		Employment Agreement, among Trinseo US Holding, Inc. (f/k/a Bain Capital Everest US Holding, Inc.) Bain Capital Everest Manager Holding SCA and Marilyn Horner, dated January 5, 2011 (incorporated herein by reference to Exhibit 10.12 to the Annual Report filed on Form 10-K, File No. 001-36473, filed March 10, 2015)
10.8		First Amendment to Employment Agreement, among Trinseo US Holding, Inc. (f/k/a Bain Capital Everest US Holding, Inc.) Bain Capital Everest Manager Holding SCA and Marilyn Horner, dated February 14, 2012 (incorporated herein by reference to Exhibit 10.13 to the Annual Report filed on Form 10-K, File No. 001-36473, filed March 10, 2015)

Exhibit No.		Description
10.9†		Second Amendment to Employment Agreement, among Trinseo US Holding, Inc., Trinseo S.A. and Marilyn Horner, dated December 20, 2017
10.10†		Retention Award Letter Agreement, dated December 21, 2017, between Trinseo US Holding, Inc., Trinseo LLC and Marilyn Horner
10.11		Letter Agreement, dated March 1, 2016, between Trinseo S.A. and Marilyn N. Horner, defining retirement for purpose of equity awards (incorporated by reference to Exhibit 10.5 to the Quarterly Report filed on Form 10-Q, File No. 001-36473, filed May 5, 2016)
10.12		Employment Agreement, dated November 17, 2014, by and between Trinseo US Holding, Inc. (f/k/a Bain Capital Everest US Holding, Inc.) and Angelo N. Chaclas (incorporated herein by reference to Exhibit 10.10 to the Annual Report filed on Form 10-K, File No. 001-36473, filed March 11, 2016)
10.13*		Second Amended and Restated Master Outsourcing Services Agreement, among The Dow Chemical Company and Trinseo LLC (f/k/a Styron LLC) and Trinseo Holding B.V. (f/k/a Styron Holding B.V.), dated June 1, 2013 (incorporated herein by reference to Exhibit 10.19 to Amendment No. 2 to the Registration Statement filed on Form S-4, File No. 333-191460, filed December 17, 2013)
10.14*		Contract of Sale, by and between Americas Styrenics LLC and The Dow Chemical Company, dated December 1, 2009, as amended by that certain Amendment to and Consent to Partial Assignment, dated April 1, 2010 (incorporated herein by reference to Exhibit 10.20 to Amendment No. 2 to the Registration Statement filed on Form S-4, File No. 333-191460, filed December 17, 2013)
10.15*		Amended and Restated Ethylene Sales Contract (Europe), between Dow Europe GmbH and Trinseo Europe GmbH (f/k/a Styron Europe GmbH), dated June 17, 2010 (incorporated herein by reference to Exhibit 10.22 to Amendment No. 2 to the Registration Statement filed on Form S-4, File No. 333-191460, filed December 17, 2013)
10.16*		Amended and Restated Benzene Sales Contract (Europe), between Dow Europe GmbH and Trinseo Europe GmbH (f/k/a Styron Europe GmbH), dated June 17, 2010 (incorporated herein by reference to Exhibit 10.23 to Amendment No. 2 to the Registration Statement filed on Form S-4, File No. 333-191460, filed December 17, 2013)
10.17*		Amended and Restated Butadiene Sales Contract (Europe), between Dow Europe GmbH and Trinseo Europe GmbH (f/k/a Styron Europe GmbH), dated June 17, 2010 (incorporated herein by reference to Exhibit 10.27 to Amendment No. 2 to the Registration Statement filed on Form S-4, File No. 333-191460, filed December 17, 2013)
10.18*		Amended and Restated MOD5 Computerized Process Control Software Agreement, Licenses and Services, between Rofan Services Inc. and Trinseo LLC (f/k/a Styron LLC), dated as of June 17, 2010 (incorporated herein by reference to Exhibit 10.29 to the Registration Statement filed on Form S-4, File No. 333-191460, filed September 30, 2013)
10.19*		Amendment No. 1 to the Amended and Restated MOD5 Computerized Process Control Software Agreement, Licenses and Services, between Rofan Services Inc. and Trinseo LLC (f/k/a Styron LLC), dated as of June 1, 2013 (incorporated herein by reference to Exhibit 10.30 to Amendment No. 2 to the Registration Statement filed on Form S-4, File No. 333-191460, filed December 17, 2013)

Exhibit No.		Description
10.20*		Amended and Restated Styron License Agreement, among The Dow Chemical Company, Dow Global Technologies Inc. and Trinseo LLC (f/k/a Styron LLC), dated as of June 17, 2010. (incorporated herein by reference to Exhibit 10.31 to Amendment No. 2 to the Registration Statement filed on Form S-4, File No. 333-191460, filed December 17, 2013)
10.21†		Deed of Amendment, Restatement and Accession, dated December 21, 2017 entered into by and among Trinseo Europe GmbH, Trinseo Export GmbH, Trinseo Deutschland Anlagengesellschaft mbH, Trinseo Netherlands B.V., Trinseo LLC, Trinseo U.S. Receivables Company SPV LLC, Styron Receivables Funding Designated Activity Company, Trinseo Finance Luxembourg S.à r.l., Luxembourg, Zweigniederlassung Horgen, Regency Assets Designated Activity Company, HSBC Bank plc, Trinseo Holding S.à r.l., TMF Administration Services Limited and the Law Debenture Trust Corporation plc
10.22		Form of Restoration and Elective Deferral Plan (incorporated herein by reference to Exhibit 10.35 to Amendment No. 2 to the Registration Statement on Form S-1, File No. 333-194561, filed May 5, 2014)
10.23		Performance Award (PA) Plan (incorporated herein by reference to Exhibit 10.36 to Amendment No. 2 to the Registration Statement on Form S-1, File No. 333-194561, filed May 5, 2014)
10.24		Form of 2014 Omnibus Incentive Plan (incorporated herein by reference to Exhibit 10.34 to Amendment No. 3 to the Registration Statement on Form S-1, File No. 333-194561, filed May 16, 2014)
10.25		Trinseo S.A. Cash Incentive Plan (incorporated herein by reference to Exhibit 10.35 to Amendment No. 3 to the Registration Statement on Form S-1, File No. 333-194561, filed May 16, 2014)
10.26		Form of Indemnification Agreement for Directors and Officers (incorporated herein by reference to Exhibit 10.1 to the Quarterly Report on Form 10-Q, File No.001-36473, filed August 3, 2017)
10.27†		Form of Director Offer Letter
10.28		Form of Restricted Stock Unit Agreement for Directors (incorporated herein by reference to Exhibit 10.1 to the Quarterly Report on Form 10-Q, File No. 001-36473, filed May 3, 2017)
10.29		Form of Restricted Stock Unit Award Agreement for Executives (incorporated herein by reference to Exhibit 10.2 to the Quarterly Report filed on Form 10-Q, File No. 001-36473, filed May 3, 2017)
10.30		Form of Non-statutory Stock Option Award Agreement for Executives (incorporated herein by reference to Exhibit 10.3 to the Quarterly Report filed on Form 10-Q, File No. 001-36473, filed May 3, 2017)
10.31		Form of Performance Award Stock Unit Agreement for Executives (incorporated herein by reference to Exhibit 10.4 to the Quarterly Report filed on Form 10-Q, File No. 001-36473, filed May 3, 2017)
10.32		Form of Restricted Stock Unit Award Agreement for Employees (incorporated herein by reference to Exhibit 10.5 to the Quarterly Report filed on Form 10-Q, File No. 001-36473, filed May 3, 2017)
10.33		Form of Non-statutory Stock Option Award Agreement for Employees (incorporated herein by reference to Exhibit 10.6 to the Quarterly Report filed on Form 10-Q, File No. 001-36473, filed May 3, 2017)

Exhibit No.		Description
10.34		Form of Letter Agreement to Restricted Stock Unit Awardees regarding payment of dividend equivalents (incorporated herein by reference to Exhibit 10.38 to the Annual Report filed on Form 10-K, File No. 001-36473, filed March 1, 2017)
12.1†		Statement of Computation of Ratios of Earnings to Fixed Charges
21.1†		Subsidiaries of Trinseo S.A.
23.1†		Consent of Independent Registered Public Accounting Firm PricewaterhouseCoopers LLP
23.2†		Consent of Independent Registered Public Accounting Firm Deloitte & Touche LLP
31.1†		Certification of Chief Executive Officer Pursuant to 18 U.S.C. Section 1350, as adopted pursuant to Section 302 of the Sarbanes-Oxley Act of 2002
31.2†		Certification of Chief Financial Officer Pursuant to 18 U.S.C. Section 1350, as adopted pursuant to Section 302 of the Sarbanes-Oxley Act of 2002
32.1†		Certification of Chief Executive Officer Pursuant to 18 U.S.C. Section 1350, as adopted pursuant to Section 906 of the Sarbanes-Oxley Act of 2002
32.2†		Certification of Chief Financial Officer Pursuant to 18 U.S.C. Section 1350, as adopted pursuant to Section 906 of the Sarbanes-Oxley Act of 2002
101.INS†		XBRL Instance Document
101.SCH†		XBRL Taxonomy Extension Schema Document
101.CAL†		XBRL Taxonomy Extension Calculation Linkbase Document
101.DEF†		XBRL Taxonomy Extension Definition Linkbase Document
101.LAB†		XBRL Extension Label Linkbase Document
101.PRE†		XBRL Taxonomy Extension Presentation Linkbase Document

* Application has been made to the Securities and Exchange Commission for confidential treatment of certain provisions of these exhibits. Omitted material for which confidential treatment has been requested has been filed separately with the Securities and Exchange Commission.

† Filed herewith.

Item 16. ***Form 10-K Summary***

None.

SIGNATURES

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

Date: March 1, 2018

TRINSEO S.A.

By: /s/ Christopher D. Pappas
Name: Christopher D. Pappas
Title: President and Chief Executive Officer

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

Signature	Title	Date
/s/ Christopher D. Pappas Christopher D. Pappas	President and Chief Executive Officer (Principal Executive Officer)	March 1, 2018
/s/ Barry J. Niziolek Barry J. Niziolek	Executive Vice President and Chief Financial Officer (Principal Financial Officer)	March 1, 2018
/s/ Ryan J. Leib Ryan J. Leib	Vice President, Global Controller and Principal Accounting Officer (Principal Accounting Officer)	March 1, 2018
/s/ Joseph Alvarado Joseph Alvarado	Director	March 1, 2018
/s/ Jeffrey J. Cote Jeffrey J. Cote	Director	March 1, 2018
/s/ Pierre-Marie De Leener Pierre-Marie De Leener	Director	March 1, 2018
/s/ K'Lynne Johnson K'Lynne Johnson	Director	March 1, 2018
/s/ Philip R. Martens Philip R. Martens	Director	March 1, 2018
/s/ Donald T. Misheff Donald T. Misheff	Director	March 1, 2018
/s/ Henri Steinmetz Henri Steinmetz	Director	March 1, 2018
/s/ Stephen M. Zide Stephen M. Zide	Director	March 1, 2018

INDEX TO CONSOLIDATED FINANCIAL STATEMENTS

* The audited financial statements of Americas Styrenics LLC as of December 31, 2017 and 2016 and for the years ended December 31, 2017, 2016 and 2015 have been included in this Annual Report in accordance with the requirements of Rule 3-09 of Regulation S-X.

Report of Independent Registered Public Accounting Firm

To the Board of Directors and Shareholders of Trinseo S.A.

Opinions on the Financial Statements and Internal Control over Financial Reporting

We have audited the accompanying consolidated balance sheets of Trinseo S.A. and its subsidiaries as of December 31, 2017 and 2016, and the related consolidated statements of operations, comprehensive income (loss), shareholders' equity and cash flows for each of the three years in the period ended December 31, 2017, including the related notes and financial statement schedule listed in the accompanying index (collectively referred to as the "consolidated financial statements"). We also have audited the Company's internal control over financial reporting as of December 31, 2017, 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, based on our audits and the report of other auditors, the consolidated financial statements referred to above present fairly, in all material respects, the financial position of the Company as of December 31, 2017 and 2016, and the results of their operations and their cash flows for each of the three years in the period ended December 31, 2017 in conformity with accounting principles generally accepted in the United States of America. Also in our opinion, based on our audit, the Company maintained, in all material respects, effective internal control over financial reporting as of December 31, 2017, based on criteria established in *Internal Control - Integrated Framework* (2013) issued by the COSO.

We did not audit the financial statements of Americas Styrenics LLC, a 50% equity investment of Trinseo S.A., as of and for the years ended December 31, 2017 and 2016, which is reflected in the consolidated financial statements of Trinseo S.A. as an equity method investment of $152.5 million and $149.7 million as of December 31, 2017 and 2016, respectively, and income from equity investment of $122.9 million, $135.8 million and $135.3 million for the years ended December 31, 2017, 2016 and 2015 respectively. Those statements were audited by other auditors whose report thereon has been furnished to us, and our opinion expressed herein, insofar as it relates to the amounts included for Americas Styrenics LLC, is based solely on the report of the other auditors.

Change in Accounting Principle

As discussed in Note 2 to the consolidated financial statements, the Company changed the manner in which it presents and classifies certain items in the consolidated statements of cash flows in 2017.

Basis for Opinions

The Company's management is responsible for these consolidated financial statements, for maintaining effective internal control over financial reporting, and for its assessment of the effectiveness of internal control over financial reporting, included in Management's Annual Report on Internal Control over Financial Reporting appearing under Item 9A. Our responsibility is to express opinions on the Company's consolidated financial statements and on the Company's internal control over financial reporting based on our audits. We are a public accounting firm registered with the Public Company Accounting Oversight Board (United States) ("PCAOB") and are required to be independent with respect to the Company in accordance with the U.S. federal securities laws and the applicable rules and regulations of the Securities and Exchange Commission and the PCAOB.

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

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

As described in Management's Annual Report on Internal Control over Financial Reporting, management has excluded API Plastics from its assessment of internal control over financial reporting as of December 31, 2017 because it was acquired by the Company in a purchase business combination during 2017. We have also excluded API Plastics from our audit of internal control over financial reporting. API Plastics is a wholly-owned subsidiary whose total assets and total revenues excluded from management's assessment and our audit of internal control over financial reporting represent approximately 2% and 1%, respectively, of the related consolidated financial statement amounts as of and for the year ended December 31, 2017.

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 (i) pertain to the maintenance of records that, in reasonable detail, accurately and fairly reflect the transactions and dispositions of the assets of the company; (ii) 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 (iii) 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/ PricewaterhouseCoopers LLP
Philadelphia, PA
March 1, 2018

We have served as the Company's auditor since 2010.

TRINSEO S.A.

Consolidated Balance Sheets
(In millions, except per share data)

	December 31, 2017	December 31, 2016
Assets		
Current assets		
Cash and cash equivalents	$ 432.8	$ 465.1
Accounts receivable, net of allowance	685.5	564.4
Inventories	510.4	385.3
Other current assets	17.5	18.1
Total current assets	1,646.2	1,432.9
Investments in unconsolidated affiliates	152.5	191.4
Property, plant and equipment, net	627.0	510.0
Other assets		
Goodwill	72.5	38.0
Other intangible assets, net	207.5	177.3
Deferred income tax assets	35.5	43.8
Deferred charges and other assets	30.8	27.9
Total other assets	346.3	287.0
Total assets	$ 2,772.0	$ 2,421.3
Liabilities and shareholders' equity		
Current liabilities		
Short-term borrowings and current portion of long-term debt	$ 7.0	$ 5.0
Accounts payable	436.8	378.0
Income taxes payable	35.9	23.8
Accrued expenses and other current liabilities	146.9	135.4
Total current liabilities	626.6	542.2
Noncurrent liabilities		
Long-term debt, net of unamortized deferred financing fees	1,165.0	1,160.4
Deferred income tax liabilities	49.2	24.8
Other noncurrent obligations	256.4	246.2
Total noncurrent liabilities	1,470.6	1,431.4
Commitments and contingencies (Note 14)		
Shareholders' equity		
Ordinary shares, $0.01 nominal value, 50,000.0 shares authorized (December 31, 2017: 48.8 shares issued and 43.4 shares outstanding; December 31, 2016: 48.8 shares issued and 44.3 shares outstanding)	0.5	0.5
Additional paid-in-capital	578.8	573.7
Treasury shares, at cost (December 31, 2017: 5.4 shares; December 31, 2016: 4.5 shares)	(286.8)	(217.5)
Retained earnings	527.9	261.2
Accumulated other comprehensive loss	(145.6)	(170.2)
Total shareholders' equity	674.8	447.7
Total liabilities and shareholders' equity	$ 2,772.0	$ 2,421.3

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

TRINSEO S.A.

Consolidated Statements of Operations
(In millions, except per share data)

	Year Ended December 31, 2017	2016	2015
Net sales	$ 4,448.1	$ 3,716.6	$ 3,971.9
Cost of sales	3,794.1	3,129.0	3,502.8
Gross profit	654.0	587.6	469.1
Selling, general and administrative expenses	239.0	241.5	208.0
Equity in earnings of unconsolidated affiliates	123.7	144.7	140.2
Operating income	538.7	490.8	401.3
Interest expense, net	70.1	75.0	93.2
Loss on extinguishment of long-term debt	65.3	—	95.2
Other expense (income), net	(7.8)	10.5	9.1
Income before income taxes	411.1	405.3	203.8
Provision for income taxes	82.8	87.0	70.2
Net income	$ 328.3	$ 318.3	$ 133.6
Weighted average shares- basic	43.8	46.5	48.8
Net income per share- basic	$ 7.49	$ 6.84	$ 2.74
Weighted average shares- diluted	45.0	47.5	49.0
Net income per share- diluted	$ 7.30	$ 6.70	$ 2.73
Dividends per share	$ 1.38	$ 0.90	$ —

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

TRINSEO S.A.

Consolidated Statements of Comprehensive Income (Loss)
(In millions)

	Year Ended December 31, 2017	2016	2015
Net income	$ 328.3	$ 318.3	$ 133.6
Other comprehensive income (loss), net of tax:			
Cumulative translation adjustments	24.5	(9.8)	(91.4)
Net gain (loss) on cash flow hedges	(18.4)	6.7	5.6
Pension and other postretirement benefit plans:			
Prior service credit arising during period (net of tax of $0, $0, and $0.2)	—	—	3.2
Net gain (loss) arising during period (net of tax of $10.8, $(7.3), and $2.8)	31.8	(20.6)	4.7
Amounts reclassified from accumulated other comprehensive income (loss)	(13.3)	3.3	3.4
Total other comprehensive income (loss), net of tax	24.6	(20.4)	(74.5)
Comprehensive income	$ 352.9	$ 297.9	$ 59.1

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

TRINSEO S.A.

Consolidated Statements of Shareholders' Equity
(In millions, except per share data)

	Shares		Shareholders' Equity					
	Ordinary Shares Outstanding	Treasury Shares	Ordinary Shares	Additional Paid-In Capital	Treasury Shares	Accumulated Other Comprehensive Income (Loss)	Retained Earnings (Accumulated Deficit)	Total
Balance at December 31, 2014	48.8	—	$ 0.5	$ 547.6	$ —	$ (75.3)	$ (149.2)	$ 323.6
Net income	—	—	—	—	—	—	133.6	133.6
Other comprehensive loss	—	—	—	—	—	(74.5)	—	(74.5)
Stock-based compensation activity	—	—	—	9.0	—	—	—	9.0
Balance at December 31, 2015	48.8	—	$ 0.5	$ 556.6	$ —	$ (149.8)	$ (15.6)	$ 391.7
Adoption of new accounting standard	—	—	—	0.9	—	—	(0.9)	—
Net income	—	—	—	—	—	—	318.3	318.3
Other comprehensive loss	—	—	—	—	—	(20.4)	—	(20.4)
Stock-based compensation activity	—	—	—	16.2	1.0	—	—	17.2
Purchase of treasury shares	(4.5)	4.5	—	—	(218.5)	—	—	(218.5)
Dividends on ordinary shares ($0.90 per share)	—	—	—	—	—	—	(40.6)	(40.6)
Balance at December 31, 2016	44.3	4.5	$ 0.5	$ 573.7	$ (217.5)	$ (170.2)	$ 261.2	$ 447.7
Net income	—	—	—	—	—	—	328.3	328.3
Other comprehensive income	—	—	—	—	—	24.6	—	24.6
Stock-based compensation activity	0.5	(0.5)	—	5.1	17.5	—	—	22.6
Purchase of treasury shares	(1.4)	1.4	—	—	(86.8)	—	—	(86.8)
Dividends on ordinary shares ($1.38 per share)	—	—	—	—	—	—	(61.6)	(61.6)
Balance at December 31, 2017	43.4	5.4	$ 0.5	$ 578.8	$ (286.8)	$ (145.6)	$ 527.9	$ 674.8

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

TRINSEO S.A.

Consolidated Statements of Cash Flows
(In millions)

	Year Ended December 31,		
	2017	2016	2015
Cash flows from operating activities			
Net income	$ 328.3	$ 318.3	$ 133.6
Adjustments to reconcile net income to net cash provided by operating activities			
Depreciation and amortization	110.6	96.4	96.8
Amortization of deferred financing fees and issuance discount	5.1	5.8	7.7
Deferred income tax	14.8	16.1	(0.1)
Stock-based compensation expense	13.8	17.1	9.0
Earnings of unconsolidated affiliates, net of dividends	5.3	(13.4)	(15.2)
Unrealized net losses (gains) on foreign exchange forward contracts	2.6	3.2	(9.0)
Loss on extinguishment of long-term debt	65.3	—	95.2
Loss (gain) on sale of businesses and other assets	(10.5)	14.9	—
Impairment charges	4.3	15.1	—
Pension curtailment and settlement gains	(21.6)	—	—
Changes in assets and liabilities			
Accounts receivable	(51.8)	(96.4)	65.1
Inventories	(80.2)	(51.0)	97.2
Accounts payable and other current liabilities	9.3	57.1	(71.9)
Income taxes payable	9.9	3.8	12.0
Other assets, net	(4.5)	5.4	3.2
Other liabilities, net	(9.4)	11.3	(1.7)
Cash provided by operating activities	391.3	403.7	421.9
Cash flows from investing activities			
Capital expenditures	(147.4)	(123.9)	(109.3)
Cash paid to acquire a business, net of cash acquired	(82.3)	—	—
Proceeds from capital expenditures subsidy	—	—	2.2
Proceeds from the sale of businesses and other assets	46.2	2.0	0.8
Distributions from unconsolidated affiliates	0.9	4.8	—
Other investing cash outflows	—	(0.2)	(0.4)
Cash used in investing activities	(182.6)	(117.3)	(106.7)
Cash flows from financing activities			
Deferred financing fees	(21.5)	—	(28.2)
Short-term borrowings, net	(0.3)	(0.3)	(18.4)
Purchase of treasury shares	(88.9)	(215.1)	—
Dividends paid	(58.0)	(27.3)	—
Proceeds from exercise of option awards	9.3	0.2	—
Withholding taxes paid on restricted share units	(0.3)	(0.1)	—
Net proceeds from issuance of 2024 Term Loan B	700.0	—	—
Repayments of 2024 Term Loan B	(1.8)	—	—
Repayments of 2021 Term Loan B	(492.5)	(5.0)	(2.5)
Net proceeds from issuance of 2025 Senior Notes	500.0	—	—
Repayments of 2022 Senior Notes	(746.0)	—	—
Prepayment penalty on long-term debt	(53.0)	—	(68.6)
Net proceeds from issuance of 2021 Term Loan B	—	—	498.8
Net proceeds from issuance of 2022 Senior Notes	—	—	716.6
Repayments of 2019 Senior Notes	—	—	(1,192.5)
Proceeds from Accounts Receivable Securitization Facility	—	—	25.0
Repayments of Accounts Receivable Securitization Facility	—	—	(25.0)
Cash used in financing activities	(253.0)	(247.6)	(94.8)
Effect of exchange rates on cash	12.0	(5.0)	(9.9)
Net change in cash and cash equivalents	(32.3)	33.8	210.5
Cash and cash equivalents—beginning of period	465.1	431.3	220.8
Cash and cash equivalents—end of period	$ 432.8	$ 465.1	$ 431.3
Supplemental disclosure of cash flow information			
Cash paid for income taxes, net of refunds	$ 75.0	$ 66.6	$ 58.2
Cash paid for interest, net of amounts capitalized	$ 63.3	$ 69.4	$ 121.2
Accrual for property, plant and equipment	$ 15.6	$ 35.6	$ 14.2

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

(Dollars in millions, unless otherwise stated)

NOTE 1—ORGANIZATION AND BUSINESS ACTIVITIES

Organization

On June 3, 2010, Bain Capital Everest Manager Holding SCA, an affiliate of Bain Capital to which we refer to as the former Parent, was formed through investment funds advised or managed by Bain Capital. Dow Europe Holding B.V. (together with The Dow Chemical Company, "Dow") retained an indirect ownership interest in the former Parent. Trinseo S.A. ("Trinseo", and together with its subsidiaries, the "Company") was also formed on June 3, 2010, incorporated under the existing laws of the Grand Duchy of Luxembourg. At that time, all ordinary shares of Trinseo were owned by the former Parent. On June 17, 2010, Trinseo acquired 100% of the former Styron business from Dow (the "Acquisition"), at which time, the Company commenced operations.

During the year ended December 31, 2016, the former Parent sold 37,269,567 ordinary shares pursuant to the Company's shelf registration statement filed with the SEC. As such, the former Parent no longer holds an ownership interest in the Company.

Business Activities

The Company is a leading global materials company engaged in the manufacturing and marketing of synthetic rubber, latex binders, and plastics, including various specialty and technologically differentiated products. The Company develops synthetic rubber, latex binders, and plastics products that are incorporated into a wide range of products throughout the world, including tires and other products for automotive applications, carpet and artificial turf backing, coated paper and packaging board, food packaging, appliances, medical devices, consumer electronics and construction applications, among others.

The Company's operations are located in Europe, North America, and Asia Pacific, supplemented by, Americas Styrenics, a styrenics joint venture with Chevron Phillips Chemical Company LP. Refer to Note 4 for further information regarding our investment in Americas Styrenics.

The Company has significant manufacturing and production operations around the world, which allow service to its global customer base. As of December 31, 2017, the Company's production facilities included 30 manufacturing plants (which included a total of 75 production units) at 23 sites across 12 countries, including joint ventures and contract manufacturers. Additionally, as of December 31, 2017, the Company operated 11 research and development (R&D) facilities globally, including mini plants, development centers and pilot coaters.

The Company's chief executive officer, who is the chief operating decision maker, manages the Company's operations under two divisions, Performance Materials and Basic Plastics & Feedstocks. The Performance Materials division includes the following reportable segments: Latex Binders, Synthetic Rubber, and Performance Plastics. The Basic Plastics & Feedstocks division includes the following reportable segments: Basic Plastics, Feedstocks, and Americas Styrenics.

NOTE 2—BASIS OF PRESENTATION AND SUMMARY OF SIGNIFICANT ACCOUNTING POLICIES

Basis of Presentation and Principles of Consolidation

The accompanying consolidated financial statements as of December 31, 2017 and 2016 and for each of the three years in the period ended December 31, 2017 are prepared in accordance with accounting principles generally accepted in the United States of America ("GAAP"). The consolidated financial statements of the Company contain the accounts of all entities that are controlled and variable interest entities ("VIEs") for which the Company is the primary beneficiary. A VIE is defined as a legal entity that has equity investors that do not have sufficient equity at risk for the entity to support its activities without additional subordinated financial support or, as a group, the holders of the equity at risk lack (i) the power to direct the entity's activities or (ii) the obligation to absorb the expected losses or the right to

receive the expected residual returns of the entity. A VIE is required to be consolidated by a company if that company is the primary beneficiary. Refer to Note 10 for further discussion of the Company's Accounts Receivable Securitization Facility, which qualifies as a VIE and is consolidated within the Company's financial statements.

All intercompany balances and transactions are eliminated. Joint ventures over which the Company has the ability to exercise significant influence that are not consolidated are accounted for by the equity method.

Certain prior year amounts have been reclassified to conform to the current year presentation. Effective September 30, 2017, the Company adopted guidance that aims to eliminate diversity in practice for how certain cash receipts and payments are presented and classified in the consolidated statements of cash flows. Refer to the discussion below under *"Recent Accounting Guidance"* for the impact of this adoption to the Company's consolidated statement of cash flows for the periods presented herein.

Revisions

In 2017, the Company corrected its accounting related to a contract manufacturing agreement with a customer that had been entered into in conjunction with the Acquisition, in order to properly adjust for an embedded direct financing lease as well as an unfavorable contract liability, which had not been previously identified. As this agreement has been in place since the Acquisition, this correction includes an adjustment to the original purchase price allocation, resulting in an increase to goodwill of $8.5 million. Additional impacts from this adjustment are described below.

The Company assessed the materiality of this correction to prior periods' financial statements in accordance with SEC Staff Accounting Bulletin No. (SAB) 99, *Materiality*, and concluded that the corrections were not material to prior periods, either individually or in the aggregate, and therefore, amendments of previously filed reports are not required. Although the corrections were immaterial to prior periods, in accordance with SAB 108, *Considering the Effects of Prior Year Misstatements when Quantifying Misstatements in Current Year Financial Statements,* the Company has revised its previously reported consolidated financial statements and related notes thereto.

The following table details the effects of these revisions on impacted line items from the Company's consolidated balance sheet as of December 31, 2016:

	As of December 31, 2016		
Balance Sheet Caption	**As Reported**	**Adjustment**	**As Revised**
Property, plant and equipment, net	$ 513.8	$ (3.8)	$ 510.0
Goodwill	29.5	8.5	38.0
Deferred income tax assets	40.2	3.6	43.8
Deferred charges and other assets	24.4	3.5	27.9
Total other assets	271.4	15.6	287.0
Total assets	2,409.5	11.8	2,421.3
Other noncurrent obligations	237.1	9.1	246.2
Total noncurrent liabilities	1,422.3	9.1	1,431.4
Retained earnings	258.5	2.7	261.2
Total shareholders' equity	445.0	2.7	447.7
Total liabilities and shareholders' equity	2,409.5	11.8	2,421.3

The impact of the correction on the Company's consolidated statements of operations and consolidated statements of cash flows was not significant, and therefore those statements have not been revised herein.

As this error originated in periods prior to those presented, "Accumulated Deficit" as of December 31, 2014 has been reduced from $151.9 million to $149.2 million, and "Accumulated Deficit" as of December 31, 2015 has been reduced from $18.3 million to $15.6 million.

In addition, the Company revised certain previously reported amounts included within Notes 7, 8, 13, and 18 in the consolidated financial statements to correct for the impact of the above adjustments. The Company concluded that its compliance with debt covenants would not have been affected by the adjustments above for any period.

Use of Estimates in Financial Statement Preparation

The preparation of financial statements in conformity with GAAP requires management to make estimates and assumptions that affect the amounts reported in the consolidated financial statements and accompanying notes. Actual amounts could differ from these estimates.

Concentration of Credit Risk

Financial instruments that potentially subject the Company to concentrations of credit risk consist principally of cash equivalents and accounts receivable. The Company uses major financial institutions with high credit ratings to engage in transactions involving cash equivalents. The Company minimizes credit risk in its receivables by selling products to a diversified portfolio of customers in a variety of markets located throughout the world.

The Company performs ongoing evaluations of its customers' credit and generally does not require collateral. The Company maintains an allowance for doubtful accounts for losses resulting from the inability of specific customers to meet their financial obligations, representing our best estimate of probable credit losses in existing trade accounts receivable. A specific reserve for doubtful receivables is recorded against the amount due from these customers. For all other customers, the Company recognizes reserves for doubtful receivables based on historical experience.

Financial Instruments

The carrying amounts of the Company's financial instruments, including cash and cash equivalents, accounts receivable, accounts payable and accrued and other current liabilities, approximate fair value due to their generally short maturities.

The estimated fair value of the Company's 2024 Term Loan B and 2025 Senior Notes (both of which are defined in Note 10) are determined using Level 2 inputs within the fair value hierarchy. Refer to Note 12 for the fair value of these debt instruments. When outstanding, the estimated fair values of borrowings under the Company's 2022 Revolving Facility and Accounts Receivable Securitization Facility (both of which are defined in Note 10) are determined using Level 2 inputs within the fair value hierarchy. The carrying amounts of borrowings under the 2022 Revolving Facility and Accounts Receivable Securitization Facility approximate fair value as these borrowings bear interest based on prevailing variable market rates.

At times, the Company manages its exposure to changes in foreign currency exchange rates, where possible, by entering into foreign exchange forward contracts. Additionally, the Company manages its exposure to variability in interest payments associated with the Company's variable rate debt by entering into interest rate swap agreements. When outstanding, all derivatives, whether designated in hedging relationships or not, are required to be recorded on the consolidated balance sheets at fair value. The fair value of the derivatives is determined from sources independent of the Company, including the financial institutions which are party to the derivative instruments. The fair value of derivatives also considers the credit default risk of the paying party. If the derivative is designated as a fair value hedge, the changes in the fair value of the derivative and the hedged item will be recognized in earnings. If the derivative is designated as a cash flow hedge, the effective portion of the change in the fair value of the derivative will be recorded in other comprehensive income and will be recognized in the consolidated statements of operations when the hedged item affects earnings.

As of December 31, 2017 and 2016, the Company had certain foreign exchange forward contracts outstanding that were not designated for hedge accounting treatment. As such, the settlements and changes in fair value of underlying instruments are recognized in "Other expense (income), net" in the consolidated statements of operations. For the years ended December 31, 2017 and 2015, the Company recognized losses related to these forward contracts of $19.2 million and $16.5 million, respectively, while for the year ended December 31, 2016 the Company recognized gains related to these forward contracts of $3.7 million.

As of December 31, 2017 and 2016, the Company had foreign exchange forward contracts which are designated as cash flow hedges. Additionally, as of December 31, 2017, the Company had interest rate swap agreements designated as cash flow hedges. As such, the qualifying hedge contracts are marked-to-market at each reporting date and any unrealized gains or losses are included in accumulated other comprehensive income or loss, or AOCI, to the extent effective. Amounts are reclassified to "Cost of sales", in the context of foreign exchange forward contracts, and "Interest expense, net", in the context of interest rate swap agreements, in the consolidated statements of operations in the period

during which the transaction affects earnings or it becomes probable that the forecasted transaction will not occur. No interest rate swap agreements were outstanding as of December 31, 2016.

Forward contracts and interest rate swap agreements are entered into with a limited number of counterparties, each of which allows for net settlement of all contracts through a single payment in a single currency in the event of a default on or termination of any one contract. The Company records these foreign exchange forward contracts and interest rate swap agreements on a net basis, by counterparty within the consolidated balance sheets.

As of December 31, 2017, the Company has certain fixed-for-fixed cross currency swaps outstanding, swapping U.S. dollar principal and interest payments on the Company's 2025 Senior Notes for euro-denominated payments. These cross currency swaps have been designated as a hedge of the Company's net investment in certain European subsidiaries. As such, to the extent that these cross currency swaps are deemed to be highly effective hedges, changes in their fair value are recorded within the cumulative translation adjustment account as a component of AOCI. The resulting gain or loss will be subsequently reclassified into earnings when the hedged net investment is either sold or substantially liquidated. No cross currency swaps were outstanding as of December 31, 2016.

The Company presents the cash receipts and payments from hedging activities in the same category as the cash flows from the items subject to hedging relationships. As the items subject to economic hedging relationships are the Company's operating assets and liabilities, the related cash flows are classified within operating activities in the consolidated statements of cash flows.

Foreign Currency Translation

For the majority of the Company's subsidiaries, the local currency has been identified as the functional currency. For remaining subsidiaries, the U.S. dollar has been identified as the functional currency due to the significant influence of the U.S. dollar on their operations. Gains and losses resulting from the translation of various functional currencies into U.S. dollars are not recorded within the consolidated statements of operations. Rather, they are recorded within the cumulative translation adjustment account as a separate component of shareholders' equity (AOCI) in the consolidated balance sheets. The Company translates asset and liability balances at exchange rates in effect at the end of the period and income and expense transactions at the average exchange rates in effect during the period. Gains and losses resulting from foreign currency transactions are recorded within the consolidated statements of operations.

For the years ended December 31, 2017 and 2015, the Company recognized net foreign exchange transaction gains of $20.6 million and $6.1 million, respectively, while for the year ended December 31, 2016, the Company recognized net foreign exchange transaction losses of $5.5 million. These amounts exclude the impacts of foreign exchange forward contracts discussed above. Gains and losses on net foreign exchange transactions are recorded within "Other expense (income), net" in the consolidated statements of operations.

Environmental Matters

Accruals for environmental matters are recorded when it is considered probable that a liability has been incurred and the amount of the liability can be reasonably estimated, based on current law and existing technologies. These accruals are adjusted periodically as assessment and remediation efforts progress, or as additional technical or legal information become available. Accruals for environmental liabilities are recorded within "Other noncurrent obligations" in the consolidated balance sheets at undiscounted amounts. As of December 31, 2017 and 2016, there were no accruals for environmental liabilities recorded.

Environmental costs are capitalized in recognition of legal asset retirement obligations resulting from the acquisition, construction or normal operation of a long-lived asset. Any costs related to environmental contamination treatment and clean-ups are charged to expense. Estimated future incremental operations, maintenance and management costs directly related to remediation are accrued when such costs are probable and reasonably estimable.

Cash and Cash Equivalents

Cash and cash equivalents generally include time deposits or highly liquid investments with original maturities of three months or less and no material liquidity fee or redemption gate restrictions.

Inventories

Inventories are stated at the lower of cost or net realizable value (“NRV”), with cost being determined on the first-in, first-out (“FIFO”) method. NRV is calculated as the estimated selling price less reasonably predictable costs of completion, disposal and transportation. The Company periodically reviews its inventory for excess or obsolete inventory, and will write-down the excess or obsolete inventory value to its net realizable value, if applicable.

Property, Plant and Equipment

Property, plant and equipment are carried at cost less accumulated depreciation and less impairment, if applicable, and are depreciated over their estimated useful lives using the straight-line method.

Expenditures for maintenance and repairs are recorded in the consolidated statement of operations as incurred. Expenditures that significantly increase asset value, extend useful asset lives or adapt property to a new or different use are capitalized. These expenditures include planned major maintenance activity or turnaround activities that increase our manufacturing plants’ output and improve production efficiency as compared to pre-turnaround operations. As of December 31, 2017 and 2016, $11.6 million and $9.2 million, respectively, of the Company’s net costs related to turnaround activities were capitalized within “Deferred charges and other assets” in the consolidated balance sheets, and are being amortized over the period until the next scheduled turnaround.

The Company periodically evaluates actual experience to determine whether events and circumstances have occurred that may warrant revision of the estimated useful lives of property, plant and equipment. Engineering and other costs directly related to the construction of property, plant and equipment are capitalized as construction in progress until construction is complete and such property, plant and equipment is ready and available to perform its specifically assigned function. Upon retirement or other disposal, the asset cost and related accumulated depreciation are removed from the accounts and the net amount, less any proceeds, is charged or credited to income. The Company also capitalizes interest as a component of the cost of capital assets constructed for its own use.

Impairment and Disposal of Long-Lived Assets

The Company evaluates long-lived assets for impairment whenever events or changes in circumstances indicate that the carrying amount of an asset or asset group may not be recoverable. When undiscounted future cash flows are not expected to be sufficient to recover an asset’s carrying amount, the asset is written down to its fair value based on a discounted cash flow analysis utilizing market participant assumptions. Refer to Note 12 for further information.

Long-lived assets to be disposed of by sale are classified as held-for-sale and are reported at the lower of carrying amount or fair value less cost to sell, and depreciation is ceased. Long-lived assets to be disposed of in a manner other than by sale are classified as held-and-used until they are disposed.

Goodwill and Other Intangible Assets

The Company records goodwill when the purchase price of a business acquisition exceeds the estimated fair value of net identified tangible and intangible assets acquired. Goodwill is tested for impairment at the reporting unit level annually, or more frequently when events or changes in circumstances indicate that the fair value of a reporting unit has more likely than not declined below its carrying value. The Company utilizes a market approach and an income approach (under the discounted cash flow method) to calculate the fair value of its reporting units. When supportable, the Company employs the qualitative assessment of goodwill impairment prescribed by ASC 350. The annual impairment assessment is completed using a measurement date of October 1st. No goodwill impairment losses were recorded in the years ended December 31, 2017, 2016, and 2015.

Finite-lived intangible assets, such as developed technology, customer relationships, manufacturing capacity rights, and computer software for internal use are amortized on a straight-line basis over their estimated useful life and are reviewed for impairment or obsolescence if events or changes in circumstances indicate that their carrying amount may not be recoverable. If impaired, intangible assets are written down to fair value based on discounted cash flows. No intangible asset impairment losses were recorded in the years ended December 31, 2017, 2016, and 2015.

Acquired developed technology is recorded at fair value upon acquisition and is amortized using the straight-line method over the estimated useful life ranging from 9 years to 15 years. We determine amortization periods for developed

technology based on our assessment of various factors impacting estimated useful lives and timing and extent of estimated cash flows of the acquired assets. This includes estimates of expected period of future economic benefit and competitive advantage related to existing processes and procedures at the date of acquisition. Significant changes to any of these factors may result in a reduction in the useful life of these assets.

Customer relationships are recorded at fair value upon acquisition and are amortized using the straight-line method over the estimated useful life of 19 years. We determine amortization periods for customer relationships based on our assessment of various factors impacting estimated useful lives and timing and extent of estimated cash flows of the acquired assets. This includes estimates of expected period of future economic benefit and customer retention rates. Significant changes to any of these factors may result in a reduction in the useful life of these assets.

Investments in Unconsolidated Affiliates

Investments in unconsolidated affiliates in which the Company has the ability to exercise significant influence (generally, 20% to 50%-owned companies) are accounted for using the equity method. Investments are evaluated for impairment whenever events or changes in circumstances indicate that the carrying amount of the investment may not be recoverable. An impairment loss is recorded whenever a decline in fair value of an investment in an unconsolidated affiliate below its carrying amount is determined to be other-than-temporary.

As discussed below, in conjunction with the adoption of new cash flow guidance that aims to eliminate diversity in practice for how certain cash receipts and payments are presented and classified in the consolidated statements of cash flows, the Company made an accounting policy election to use the cumulative earnings approach for presenting distributions received from equity method investees, which is consistent with its existing approach.

Deferred Financing Fees

Capitalized fees and costs incurred in connection with the Company’s recognized debt liabilities are presented in the consolidated balance sheets as a direct reduction from the carrying value of those debt liabilities, consistent with debt discounts. Deferred financing fees related to the Company’s revolving debt facilities are included within “Deferred charges and other assets” in the consolidated balance sheets.

For the 2024 Term Loan B and 2025 Senior Notes (and the 2021 Term Loan B and 2022 Senior Notes, prior to their repayment in September 2017), deferred financing fees are amortized over the term of the agreement using the effective interest method, while for the 2022 Revolving Facility and the Accounts Receivable Securitization Facility, deferred financing fees are amortized using the straight-line method over the term of the respective facility. Amortization of deferred financing fees is recorded in “Interest expense, net” within the consolidated statements of operations.

Sales

Sales are recognized when the revenue is realized or realizable and the earnings process is complete, which occurs when risk and title to the product transfers to the customer, typically at the time shipment is made. As such, title to the product generally passes when the product is delivered to the freight carrier. Standard terms of delivery are included in contracts of sale, order confirmation documents and invoices. Taxes on sales are excluded from net sales.

Sales are recorded net of estimates for returns and price allowances, including discounts for prompt payment and volume-based incentives.

Cost of Sales

The Company classifies the costs of manufacturing and distributing its products as cost of sales. Manufacturing costs include raw materials, utilities, packaging, employee salary and benefits and fixed manufacturing costs associated with production. Fixed manufacturing costs include such items as plant site operating costs and overhead, production planning, depreciation and amortization, repairs and maintenance, environmental, and engineering costs. Distribution costs include shipping and handling costs. Freight and any directly related costs of transporting finished products to customers are also included within cost of sales. As discussed above, inventory costs are recorded within cost of sales utilizing the FIFO method.

Selling, General and Administrative Expenses

Selling, general and administrative, or SG&A, expenses are generally charged to expense as incurred. SG&A expenses are the cost of services performed by the marketing and sales functions (including sales managers, field sellers, marketing research, marketing communications and promotion and advertising materials) and by administrative functions (including product management, R&D, business management, customer invoicing, human resources, information technology, legal and finance services, such as accounting and tax). Salary and benefit costs, including stock-based compensation, for these sales personnel and administrative staff are included within SG&A expenses. R&D expenses include the cost of services performed by the R&D function, including technical service and development, process research including pilot plant operations, and product development. The Company also includes restructuring charges within SG&A expenses.

Total R&D costs included in SG&A expenses were $51.9 million, $51.0, million and $51.9 million for the years ended December 31, 2017, 2016, and 2015, respectively.

The Company expenses promotional and advertising costs as incurred to SG&A expenses. Total promotional and advertising expenses were $1.5 million, $3.0 million, and $3.5 million for the years ended December 31, 2017, 2016, and 2015, respectively.

Restructuring charges included within SG&A expenses were $8.0 million, $23.9 million and $8.2 million for the years ended December 31, 2017, 2016, and 2015, respectively. Refer to Note 19 for further information.

Pension and Postretirement Benefits Plans

The Company has several defined benefit plans, under which participants earn a retirement benefit based upon a formula set forth in the plan. The Company also provides certain health care and life insurance benefits to retired employees mainly in the United States. Prior to the divestiture of our latex binders and automotive businesses in Brazil (refer to Note 3) we also provided health care and life insurance benefits to retired employees in Brazil. The U.S.-based plan provides health care benefits, including hospital, physicians' services, drug and major medical expense coverage, and life insurance benefits.

Accounting for defined benefit pension plans and other postretirement benefit plans, and any curtailments and settlements thereof, requires various assumptions, including, but not limited to, discount rates, expected rates of return on plan assets and future compensation growth rates. The Company evaluates these assumptions at least once each year, or as facts and circumstances dictate, and makes changes as conditions warrant.

In 2016, the Company changed the method used to estimate the future service and interest cost components of net periodic benefit cost for our defined benefit pension and other postretirement benefit plans. As a result, beginning in 2017, the Company employed a full yield curve approach in the estimation of these components of benefit cost by applying the specific spot rates along the yield curve used in the determination of the benefit obligation to the relevant projected cash flows.

A settlement is a transaction that is an irrevocable action that relieves the employer (or the plan) of primary responsibility for a pension or postretirement benefit obligation, and that eliminates significant risks related to the obligation and the assets used to effect the settlement. When a settlement occurs, the Company does not record settlement gains or losses during interim periods when the cost of all settlements in a year is less than or equal to the sum of the service cost and interest cost components of net periodic benefit cost for the plan in that year.

Income Taxes

The provision for income taxes is determined using the asset and liability approach of accounting for income taxes. Under this approach, deferred taxes represent the future tax consequences expected to occur when the reported amounts of assets and liabilities are recovered or paid. The provision for income taxes represents income taxes paid or payable for the current year plus the change in deferred taxes during the year. Deferred taxes result from differences between the financial and tax basis of the Company's assets and liabilities and are adjusted for changes in tax rates and tax laws when changes are enacted. For each tax jurisdiction in which the Company operates, deferred tax assets and liabilities are offset against one another and are presented as a single noncurrent amount within the consolidated balance sheets.

Valuation allowances are recorded to reduce deferred tax assets when it is more likely than not that a tax benefit will not be realized. Provision is made for income taxes on unremitted earnings of subsidiaries and affiliates, unless such earnings are deemed to be indefinitely invested.

The Company recognizes the financial statement effects of uncertain income tax positions when it is more likely than not, based on the technical merits, that the position will be sustained upon examination. The Company accrues for other tax contingencies when it is probable that a liability to a taxing authority has been incurred and the amount of the contingency can be reasonably estimated. Interest accrued related to unrecognized tax and income tax related penalties are included in the provision for income taxes. The current portion of uncertain income taxes positions is recorded in "Income taxes payable" while the long-term portion is recorded in "Other noncurrent obligations" in the consolidated balance sheets.

Stock-based Compensation

Refer to Note 16 for detailed discussion regarding the Company's stock-based compensation award programs. In connection with the Company's initial public offering ("IPO"), the Company's board of directors approved the 2014 Omnibus Plan. Since that time, certain equity grants have been awarded, comprised of restricted share units ("RSUs"), option awards, and performance share units ("PSUs"). Stock-based compensation expense recognized in our consolidated financial statements is based on awards that are ultimately expected to vest. The Company's policy election is to recognize forfeitures as incurred, rather than estimating forfeitures in advance.

Compensation costs for the RSUs are measured at the grant date based on the fair value of the award and are recognized ratably as expense over the applicable vesting term. The fair value of RSUs is equal to the fair market value of the Company's ordinary shares based on the closing price on the date of grant. Dividend equivalents will accumulate on RSUs during the vesting period, and will be payable in cash and will not accrue interest. Award holders have no right to receive the dividend equivalents unless and until the associated RSUs vest.

Compensation costs for the option awards are measured at the grant date based on the fair value of the award and is recognized as expense over the appropriate service period utilizing graded vesting. The fair value for option awards is computed using the Black-Scholes pricing model, whose inputs and assumptions are determined as of the date of grant.

Compensation costs for the PSUs are measured at the grant date based on the fair value of the award, which is computed using a Monte Carlo valuation model, and is recognized ratably as expense over the applicable vesting term. Dividend equivalents will accumulate on PSUs during the vesting period, and will be payable in cash and will not accrue interest. Award holders have no right to receive the dividend equivalents unless and until the associated PSUs vest.

Treasury Shares

The Company may, from time to time, repurchase its ordinary shares at prevailing market rates. Share repurchases are recorded at cost within "Treasury shares" within shareholders' equity in the consolidated balance sheets. It is the Company's policy that, as RSUs, PSUs, and option awards vest or are exercised, ordinary shares will be issued from the existing pool of treasury shares on a first-in-first-out basis. Refer to Note 16 for details of vesting for RSUs and PSUs as well as the exercises of option awards.

Recent Accounting Guidance

In May 2014, the Financial Accounting Standards Board ("FASB") and the International Accounting Standards Board ("IASB") jointly issued guidance which clarifies the principles for recognizing revenue and develops a common revenue standard for GAAP and International Financial Reporting Standards ("IFRS"). The core principle of the guidance is that an entity should recognize revenue to depict the transfer of promised goods or services to customers in an amount that reflects the consideration to which the entity expects to be entitled in exchange for those goods or services. Additionally, the FASB has issued certain clarifying updates to this guidance, which the Company has considered as part of our adoption, which is effective as of January 1, 2018. The Company has completed its scoping assessment for the adoption of this guidance by conducting surveys with relevant stakeholders in the business, including commercial and finance leadership, reviewing a representative sample of revenue arrangements across all businesses, and identifying potential qualitative revenue recognition changes related to the new standard update. In completing this phase, the Company identified its major revenue streams, which are concentrated within individual product sales within each of our reportable segments. As a result of this work, the Company concluded that it will adopt this new guidance applying the modified retrospective approach. In addition, the Company has established key accounting policies and evaluated impacts on business processes, information technology, and controls resulting from the adoption of this new standard. Additionally, the Company does not expect the impacts of adoption will have a material impact on its consolidated financial statements. The Company remains in the process of assessing new disclosure requirements under this standard, which will be included in the Company's quarterly report on Form 10-Q for the quarter ended March 31, 2018.

In July 2015, the FASB issued guidance which simplifies the subsequent measurement of inventory by replacing the lower of cost or market test with a lower of cost or net realizable value ("NRV") test. NRV is calculated as the estimated selling price less reasonably predictable costs of completion, disposal and transportation. The Company adopted this guidance effective January 1, 2017, and the adoption did not have a material impact on the Company's financial position or results of operations.

In February 2016, the FASB issued guidance related to leases that outlines a comprehensive lease accounting model and supersedes the current lease guidance. The new guidance requires lessees to recognize on the consolidated balance sheets lease liabilities and corresponding right-of-use assets for all leases with terms of greater than 12 months. It also changes the definition of a lease and expands the disclosure requirements of lease arrangements. This new guidance is effective for public companies for annual and interim periods beginning after December 15, 2018, with early adoption permitted. The new guidance must be adopted using a modified retrospective transition, and provides for certain practical expedients. The Company is in the process of assessing the impact on its consolidated financial statements from the adoption of the new guidance. However, as we are the lessee under various real estate, railcar, and other equipment leases, which we currently account for as operating leases, we anticipate an increase in the recognition of right-of-use assets and lease liabilities as a result of this adoption.

In August 2016, the FASB issued guidance that aims to eliminate diversity in practice for how certain cash receipts and payments are presented and classified in the consolidated statements of cash flows. Additionally, the FASB has issued further guidance related to the presentation of restricted cash on the consolidated statement of cash flows. The Company adopted this guidance effective September 30, 2017 on a retrospective basis and the consolidated statements of cash flows for the periods presented herein reflect this adoption. The most significant impact of this adoption to the Company was the requirement to classify debt prepayment or extinguishment costs, which the Company had historically classified within cash flows from operating activities, as financing cash outflows. For the years ended December 31, 2017 and 2015, respectively, \$53.0 million and \$68.6 million of debt prepayment penalties are reflected as financing cash outflows. No debt prepayment penalties were incurred during the year ended December 31, 2016. Additionally, in conjunction with this adoption, the Company made an accounting policy election to use the cumulative earnings approach for presenting distributions received from equity method investees, which is consistent with its existing approach.

In January 2017, the FASB issued guidance that revises the definition of a business in order to assist in determining whether transactions should be accounted for as acquisitions (or disposals) of assets or businesses. Under the new guidance, fewer transactions are expected to be accounted for as business combinations. The Company adopted this guidance during the first quarter of 2017. We expect this adoption could affect conclusions reached for future transactions in several areas, including acquisitions and disposals.

In January 2017, the FASB issued guidance to simplify the accounting for goodwill impairment by removing Step 2 of the test, which requires a hypothetical purchase price allocation. As a result, a goodwill impairment will now be the amount by which a reporting unit's carrying value exceeds its fair value, not to exceed the carrying amount of goodwill. The Company adopted this guidance during the first quarter of 2017, which did not have a material impact to the Company's financial position or results of operations.

In March 2017, the FASB issued guidance that requires employers to present the service cost component of net periodic benefit cost in the same statement of operations line item as other employee compensation costs arising from services rendered during the period. The other components of net periodic benefit cost are to be presented outside of any subtotal of operating income. The Company adopted this guidance effective January 1, 2018 on a retrospective basis. As a result of this adoption, in future filings, the Company will reclassify approximately \$13.7 million of net periodic benefit income for the year ended December 31, 2017 and \$7.4 million of net periodic benefit cost for the year ended

December 31, 2016 from "Cost of sales" and "Selling, general and administrative expenses", collectively, to "Other expense (income), net" within the consolidated statements of operations.

In August 2017, the FASB issued significant amendments to existing hedge accounting guidance. Among other things, this guidance will make more financial and nonfinancial hedging strategies eligible for hedge accounting, amend presentation and disclosure requirements, and change how companies assess effectiveness. This guidance is required for public companies for annual and interim periods beginning after December 15, 2018, with early adoption permitted. The Company is currently assessing the timing and related impact of adopting this guidance on its financial position and results of operations.

In February 2018, the FASB issued guidance to address certain stranded income tax effects in AOCI resulting from the enactment of the U.S. "Tax Cuts and Jobs Act" signed into law on December 22, 2017. The amendment provides financial statement preparers with an option to reclassify stranded tax effects within AOCI, resulting from the reduction of the U.S. federal corporate income tax rate, to retained earnings. The amendment also includes disclosure requirements regarding the Company's accounting policy for releasing income tax effects from AOCI. The amendment is effective for annual periods, and interim periods within those annual periods, beginning after December 15, 2018. Early adoption is permitted, and the provisions of the amendment should be applied either in the period of adoption or retrospectively to each period in which the effect of the change in the U.S. federal corporate income tax rate in the "Tax Cuts and Jobs Act" is recognized. While the Company is still evaluating the provisions of this amendment, should the Company choose to adopt this guidance, it is not expected to have a material impact on the Company's consolidated financial statements.

NOTE 3—ACQUISITIONS AND DIVESTITURES

The Acquisition

The Company accounted for the Acquisition (as discussed in Note 1) under the purchase method of accounting, whereby the purchase price paid, net of working capital adjustments, was allocated to the acquired assets and liabilities at fair value.

As part of the Acquisition, the Company has been indemnified for various tax matters, including income tax and value add taxes, as well as legal liabilities which have been incurred prior to the Acquisition. Conversely, certain tax matters which the Company has benefitted from are subject to reimbursement by Trinseo to Dow. These amounts have been estimated and provisional amounts have been recorded based on the information known during the measurement period; however, these amounts remain subject to change based on the completion of our annual statutory filings, tax authority review as well as a final resolution with Dow on amounts due to and due from the Company. Management believes the Company's estimates and assumptions are reasonable under the circumstances, however, settlement negotiations or changes in estimates around pre-acquisition indemnifications could result in a material impact on the consolidated financial statements.

Acquisition of API Plastics

On July 10, 2017, the Company acquired 100% of the equity interest of API Applicazioni Plastiche Industriali S.p.A, or API Plastics, a privately held company. The gross purchase price for the acquisition was \$90.6 million, inclusive of \$8.4 million of cash acquired, yielding a net purchase price of \$82.3 million, all of which was paid for in the year ended December 31, 2017. API Plastics, based in Mussolente, Italy, is a manufacturer of soft-touch polymers and bioplastics, such as thermoplastic elastomers ("TPEs"). TPEs can be molded over rigid plastics such as ABS and PC/ABS, which presents opportunities for complementary technology product offerings within our Performance Plastics segment. The acquisition was funded through existing cash on hand.

The Company allocated the purchase price of the acquisition to identifiable assets acquired and liabilities assumed based on their estimated fair values as of the acquisition date. The excess of the purchase price over the aggregate fair values was recorded as goodwill. The Company calculated the fair value of the assets acquired using the income and cost approaches (or a combination thereof). Fair values were determined based on Level 3 inputs including estimated future cash flows, discount rates, royalty rates, growth rates, sales projections, retention rates and terminal values, all of which require significant management judgment.

The purchase price allocation is based upon preliminary information and is subject to change if additional information about the facts and circumstances that existed at the acquisition date becomes available. Additional information is being gathered to finalize these preliminary measurements, particularly with respect to property, plant and equipment, intangible assets, inventory, deferred income taxes and income taxes payable. Further adjustments may be necessary as a result of the Company's on-going assessment of additional information related to the fair value of assets acquired and liabilities assumed, including goodwill, during the measurement period.

The following table summarizes the preliminary fair value measurement of the assets acquired and liabilities assumed as of the date of acquisition:

	July 10, 2017
Cash and cash equivalents	$ 8.4
Accounts receivable	16.5
Inventories	10.3
Other current assets	0.8
Property, plant, and equipment	23.3
Other intangible assets[(1)]	
Customer relationships	14.0
Developed technology	11.5
Other amortizable intangible assets	3.5
Total fair value of assets acquired	$ 88.3
Accounts payable	$ 12.2
Income taxes payable	0.2
Accrued expenses and other current liabilities	1.4
Deferred income tax liabilities	11.3
Other noncurrent obligations	1.3
Total fair value of liabilities assumed	$ 26.4
Net identifiable assets acquired	$ 61.9
Goodwill[(2)]	28.7
Net assets acquired	$ 90.6

(1) The expected lives of the acquired intangible assets are 19 years for customer relationships, 9 years for developed technology, and 3 years for other amortizable intangible assets.

(2) Goodwill consists of expected operating synergies resulting from combining API Plastics with our existing businesses, and is allocated entirely to the Performance Plastics segment. None of the goodwill related to this acquisition will be deductible for income tax purposes.

During the year ended December 31, 2017, transaction and integration costs related to advisory and professional fees incurred in conjunction with the API Plastics acquisition were $3.4 million, and were included within "Selling, general and administrative expenses" in the consolidated statement of operations. Additionally, during the year ended December 31, 2017, the Company recorded a $1.3 million non-cash fair value inventory adjustment related to the API Plastics acquisition which was included within "Cost of sales" in the consolidated statement of operations when the acquired inventory was sold.

Pro forma results of operations information has not been presented, as the effect of the API Plastics acquisition is not material. The operating results of API Plastics are included within the Company's consolidated statement of operations since the acquisition date of July 10, 2017 and were not material to the Company's results for the year ended December 31, 2017.

Divestiture of Brazil Business

During the second quarter of 2016, the Company signed a definitive agreement to sell Trinseo do Brasil Comercio de Produtos Quimicos Ltda. ("Trinseo Brazil"), its primary operating entity in Brazil which includes both a latex binders

and automotive business. Under the agreement of sale, which closed on October 1, 2016, Trinseo Brazil was sold to a single counterparty, for a selling price that is subject to certain contingent consideration payments, which could be paid by the buyer over a 5-year period subsequent to the closing date, based on the results of the Trinseo Brazil latex binders business during that time.

As a result of this agreement, during the year ended December 31, 2016, the Company recorded impairment charges for the estimated loss on sale of approximately $15.1 million within "Other expense (income), net" in the consolidated statement of operations. The $15.1 million charge primarily relates to the unrecoverable net book value of property, plant and equipment along with certain working capital balances, and also includes $0.4 million of goodwill written off with the sale (entirely attributable to the Latex Binders segment). This charge has been allocated as $9.4 million, $4.9 million, and $0.7 million to the Performance Plastics segment, Latex Binders segment, and Corporate, respectively. During the years ended December 31, 2017 and 2016, the Company has received $1.7 million and $1.8 million in proceeds from the sale of these businesses, respectively.

The results of operations associated with the latex binders and automotive businesses of Trinseo Brazil were not classified as discontinued operations as the decision to divest these businesses does not represent a strategic shift that has, or will have, a major effect on the Company's financial position or results of operations.

NOTE 4—INVESTMENTS IN UNCONSOLIDATED AFFILIATES

During the year ended December 31, 2017, the Company had two joint ventures: Americas Styrenics, a styrene and polystyrene joint venture with Chevron Phillips Chemical Company LP, and Sumika Styron Polycarbonate, a polycarbonate joint venture with Sumitomo Chemical Company Limited. The results of Americas Styrenics are included within its own reporting segment, and the results of Sumika Styron Polycarbonate were included within the Basic Plastics reporting segment until the Company sold its 50% share of the entity in January 2017. Refer to the discussion below for further information about the sale of the Company's share in Sumika Styron Polycarbonate during the first quarter of 2017.

Equity in earnings from unconsolidated affiliates was $123.7 million, $144.7 million and $140.2 million for the years ended December 31, 2017, 2016, and 2015, respectively.

Both of the unconsolidated affiliates are privately held companies; therefore, quoted market prices for their stock are not available. The summarized financial information of the Company's unconsolidated affiliates is shown below. This table includes summarized financial information for Sumika Styron Polycarbonate through the date of sale in January 2017.

	December 31,	
	2017	2016
Current assets	$ 364.0	$ 457.9
Noncurrent assets	236.2	269.6
Total assets	$ 600.2	$ 727.5
Current liabilities	$ 184.3	$ 207.8
Noncurrent liabilities	17.9	31.4
Total liabilities	$ 202.2	$ 239.2

	Year Ended December 31,		
	2017	2016	2015
Sales	$ 1,798.1	$ 1,649.4	$ 1,753.5
Gross profit	$ 243.6	$ 318.5	$ 318.1
Net income	$ 196.3	$ 249.2	$ 250.1

Sales to unconsolidated affiliates for the years ended December 31, 2017, 2016, and 2015 were $3.6 million, $4.2 million and $2.5 million, respectively. Purchases from unconsolidated affiliates were $78.8 million, $157.4 million and $178.4 million for the years ended December 31, 2017, 2016 and 2015, respectively.

As of December 31, 2017 and 2016, respectively, $0.1 million and $0.7 million due from unconsolidated affiliates was included in “Accounts receivable, net of allowance” and $4.7 million and $16.3 million due to unconsolidated affiliates was included in “Accounts payable” in the consolidated balance sheets.

Americas Styrenics

As of December 31, 2017 and 2016, respectively, the Company’s investment in Americas Styrenics was $152.5 million and $149.7 million, which was $46.4 million and $71.2 million less than the Company’s 50% share of Americas Styrenics’ underlying net assets. These amounts represent the difference between the book value of assets contributed to the joint venture at the time of formation (May 1, 2008) and the Company’s 50% share of the total recorded value of the joint venture’s assets and certain adjustments to conform with the Company’s accounting policies. This difference is being amortized over a weighted average remaining useful life of the contributed assets of approximately 2.8 years as of December 31, 2017. The Company received dividends from Americas Styrenics of $120.0 million, $130.0 million, and $125.0 million for the years ended December 31, 2017, 2016, and 2015, respectively.

Sumika Styron Polycarbonate

On January 31, 2017, the Company completed the sale of its 50% share in Sumika Styron Polycarbonate to Sumitomo Chemical Company Limited for total sales proceeds of approximately $42.1 million. As a result, the Company recorded a gain on sale of $9.3 million during the year ended December 31, 2017, which was included within “Other expense (income), net” in the consolidated statement of operations and was allocated entirely to the Basic Plastics segment. In addition, the parties have entered into a long-term agreement to continue sourcing polycarbonate resin from Sumika Styron Polycarbonate to the Company’s Performance Plastics segment.

As of December 31, 2016, the Company’s investment in Sumika Styron Polycarbonate was $41.7 million. Due to the sale in January 2017, the Company no longer has an investment in Sumika Styron Polycarbonate as of December 31, 2017. The Company received dividends from Sumika Styron Polycarbonate of $9.8 million and $6.2 million for the years ended December 31, 2017 and 2016, respectively. The Company received no dividends from Sumika Styron Polycarbonate for the year ended December 31, 2015.

NOTE 5—ACCOUNTS RECEIVABLE

Accounts receivable consisted of the following:

	December 31, 2017	December 31, 2016
Trade receivables	$ 570.3	$ 479.3
Non-income tax receivables	79.3	55.2
Other receivables	41.5	33.0
Less: allowance for doubtful accounts	(5.6)	(3.1)
Total	$ 685.5	$ 564.4

The allowance for doubtful accounts was approximately $5.6 million and $3.1 million as of December 31, 2017 and 2016, respectively. For the years ended December 31, 2017, 2016, and 2015, respectively, the Company recognized bad debt expense of $1.5 million, $1.0 million, and $0.3 million.

NOTE 6—INVENTORIES

Inventories consisted of the following:

	December 31, 2017	December 31, 2016
Finished goods	$ 250.9	$ 187.5
Raw materials and semi-finished goods	226.7	168.8
Supplies	32.8	29.0
Total	$ 510.4	$ 385.3

NOTE 7—PROPERTY, PLANT AND EQUIPMENT

Property, plant and equipment consisted of the following:

	Estimated Useful Lives (Years)	December 31, 2017	December 31, 2016
Land	Not applicable	$ 40.8	$ 35.0
Land and waterway improvements	1 - 20	16.4	14.6
Buildings	2 - 40	87.9	57.1
Machinery and equipment(1)	1 - 20	874.5	659.6
Utility and supply lines	1 - 10	8.1	7.3
Leasehold interests	1 - 45	41.9	39.2
Other property	1 - 8	25.1	27.0
Construction in process	Not applicable	56.0	83.1
Property, plant and equipment		1,150.7	922.9
Less: accumulated depreciation		(523.7)	(412.9)
Property, plant and equipment, net		$ 627.0	$ 510.0

(1) Approximately 95% of our machinery and equipment had a useful life of three to ten years as of December 31, 2017 and 2016.

	Year Ended December 31, 2017	2016	2015
Depreciation expense	$ 77.9	$ 71.3	$ 74.9
Capitalized interest	$ 5.0	$ 3.4	$ 3.9

NOTE 8—GOODWILL AND INTANGIBLE ASSETS

Goodwill

The following table shows changes in the carrying amount of goodwill, by segment, from December 31, 2015 to December 31, 2016 and from December 31, 2016 to December 31, 2017, respectively:

	Performance Materials			Basic Plastics & Feedstocks			
	Latex Binders	Synthetic Rubber	Performance Plastics	Basic Plastics	Feedstocks	Americas Styrenics	Total
Balance at December 31, 2015	$ 15.7	$ 10.9	$ 5.6	$ 7.4	$ —	$ —	$ 39.6
Acquisitions/Divestitures (Note 3)	(0.4)	—	—	—	—	—	(0.4)
Foreign currency impact	(0.5)	(0.3)	(0.2)	(0.2)	—	—	(1.2)
Balance at December 31, 2016	$ 14.8	$ 10.6	$ 5.4	$ 7.2	$ —	$ —	$ 38.0
Acquisitions/Divestitures (Note 3)	—	—	28.7	—	—	—	28.7
Foreign currency impact	1.7	1.1	2.3	0.7	—	—	5.8
Balance at December 31, 2017	$ 16.5	$ 11.7	$ 36.4	$ 7.9	$ —	$ —	$ 72.5

Goodwill impairment testing is performed annually as of October 1st. In 2017, the Company performed its annual impairment test for goodwill and determined that the estimated fair value of each reporting unit was in excess of the carrying value indicating that none of the Company’s goodwill was impaired. The Company concluded there were no goodwill impairments or triggering events for the years ended December 31, 2017, 2016, and 2015.

Other Intangible Assets

The following table provides information regarding the Company's other intangible assets as of December 31, 2017 and 2016, respectively:

		December 31, 2017			December 31, 2016		
	Estimated Useful Life (Years)	Gross Carrying Amount	Accumulated Amortization	Net	Gross Carrying Amount	Accumulated Amortization	Net
Developed technology[1]	9 - 15	$ 201.6	$ (96.1)	$ 105.5	$ 166.2	$ (72.2)	$ 94.0
Customer Relationships[1]	19	14.7	(0.4)	14.3	—	—	—
Manufacturing Capacity Rights	6	22.8	(13.9)	8.9	20.0	(8.9)	11.1
Software	5 - 10	89.5	(25.2)	64.3	82.3	(15.1)	67.2
Software in development	N/A	11.5	—	11.5	4.8	—	4.8
Other[1]	3	3.4	(0.4)	3.0	0.2	—	0.2
Total		$ 343.5	$ (136.0)	$ 207.5	$ 273.5	$ (96.2)	$ 177.3

(1) Balances as of December 31, 2017 include assets acquired related to the acquisition of API Plastics. Refer to Note 3 for further information.

During 2016, the Company completed an upgrade of our legacy ERP environment to the latest version of SAP. The total amount of capitalized software related to this project was $57.4 million, which is being amortized over its estimated useful life of approximately 9 years.

Amortization expense related to finite-lived intangible assets totaled $27.0 million, $21.3 million, and $18.5 million, for the years ended December 31, 2017, 2016, and 2015, respectively.

The following table details the Company's estimated amortization expense for the next five years, excluding any amortization expense related to software currently in development:

Estimated Amortization Expense for the Next Five Years				
2018	2019	2020	2021	2022
$ 29.7	$ 29.5	$ 25.9	$ 23.1	$ 22.2

NOTE 9—ACCOUNTS PAYABLE

Accounts payable consisted of the following:

	December 31,	
	2017	2016
Trade payables	$ 387.3	$ 341.9
Other payables	49.5	36.1
Total	$ 436.8	$ 378.0

NOTE 10—DEBT

Refer to discussion below for details and definitions of the Company's debt facilities, as well as details of the Company's debt refinancing that occurred during the third quarter of 2017. The Company was in compliance with all debt related covenants as of December 31, 2017 and 2016.

			December 31, 2017		
	Interest Rate as of December 31, 2017	Maturity Date	Carrying Amount	Unamortized Deferred Financing Fees[1]	Total Debt, Less Unamortized Deferred Financing Fees
Senior Credit Facility					
2022 Revolving Facility[2]	Various	September 2022	$ —	$ —	$ —
2024 Term Loan B	4.069%	September 2024	698.3	(18.3)	680.0
2025 Senior Notes	5.375%	September 2025	500.0	(9.4)	490.6
Accounts Receivable Securitization Facility[3]	Various	May 2019	—	—	—
Other indebtedness	Various	Various	1.4	—	1.4
Total debt			$ 1,199.7	$ (27.7)	$ 1,172.0
Less: current portion					(7.0)
Total long-term debt, net of unamortized deferred financing fees					$ 1,165.0

			December 31, 2016		
	Interest Rate as of December 31, 2016	Maturity Date	Carrying Amount	Unamortized Deferred Financing Fees[1]	Total Debt, Less Unamortized Deferred Financing Fees
2020 Senior Credit Facility					
2020 Revolving Facility	Various	May 2020	$ —	$ —	$ —
2021 Term Loan B	4.250%	November 2021	491.5	(9.2)	482.3
2022 Senior Notes					
USD Notes	6.750%	May 2022	300.0	(5.7)	294.3
Euro Notes	6.375%	May 2022	394.3	(7.1)	387.2
Accounts Receivable Securitization Facility	Various	May 2019	—	—	—
Other indebtedness	Various	Various	1.6	—	1.6
Total debt			$ 1,187.4	$ (22.0)	$ 1,165.4
Less: current portion					(5.0)
Total long-term debt, net of unamortized deferred financing fees					$ 1,160.4

(1) This caption does not include deferred financing fees related to the Company's revolving facilities, which are included within "Deferred charges and other assets" on the consolidated balance sheets and are amortized using the straight-line method over the term of the respective facility.

(2) The Company had $360.2 million (net of $14.8 million outstanding letters of credit) of funds available for borrowing under this facility as of December 31, 2017. Additionally, the Company is required to pay a quarterly commitment fee in respect of any unused commitments under this facility equal to 0.375% per annum.

(3) As a result of an amendment to the facility during the fourth quarter of 2017, the Accounts Receivable Securitization Facility has a borrowing capacity of $150.0 million as of December 31, 2017. Additionally, as of December 31, 2017, the Company had approximately $122.1 million of accounts receivable available to support this facility, based on the pool of eligible accounts receivable. In regards to outstanding borrowings, fixed interest charges are 1.95% plus variable commercial paper rates, while for available, but undrawn commitments, fixed interest charges are 1.0%, both of which were reduced as a result of the amendment in December 2017.

For the years ended December 31, 2017, 2016, and 2015, interest charges, amortization of deferred financing fees and debt discounts, and cash paid for interest by debt facility are included in the tables below. Interest charges and amortization of deferred financing fees and debt discounts are recorded within "Interest expense, net" in the consolidated statements of operations.

	Year Ended December 31, 2017		
	Interest expense	Amortization of deferred financing fees and debt discounts	Cash paid for interest
Senior Credit Facility			
2022 Revolving Facility	$ 0.7	$ 0.3	$ 0.6
2024 Term Loan B	8.8	0.8	8.6
2025 Senior Notes	9.1	0.3	—
Accounts Receivable Securitization Facility	2.8	—	2.8
2020 Senior Credit Facility			
2020 Revolving Facility	1.3	1.0	1.1
2021 Term Loan B	14.6	1.3	14.7
2022 Senior Notes	31.9	1.4	39.1

	Year Ended December 31, 2016		
	Interest expense	Amortization of deferred financing fees and debt discounts	Cash paid for interest
2020 Senior Credit Facility			
2020 Revolving Facility	$ 1.8	$ 1.5	$ 1.6
2021 Term Loan B	21.4	1.9	21.4
2022 Senior Notes	46.6	1.9	47.2
Accounts Receivable Securitization Facility	2.8	0.5	2.8

	Year Ended December 31, 2015		
	Interest expense	Amortization of deferred financing fees and debt discounts	Cash paid for interest
2020 Senior Credit Facility			
2020 Revolving Facility	$ 1.3	$ 1.0	$ 1.3
2021 Term Loan B	14.2	1.2	14.2
2022 Senior Notes	30.5	1.2	22.8
Accounts Receivable Securitization Facility	2.8	1.2	2.8
2018 Revolving Facility	0.6	1.0	0.6
2019 Senior Notes	38.3	2.1	81.7

Total accrued interest on outstanding debt as of December 31, 2017 and 2016 was $9.3 million and $7.6 million, respectively. Accrued interest is recorded in "Accrued expenses and other current liabilities" within the consolidated balance sheets.

2020 Senior Credit Facility

On May 5, 2015, Trinseo Materials Operating S.C.A. and Trinseo Materials Finance, Inc. (together, the "Issuers" or the "Borrowers"), both wholly-owned subsidiaries of the Company, entered into a senior secured credit agreement, which provided senior secured financing of up to $825.0 million (the "2020 Senior Credit Facility"). The 2020 Senior Credit Facility provided for senior secured financing consisting of a (i) $325.0 revolving credit facility, with a $25.0 million swingline subfacility and a $35.0 million letter of credit subfacility (the "2020 Revolving Facility") maturing in May 2020 and (ii) $500.0 million senior secured term loan B facility maturing in November 2021 (the "2021 Term Loan B"). In conjunction with this agreement, the Company terminated its previous credit agreement (the "2018 Senior Secured Credit Facility") and revolving facility (the "2018 Revolving Facility").

In September 2017, upon completion of the refinancing transactions discussed below, the Company terminated the 2020 Senior Credit Facility. Prior to this termination, the Company had no outstanding borrowings under the 2020 Revolving Facility and had $490.0 million outstanding under the 2021 Term Loan B, excluding unamortized original issue discount. As a result of this termination, the Company recognized a $0.8 million loss on extinguishment of long-term debt, comprised entirely of the write-off of a portion of the existing unamortized deferred financing fees and unamortized original issue discount related to the 2021 Term Loan B. The remaining unamortized deferred financing fees and unamortized original issue discount for both the 2020 Revolving Facility and 2021 Term Loan B remain capitalized and will be amortized along with new deferred financing fees over the life of the new facilities, discussed in further detail below.

Senior Credit Facility

On September 6, 2017, the Issuers entered into a new senior secured credit agreement (the "Credit Agreement"), which provides senior secured financing of up to $1,075.0 million (the "Senior Credit Facility"). The Senior Credit Facility provides for senior secured financing consisting of a (i) $375.0 million revolving credit facility, with a $25.0 million swingline subfacility and a $35.0 million letter of credit subfacility maturing in September 2022 (the "2022 Revolving Facility") and a (ii) $700.0 million senior secured term loan B facility maturing in September 2024 (the "2024 Term Loan B"). Amounts under the 2022 Revolving Facility are available in U.S. dollars and euros.

The 2024 Term Loan B bears an interest rate of LIBOR plus 2.50%, subject to a 0.00% LIBOR floor. Further, the 2024 Term Loan B requires scheduled quarterly payments in amounts equal to 0.25% of the original principal amount of the 2024 Term Loan B, with the balance to be paid at maturity. As of December 31, 2017, $7.0 million of the scheduled future payments related to this facility were classified as current debt on the Company's consolidated balance sheet.

Loans under the 2022 Revolving Facility, at the Borrowers' option, may be maintained as (a) LIBO rate loans, which bear interest at a rate per annum equal to the LIBO rate plus the applicable margin (as defined in the Credit Agreement), if applicable, or (b) base rate loans which shall bear interest at a rate per annum equal to the base rate plus the applicable margin (as defined in the Credit Agreement).

The Senior Credit Facility is collateralized by a security interest in substantially all of the assets of the Borrowers, and the guarantors thereunder, including Trinseo Materials S.à r.l., certain Luxembourg subsidiaries and certain foreign subsidiaries organized in the United States, The Netherlands, Hong Kong, Singapore, Ireland, Germany and Switzerland.

The Senior Credit Facility requires the Borrowers and their restricted subsidiaries to comply with customary affirmative, negative and financial covenants, including limitations on their abilities to incur liens; make certain loans and investments; incur additional debt (including guarantees or other contingent obligations); merge, consolidate liquidate or dissolve; transfer or sell assets; pay dividends and other distributions to shareholders or make certain other restricted payments; enter into transactions with affiliates; restrict any restricted subsidiary from paying dividends or making other distributions or agree to certain negative pledge clauses; materially alter the business we conduct; prepay certain other indebtedness; amend certain material documents; and change our fiscal year.

The 2022 Revolving Facility contains a financial covenant that requires compliance with a springing first lien net leverage ratio test. If the outstanding balance under the 2022 Revolving Facility exceeds 30% of the $375.0 million borrowing capacity (excluding undrawn letters of credit up to $10.0 million and cash collateralized letters of credit) at a quarter end, then the Borrowers' first lien net leverage ratio may not exceed 2.00 to 1.00.

Fees incurred in connection with the issuance of the 2024 Term Loan B were $12.3 million. Due to a portion of the 2024 Term Loan B meeting the criteria for modification accounting, $1.2 million of these fees were expensed and included within "Other expense (income), net" in the consolidated statement of operations for the year ended December 31, 2017. The remaining $11.1 million of fees were capitalized and recorded within "Long-term debt, net of unamortized deferred financing fees" on the consolidated balance sheet, to be amortized along with the remaining $8.1 million of unamortized deferred financing fees from the 2021 Term Loan B. Capitalized fees related to the 2024 Term Loan B are being amortized over the 7.0 year term of the facility using the effective interest method.

Fees incurred in connection with the issuance of the 2022 Revolving Facility were $0.8 million and were capitalized and recorded within "Deferred charges and other assets" in the consolidated balance sheets. The new capitalized fees related to the 2022 Revolving Facility (along with $4.0 million of unamortized deferred financing fees from the 2020 Revolving Facility) are being amortized over the 5.0 year term of the facility using the straight-line method. Unamortized deferred financing fees related to the 2022 Revolving Facility were $4.5 million as of December 31, 2017.

2019 Senior Notes

In January 2013, the Company issued $1,325.0 million 8.750% senior notes due to mature on February 1, 2019 (the “2019 Senior Notes”). The proceeds from the issuance of the 2019 Senior Notes were used to repay all of the Company’s then outstanding term loans and related refinancing fees and expenses.

On May 13, 2015, using the net proceeds from the issuance of the 2021 Term Loan B discussed above, together with the net proceeds from the issuance of the 2022 Senior Notes (defined and discussed below) and available cash, the Company redeemed all outstanding borrowings under the 2019 Senior Notes, then totaling $1,192.5 million in principal, together with a call premium of $68.6 million (with a redemption price of 103% on the first $132.5 million and 106.097% on the remaining balance) and accrued and unpaid interest thereon of $29.6 million.

As a result, during the year ended December 31, 2015, the Company recorded a loss on extinguishment of long-term debt of $94.5 million, which includes the above $68.6 million call premium and a $25.9 million write-off of unamortized deferred financing fees related to the 2019 Senior Notes. Prior to the May 2015 redemption, fees and expenses incurred in connection with the issuance of 2019 Senior Notes were being amortized over the term of the 2019 Senior Notes using the effective interest rate method.

2022 Senior Notes

On May 5, 2015, the Issuers executed an indenture pursuant to which they issued $300.0 million aggregate principal amount of 6.750% senior notes due May 1, 2022 (the “USD Notes”) and €375.0 million aggregate principal amount of 6.375% senior notes due May 1, 2022 (the “Euro Notes”, and together with the USD Notes, the “2022 Senior Notes”).

On September 7, 2017, using the net proceeds from the issuance of the 2024 Term Loan B discussed above, together with the net proceeds from the issuance of the 2025 Senior Notes (defined and discussed below), and available cash, the Company redeemed all outstanding borrowings under the 2022 Senior Notes, totaling $746.0 million in USD-equivalent principal, together with a total combined call premium of $53.0 million (with a redemption price of approximately 106.572% on the USD Notes and a redemption price of approximately 107.459% on the Euro Notes), and accrued and unpaid interest thereon of $17.0 million, using applicable foreign exchange rates.

As a result of this redemption, during the year ended December 31, 2017, the Company recorded a loss on extinguishment of long-term debt of $64.5 million, which includes the above $53.0 million call premium and an $11.5 million write-off of unamortized deferred financing fees related to the 2022 Senior Notes. Prior to the September 2017 redemption, fees and expenses incurred in connection with the issuance of 2022 Senior Notes were being amortized over the term of the 2022 Senior Notes using the effective interest rate method.

2025 Senior Notes

On August 29, 2017, the Issuers executed an indenture (the “Indenture”) pursuant to which they issued $500.0 million aggregate principal amount of 5.375% senior notes due 2025 (the “2025 Senior Notes”) in a 144A private transaction exempt from the registration requirements of the Securities Act of 1933, as amended. Interest on the 2025 Senior Notes is payable semi-annually on May 3 and November 3 of each year, commencing on May 3, 2018. The 2025 Senior Notes mature on September 1, 2025.

At any time prior to September 1, 2020, the Issuers may redeem the 2025 Senior Notes in whole or in part, at their option, at a redemption price equal to 100% of the principal amount of such notes plus the relevant applicable premium as of, and accrued and unpaid interest to, but not including, the redemption date. At any time and from time to time after September 1, 2020, the Issuers may redeem the 2025 Senior Notes, in whole or in part, at a redemption price equal to the

percentage of principal amount set forth below plus accrued and unpaid interest, if any, on the notes redeemed to, but not including, the redemption date:

12-month period commencing September 1 in Year	Percentage
2020	102.688 %
2021	101.792 %
2022	100.896 %
2023 and thereafter	100.000 %

At any time prior to September 1, 2020, the Issuers may redeem up to 40% of the aggregate principal amount of the 2025 Senior Notes at a redemption price equal to 105.375%, plus accrued and unpaid interest to, but not including, the redemption date, with the aggregate gross proceeds from certain equity offerings.

The 2025 Senior Notes are the Issuers’ senior unsecured obligations and rank equally in right of payment with all of the Issuers’ existing and future indebtedness that is not expressly subordinated in right of payment thereto. The 2025 Senior Notes will be senior in right of payment to any future indebtedness that is expressly subordinated in right of payment thereto and effectively junior to (a) the Issuers’ existing and future secured indebtedness, including the Company’s accounts receivable facility and the Issuers’ Senior Credit Facility (discussed above), to the extent of the value of the collateral securing such indebtedness and (b) all existing and future liabilities of the Issuers’ non-guarantor subsidiaries.

The Indenture contains customary covenants that, among other things, limit the Issuers’ and certain of their subsidiaries’ ability to incur additional indebtedness and guarantee indebtedness; pay dividends on, redeem or repurchase capital stock; make investments; prepay certain indebtedness; create liens; enter into transactions with the Issuers’ affiliates; designate the Issuers’ subsidiaries as Unrestricted Subsidiaries (as defined in the Indenture); and consolidate, merge, or transfer all or substantially all of the Issuers’ assets. The covenants are subject to a number of exceptions and qualifications. Certain of these covenants will be suspended during any period of time that (1) the 2025 Senior Notes have investment grade ratings (as defined in the Indenture) and (2) no default has occurred and is continuing under the Indenture. In the event that the 2025 Senior Notes are downgraded to below an investment grade rating, the Issuers and certain subsidiaries will again be subject to the suspended covenants with respect to future events.

Fees and expenses incurred in connection with the issuance of the 2025 Senior Notes were $9.7 million, which were capitalized and recorded within “Long-term debt, net of unamortized deferred financing fees” on the consolidated balance sheet, and are being amortized into “Interest expense, net” in the consolidated statements of operations over their 8.0 year term using the effective interest method.

Accounts Receivable Securitization Facility

In 2010, Styron Receivable Funding Ltd. (“SRF”), a VIE in which the Company is the primary beneficiary, executed an agreement for an accounts receivable securitization facility (“Accounts Receivable Securitization Facility”). As of December 31, 2017, the facility, as amended in December 2017, permitted borrowings by two of the Company’s subsidiaries, Trinseo Europe GmbH (“TE”) and Trinseo Export GmbH (“Trinseo Export”), up to a total of $150.0 million and has a maturity date of May 2019.

Under the facility, TE and Trinseo Export sell their accounts receivable to SRF. In turn, SRF may utilize these receivables as collateral to borrow from commercial paper conduits in exchange for cash. The Company has agreed to continue servicing the receivables for SRF. If utilized as collateral by SRF, the conduits have a first priority perfected security interest in such receivables and, as a result, the receivables will not be available to the creditors of the Company or its other subsidiaries.

NOTE 11—DERIVATIVE INSTRUMENTS

The Company’s ongoing business operations expose it to various risks, including fluctuating foreign exchange rates and interest rate risk. To manage these risks, the Company periodically enters into derivative financial instruments, such as foreign exchange forward contracts and interest rate swap agreements. The Company does not hold or enter into financial instruments for trading or speculative purposes. All derivatives are recorded in the consolidated balance sheets at fair value. Refer to Note 12 for fair value disclosures related to these instruments.

Foreign Exchange Forward Contracts

Certain subsidiaries have assets and liabilities denominated in currencies other than their respective functional currencies, which creates foreign exchange risk. The Company's principal strategy in managing its exposure to changes in foreign currency exchange rates is to naturally hedge the foreign currency-denominated liabilities on our consolidated balance sheets against corresponding assets of the same currency such that any changes in liabilities due to fluctuations in exchange rates are offset by changes in their corresponding foreign currency assets. In order to further reduce its exposure, the Company also uses foreign exchange forward contracts to economically hedge the impact of the variability in exchange rates on our assets and liabilities denominated in certain foreign currencies. These derivative contracts are not designated for hedge accounting treatment.

As of December 31, 2017, the Company had open foreign exchange forward contracts with a notional U.S. dollar equivalent absolute value of $225.8 million. The following table displays the notional amounts of the most significant net foreign exchange hedge positions outstanding as of December 31, 2017:

Buy / (Sell)		December 31, 2017
Chinese Yuan	$	(75.4)
Euro	$	(62.1)
Indonesian Rupiah	$	(23.0)
Swiss Franc	$	14.8
Japanese Yen	$	(11.1)

Open foreign exchange forward contracts as of December 31, 2017 have maturities of less than three months.

Foreign Exchange Cash Flow Hedges

The Company also enters into forward contracts with the objective of managing the currency risk associated with forecasted U.S. dollar-denominated raw materials purchases by one of its subsidiaries whose functional currency is the euro. By entering into these forward contracts, which are designated as cash flow hedges, the Company buys a designated amount of U.S. dollars and sells euros at the prevailing market rate to mitigate the risk associated with the fluctuations in the euro-to-U.S. dollar foreign currency exchange rates. The qualifying hedge contracts are marked-to-market at each reporting date and any unrealized gains or losses are included in AOCI to the extent effective, and reclassified to cost of sales in the period during which the transaction affects earnings or it becomes probable that the forecasted transaction will not occur.

Open foreign exchange cash flow hedges as of December 31, 2017 have maturities occurring over a period of 12 months, and have a net notional U.S. dollar equivalent of $216.0 million.

Interest Rate Swaps

As discussed in Note 10, on September 6, 2017, the Company issued the 2024 Term Loan B, which bears an interest rate of LIBOR plus 2.50%, subject to a 0.00% LIBOR floor. In order to reduce the variability in interest payments associated with the Company's variable rate debt, during the third quarter of 2017, the Company entered into certain interest rate swap agreements to convert a portion of these variable rate borrowings into a fixed rate obligation. These interest rate swap agreements are designated as cash flow hedges, and as such, the contracts are marked-to-market at each reporting date and any unrealized gains or losses are included in AOCI to the extent effective, and reclassified to interest expense in the period during which the transaction affects earnings or it becomes probable that the forecasted transaction will not occur.

As of December 31, 2017, the Company had open interest rate swap agreements with a net notional U.S. dollar equivalent of $200.0 million which had an effective date of September 29, 2017 and mature over a period of five years. Under the terms of the swap agreements, we are required to pay the counterparties a stream of fixed interest payments at a rate of 1.81%, and in turn, receive variable interest payments based on 1-month LIBOR (1.57% as of December 31, 2017) from the counterparties.

Net Investment Hedge

Through August 31, 2017, the Company had designated a portion (€280.0 million) of the original principal amount of the Company's previous €375.0 million Euro Notes as a hedge of the foreign currency exposure of the Issuers' net investment in certain European subsidiaries. Effective September 1, 2017, the Company de-designated the Euro Notes as a net investment hedge of the Issuers' net investment in certain European subsidiaries, as the Euro Notes were redeemed on September 7, 2017 (refer to Note 10 for further information). Through the date of de-designation, this hedge was deemed to be highly effective, and changes in the Euro Notes' carrying value resulting from fluctuations in the euro exchange rate were recorded as cumulative foreign currency translation loss of $24.1 million within AOCI.

On August 29, 2017, the Issuers executed an indenture pursuant to which they issued the $500.0 million 5.375% 2025 Senior Notes (refer to Note 10 for further information). Subsequently, on September 1, 2017, the Company entered into certain fixed-for-fixed cross currency swaps ("CCS"), swapping U.S. dollar principal and interest payments on the newly issued 2025 Senior Notes for euro-denominated payments. Under the terms of the CCS, the Company has notionally exchanged $500.0 million at an interest rate of 5.375% for €420 million at a weighted-average interest rate of 3.45% for approximately five years.

Effective September 1, 2017, the Company designated the full notional amount of the CCS (€420 million) as a hedge of the Issuers' net investment in certain European subsidiaries. As the CCS were deemed to be highly effective hedges, changes in the fair value of the CCS were recorded as cumulative foreign currency translation loss of $17.5 million within AOCI as of December 31, 2017.

Summary of Derivative Instruments

Information regarding changes in the fair value of the Company's derivative instruments, net of tax, including those not designated for hedge accounting treatment, is as follows:

	Gain (Loss) Recognized in AOCI on Balance Sheet			Gain (Loss) Recognized in Statement of Operations			
	Year Ended December 31,						Statement of Operations Classification
	2017	2016	2015	2017	2016	2015	
Designated as Cash Flow Hedges							
Foreign exchange cash flow hedges	$ (21.3)	$ 6.7	$ 5.6	$ (2.0)	$ 2.8	$ 0.5	Cost of sales
Interest rate swaps	2.9	—	—	(0.3)	—	—	Interest expense, net
Total	$ (18.4)	$ 6.7	$ 5.6	$ (2.3)	$ 2.8	$ 0.5	
Net Investment Hedges							
Euro Notes	$ 38.6	$ 14.1	$ 0.4	$ —	$ —	$ —	
Cross-currency swaps	(17.5)	—	—	—	—	—	
Total	$ 21.1	$ 14.1	$ 0.4	$ —	$ —	$ —	
Not Designated as Cash Flow Hedges							
Foreign exchange forward contracts	$ —	$ —	$ —	$ (19.2)	$ 3.7	$ (16.5)	Other expense (income), net
Total	$ —	$ —	$ —	$ (19.2)	$ 3.7	$ (16.5)	

The Company recorded losses of $19.2 million and $16.5 million during the years ended December 31, 2017 and 2015, respectively, and gains of $3.7 million during the year ended December 31, 2016 from settlements and changes in the fair value of outstanding forward contracts (not designated as hedges). The activity from these forward contracts offset net foreign exchange transaction gains of $20.6 million and $6.1 million during the years ended December 31, 2017 and 2015, respectively, and losses of $5.5 million during the year ended December 31, 2016 which resulted from the remeasurement of the Company's foreign currency denominated assets and liabilities. The cash settlements of these foreign exchange forward contracts are included within operating activities in the consolidated statements of cash flows.

As of December 31, 2017, the Company had no ineffectiveness related to its derivatives designated as hedging instruments. Further, the Company expects to reclassify in the next twelve months an approximate $11.2 million net loss from AOCI into earnings related to the Company's outstanding foreign exchange cash flow hedges and interest rate swaps as of December 31, 2017 based on current foreign exchange rates.

The following table summarizes the net unrealized gains and losses and balance sheet classification of outstanding derivatives recorded in the consolidated balance sheets:

	December 31, 2017					December 31, 2016		
Balance Sheet Classification	Foreign Exchange Forward Contracts	Foreign Exchange Cash Flow Hedges	Interest Rate Swaps	Cross-Currency Swaps	Total	Foreign Exchange Forward Contracts	Foreign Exchange Cash Flow Hedges	Total
Asset Derivatives:								
Accounts receivable, net of allowance	$ 0.1	$ —	$ —	$ 10.8	$ 10.9	$ 1.7	$ 11.0	$ 12.7
Deferred charges and other assets	—	—	3.0	—	3.0	—	—	—
Total asset derivatives	$ 0.1	$ —	$ 3.0	$ 10.8	$ 13.9	$ 1.7	$ 11.0	$ 12.7
Liability Derivatives:								
Accounts payable	$ 2.5	$ 11.1	$ 0.1	$ —	$ 13.7	$ 0.5	$ —	$ 0.5
Other noncurrent obligations	—	—	—	28.3	28.3	—	—	—
Total liability derivatives	$ 2.5	$ 11.1	$ 0.1	$ 28.3	$ 42.0	$ 0.5	$ —	$ 0.5

Forward contracts, interest rate swaps, and cross currency swaps are entered into with a limited number of counterparties, each of which allows for net settlement of all contracts through a single payment in a single currency in the event of a default on or termination of any one contract. As such, in accordance with the Company's accounting policy, we record these derivative instruments on a net basis by counterparty within the consolidated balance sheets. Information regarding the gross amounts of the Company's derivative instruments and the amounts offset in the consolidated balance sheets is as follows:

	Gross Amounts Recognized in the Balance Sheet	Gross Amounts Offset in the Balance Sheet	Net Amounts Presented in the Balance Sheet
Balance at December 31, 2017			
Derivative assets	$ 14.5	$ (0.6)	$ 13.9
Derivative liabilities	42.6	(0.6)	42.0
Balance at December 31, 2016			
Derivative assets	$ 23.4	$ (10.7)	$ 12.7
Derivative liabilities	11.2	(10.7)	0.5

Refer to Notes 12 and 20 for further information regarding the fair value of the Company's derivative instruments and the related changes in AOCI.

NOTE 12—FAIR VALUE MEASUREMENTS

Fair value is defined as the price that would be received to sell an asset or paid to transfer a liability in an orderly transaction between market participants at the measurement date. Assets and liabilities measured at fair value are classified using the following hierarchy, which is based upon the transparency of inputs to the valuation as of the measurement date.

Level 1—Valuation is based upon quoted prices (unadjusted) for identical assets or liabilities in active markets.

Level 2—Valuation is based upon quoted prices for similar assets and liabilities in active markets, or other inputs that are observable for the asset or liability, either directly or indirectly, for substantially the full term of the financial instrument.

Level 3—Valuation is based upon other unobservable inputs that are significant to the fair value measurement.

The following table summarizes the basis used to measure certain assets and liabilities at fair value on a recurring basis in the consolidated balance sheets at December 31, 2017 and 2016:

	December 31, 2017			
Assets (Liabilities) at Fair Value	Quoted Prices in Active Markets for Identical Items (Level 1)	Significant Other Observable Inputs (Level 2)	Significant Unobservable Inputs (Level 3)	Total
Foreign exchange forward contracts—Assets	$ —	$ 0.1	$ —	$ 0.1
Foreign exchange forward contracts—(Liabilities)	—	(2.5)	—	(2.5)
Foreign exchange cash flow hedges—(Liabilities)	—	(11.1)	—	(11.1)
Interest rate swaps—Assets	—	3.0	—	3.0
Interest rate swaps—(Liabilities)	—	(0.1)	—	(0.1)
Cross-currency swaps—Assets	—	10.8	—	10.8
Cross-currency swaps—(Liabilities)	—	(28.3)	—	(28.3)
Total fair value	$ —	$ (28.1)	$ —	$ (28.1)

	December 31, 2016			
Assets (Liabilities) at Fair Value	Quoted Prices in Active Markets for Identical Items (Level 1)	Significant Other Observable Inputs (Level 2)	Significant Unobservable Inputs (Level 3)	Total
Foreign exchange forward contracts—Assets	$ —	$ 1.7	$ —	$ 1.7
Foreign exchange forward contracts—(Liabilities)	—	(0.5)	—	(0.5)
Foreign exchange cash flow hedges—Assets	—	11.0	—	11.0
Total fair value	$ —	$ 12.2	$ —	$ 12.2

The Company uses an income approach to value its derivative instruments, utilizing discounted cash flow techniques, considering the terms of the contract and observable market information available as of the reporting date, such as interest rate yield curves and currency spot and forward rates. Significant inputs to the valuation for these derivative instruments are obtained from broker quotations or from listed or over-the-counter market data, and are classified as Level 2 in the fair value hierarchy.

Nonrecurring Fair Value Measurements

The Company's financial assets and liabilities measured at fair value on a nonrecurring basis as of December 31, 2016 were as follows:

	December 31, 2016			
	Quoted Prices in Active Markets for Identical Items (Level 1)	Significant Other Observable Inputs (Level 2)	Significant Unobservable Inputs (Level 3)	Total Expense for the Year Ended December 31, 2016
Assets:				
Livorno property, plant and equipment (Note 19)	$ —	$ —	$ 11.0	$ 13.7
Total	$ —	$ —	$ 11.0	$ 13.7

Refer to Note 19 for information regarding the Livorno plant restructuring announced during the third quarter of 2016. As a result, the Company determined that the long-lived assets at the Livorno latex binders facility, which included land and depreciable long-lived assets, should be assessed for impairment. This assessment indicated that the carrying value of the asset group was not recoverable when compared to the expected undiscounted cash flows from the operation and eventual disposition of these assets. Based upon our assessment, the Company concluded that the fair value of this asset group totaled $11.0 million as of December 31, 2016. As a result, the Company recorded an impairment loss on these assets of approximately $13.7 million for the year ended December 31, 2016. The amount was recorded within "Selling, general and administrative expenses" in the consolidated statement of operations and allocated entirely to the Latex Binders segment.

The fair value of the depreciable assets was determined under the income approach, utilizing a discounted cash flow model. The key assumption in this model was cash flow projections, which were determined to be nil, as the plant ceased manufacturing operations in October 2016. The fair value of the land was determined utilizing a combination of the market and income approaches, utilizing key inputs such as recent comparable market transactions, expected date of sale, and discount rate.

Fair Value of Debt Instruments

The following table presents the estimated fair value of the Company's outstanding debt not carried at fair value as of December 31, 2017 and 2016, respectively:

	As of December 31, 2017	As of December 31, 2016
2025 Senior Notes	$ 518.8	$ —
2022 Senior Notes		
USD Notes	—	315.0
Euro Notes	—	424.4
2024 Term Loan B	705.7	—
2021 Term Loan B	—	498.0
Total fair value	$ 1,224.5	$ 1,237.4

The fair value of the Company's debt facilities above (each Level 2 securities) is determined using over-the-counter market quotes and benchmark yields received from independent vendors.

There were no other significant financial instruments outstanding as of December 31, 2017 and 2016.

NOTE 13—INCOME TAXES

Income before income taxes earned within and outside the United States is shown below:

	Year Ended December 31, 2017	2016	2015
United States	$ 138.0	$ 137.2	$ 105.2
Outside of the United States	273.1	268.1	98.6
Income before income taxes	$ 411.1	$ 405.3	$ 203.8

The provision for income taxes is composed of:

	Year Ended December 31, 2017			Year Ended December 31, 2016			Year Ended December 31, 2015		
	Current	Deferred	Total	Current	Deferred	Total	Current	Deferred	Total
U.S. federal	$ 33.5	$ 6.9	$ 40.4	$ 24.8	$ 15.6	$ 40.4	$ 28.3	$ 0.2	$ 28.5
U.S. state and other	4.8	—	4.8	4.0	1.4	5.4	4.5	—	4.5
Non-U.S.	29.7	7.9	37.6	42.1	(0.9)	41.2	37.5	(0.3)	37.2
Total	$ 68.0	$ 14.8	$ 82.8	$ 70.9	$ 16.1	$ 87.0	$ 70.3	$ (0.1)	$ 70.2

The effective tax rate on pre-tax income differs from the U.S. statutory rate due to the following:

	Year Ended December 31, 2017	2016	2015
Taxes at U.S. statutory rate[(1)]	$ 143.9	$ 141.9	$ 71.4
State and local income taxes	3.4	3.9	3.0
Non U.S. statutory rates, including credits	(98.6)	(77.8)	(29.9)
U.S. tax effect of foreign earnings and dividends	(1.6)	(1.7)	(1.9)
Unremitted earnings	6.6	3.8	4.0
Change in valuation allowances	34.0	6.2	24.3
Uncertain tax positions	(10.7)	(1.8)	1.2
Withholding taxes on interest and royalties	2.9	2.4	2.6
U.S. manufacturing deduction	(3.6)	(2.9)	(3.0)
Stock-based compensation	(1.1)	2.1	1.2
Non-deductible interest	2.9	2.5	3.1
Non-deductible other expenses	1.2	6.0	0.9
Impact on foreign currency exchange	0.4	2.1	(3.5)
Other—net[(2)]	3.1	0.3	(3.2)
Total provision for income taxes	$ 82.8	$ 87.0	$ 70.2
Effective tax rate	20 %	21 %	34 %

(1) The U.S. statutory rate has been used as management believes it is more meaningful to the Company.
(2) Included in "Other-net" is $3.1 million of one-time income tax expense related to the revaluation of our U.S. federal deferred tax assets and liabilities at the new U.S. federal corporate income tax rate of 21% in accordance with the enactment of the "Tax Cuts and Jobs Act" signed into law on December 22, 2017. There were no other applicable provisions of this newly enacted tax law that have a significant impact to the Company's financial statements.

Deferred income taxes reflect temporary differences between the valuation of assets and liabilities for financial and tax reporting:

	December 31, 2017		2016	
	Deferred Tax Assets	Deferred Tax Liabilities	Deferred Tax Assets	Deferred Tax Liabilities
Tax loss and credit carry forwards	$ 137.3	$ —	$ 104.4	$ —
Unremitted earnings	—	17.2	—	10.6
Unconsolidated affiliates	—	0.1	4.4	—
Other accruals and reserves	2.2	—	5.2	—
Property, plant and equipment	—	34.4	—	44.3
Goodwill and other intangible assets	—	1.2	13.8	—
Deferred financing fees	12.9	—	13.2	—
Employee benefits	36.4	—	45.4	—
	188.8	52.9	186.4	54.9
Valuation allowance	(149.6)	—	(112.6)	—
Total	$ 39.2	$ 52.9	$ 73.8	$ 54.9

As of December 31, 2017 and 2016, all undistributed earnings of foreign subsidiaries and affiliates are expected to be repatriated.

Operating loss carryforwards amounted to $535.6 million in 2017 and $404.6 million in 2016. As of December 31, 2017, $42.1 million of the operating loss carryforwards were subject to expiration in 2018 through 2022, and $493.5 million of the operating loss carryforwards expire in years beyond 2022 or have an indefinite carryforward period. The Company had valuation allowances which were related to the realization of recorded tax benefits on tax loss carryforwards, as well as other net deferred tax assets, primarily from subsidiaries in Luxembourg and China, of $149.6 million as of December 31, 2017 and $112.6 million as of December 31, 2016.

For the years presented, a reconciliation of the beginning and ending amount of the unrecognized tax benefits is as follows:

Balance as of December 31, 2014	$ 20.4
Increases related to current year tax positions	1.3
Decreases related to prior year tax positions	(1.6)
Balance as of December 31, 2015	$ 20.1
Increases related to current year tax positions	0.1
Increases related to prior year tax positions	4.0
Decreases related to prior year tax positions	(6.0)
Settlement of uncertain tax positions	(1.1)
Decreases due to expiration of statues of limitations	(1.0)
Balance as of December 31, 2016	$ 16.1
Increases related to current year tax positions	—
Increases related to prior year tax positions	0.9
Decreases related to prior year tax positions	(8.0)
Settlement of uncertain tax positions	(0.7)
Decrease due to expiration of statutes of limitations	(1.3)
Balance as of December 31, 2017	$ 7.0

In regard to unrecognized tax benefits, the Company recognized a benefit related to interest and penalties of $2.4 million during the year ended December 31, 2017, whereas the Company recognized expense related to interest and penalties of $0.9 million and $0.7 million during the years ended December 31, 2016 and 2015, respectively. Interest and penalties related to unrecognized tax benefits was included as a component of income tax expense in the consolidated statements of operations. As of December 31, 2017 and 2016, the Company had $0.9 million and $3.1 million, respectively, accrued for interest and penalties. To the extent that the unrecognized tax benefits are recognized in the future, $3.3 million will impact the Company's effective tax rate.

As of December 31, 2017, the Company anticipates that it is reasonably possible that approximately $1.0 million to $2.0 million of unrecognized tax benefits, including the impact relating to accrued interest and penalties, could be realized within the next twelve months due to the expiration of the statute of limitations in certain jurisdictions.

During the year ended December 31, 2017, the Company recorded a previously unrecognized tax benefit in the amount of $8.5 million, including interest and penalties, upon completion of the 2010 through 2013 audit with the German taxing authority.

Tax years that remain subject to examination for the Company's major tax jurisdictions are shown below.

Major Tax Jurisdictions	Earliest Open Year
United States: Federal income tax	2012
Germany	2014
Switzerland	2014
Netherlands	2017
Luxembourg	2011
China	2007
Hong Kong	2006
Indonesia	2011
Italy	2010

NOTE 14—COMMITMENTS AND CONTINGENCIES

Leased Property

The Company routinely leases premises for use as sales and administrative offices, warehouses and tanks for product storage, railcars, motor vehicles, and other equipment under operating leases. Rental expense for these leases was $16.2 million, $16.0 million and $18.4 million during the years ended December 31, 2017, 2016, and 2015, respectively.

Future minimum rental payments under operating leases with remaining non-cancelable terms in excess of one year are as follows:

Year	Annual Commitment
2018	$ 13.5
2019	12.6
2020	9.4
2021	10.3
2022	3.6
Thereafter	16.2
Total	$ 65.6

Environmental Matters

Accruals for environmental matters are recorded when it is probable that a liability has been incurred and the amount of the liability can be reasonably estimated, based on current law, existing technologies and other information. As of December 31, 2017 and 2016, the Company had no accrued obligations for environmental remediation and restoration costs. Pursuant to the terms of the Acquisition, the pre-closing environmental conditions were retained by Dow and the Company has been indemnified by Dow from and against all environmental liabilities incurred or relating to the predecessor periods. There are several properties which the Company now owns on which Dow has been conducting investigation, monitoring, or remediation to address historical contamination. Those properties include Allyn's Point, Connecticut, Dalton, Georgia, and Livorno, Italy. There are other properties with historical contamination that are owned by Dow that the Company leases for its operations, including its facilities in Midland, Michigan, Schkopau, Germany, and Terneuzen, The Netherlands. No environmental claims have been asserted or threatened against the Company, and the Company is not a potentially responsible party at any Superfund Sites.

Inherent uncertainties exist in the Company's potential environmental liabilities primarily due to unknown conditions, whether future claims may fall outside the scope of the indemnity, changing governmental regulations and legal standards regarding liability, and evolving technologies for handling site remediation and restoration. In connection with the Company's existing indemnification, the possibility is considered remote that environmental remediation costs will have a material adverse impact on the consolidated financial statements.

There were no amounts recorded in the consolidated statements of operations relating to environmental remediation for the years ended December 31, 2017, 2016, and 2015.

Purchase Commitments

In the normal course of business, the Company has certain raw material purchase contracts where it is required to purchase certain minimum volumes at current market prices. These commitments range from 1 to 4 years. The following table presents the fixed and determinable portion (based on current pricing) of the obligation under the Company's purchase commitments as of December 31, 2017:

Year	Annual Commitment
2018	$ 1,480.1
2019	1,007.5
2020	866.6
2021	4.8
2022	—
Thereafter	—
Total	$ 3,359.0

In certain raw material purchase contracts, the Company has the right to purchase less than the required minimums and pay a liquidated damages fee, or, in case of a permanent plant shutdown, to terminate the contracts. In such cases, these obligations would be less than the obligations shown in the table above.

The Company has service agreements with Dow, some of which contain fixed annual fees. Refer to Note 17 for further information.

Litigation Matters

From time to time, the Company may be subject to various legal claims and proceedings incidental to the normal conduct of business, relating to such matters as product liability, antitrust/competition, past waste disposal practices and release of chemicals into the environment. While it is impossible at this time to determine with certainty the ultimate outcome of these routine claims, the Company does not believe that the ultimate resolution of these claims will have a material adverse effect on the Company's results of operations, financial condition or cash flow.

Legal costs, including those legal costs expected to be incurred in connection with a loss contingency, are expensed as incurred.

NOTE 15—PENSION PLANS AND OTHER POSTRETIREMENT BENEFITS

Defined Benefit Pension Plans

Many of the Company's employees are participants in various defined benefit pension plans which are administered and sponsored by the Company and are primarily in Germany, Switzerland, The Netherlands, Belgium, China and Japan.

Company employees who were not previously associated with the acquired pension and postretirement plans are generally not eligible for enrollment in these plans. Pension benefits are typically based on length of service and the employee's final average compensation.

Other Postretirement Benefits

The Company provides certain health care and life insurance benefits to Dow-heritage employees in the United States when they retire. Prior to the 2016 divestiture of the Company's latex binders and automotive businesses in Brazil (refer to Note 3 in the consolidated financial statements), the Company also provided health care and life insurance benefits to retired employees in Brazil.

In the U.S., the plan provides for health care benefits, including hospital, physicians' services, drug and major medical expense coverage. In general, the plan applies to employees hired by Dow before January 1, 2008 and transferred to the Company in connection with the Acquisition, and who are at least 50 years old with 10 years of service. The plan allows for spouse coverage as well. If an employee was hired on or before January 1, 1993, the coverage extends past age 65. For employees hired after January 1, 1993 but before January 1, 2008, coverage ends at age 65. The Company reserves the right to modify the provisions of the plan at any time, including the right to terminate, and does not guarantee the continuation of the plan or its provisions.

Prior to the divestiture of operations in Brazil in 2016, the Company provided an insured medical benefit to all employees and eligible dependents under Brazil's healthcare legislation, which grants the right to employees (and their beneficiaries) who have contributed towards the medical plan to extend medical coverage upon retirement or in case of involuntary dismissal. The extended medical plan must include the same level of coverage and other conditions offered to active employees, whereas former employees must assume 100% of the premium cost.

Assumptions

The weighted-average assumptions used to determine pension plan obligations and net periodic benefit costs are provided below:

	Pension Plan Obligations December 31,			Net Periodic Benefit Costs December 31,		
	2017	2016	2015	2017	2016	2015
Discount rate for PBO	1.79 %	1.65 %	2.06 %	1.65 %	2.06 %	2.01 %
Discount rate for service cost	N/A	N/A	N/A	1.64 %	2.06 %	2.01 %
Discount rate for interest cost	N/A	N/A	N/A	1.42 %	2.06 %	2.01 %
Rate of increase in future compensation levels	2.81 %	2.61 %	2.68 %	2.61 %	2.68 %	2.71 %
Expected long-term rate of return on plan assets	N/A	N/A	N/A	1.44 %	1.79 %	1.73 %

The weighted-average assumptions used to determine other postretirement benefit ("OPEB") obligations and net periodic benefit costs are provided below:

	OPEB Obligations December 31,			Net Periodic Benefit Costs December 31,		
	2017	2016	2015	2017	2016	2015
Discount rate for APBO	3.68 %	4.16 %	6.51 %	4.16 %	6.51 %	6.40 %
Discount rate for service cost	N/A	N/A	N/A	4.18 %	6.51 %	6.40 %
Discount rate for interest cost	N/A	N/A	N/A	3.81 %	6.51 %	6.40 %
Initial health care cost trend rate	6.70 %	6.70 %	8.19 %	6.70 %	8.19 %	8.05 %
Ultimate health care cost trend rate	5.00 %	5.00 %	5.26 %	5.00 %	5.26 %	5.43 %
Year ultimate trend rate to be reached	2023	2022	2023	2022	2023	2021

We determine the discount rate used to measure plan liabilities as of the December 31 measurement date for the pension and postretirement benefit plans. The discount rate reflects the current rate at which the associated liabilities could be effectively settled at the end of the year. We set our rate to reflect the yield of a portfolio of high quality, fixed-income debt instruments that would produce cash flows sufficient in timing and amount to settle projected future benefits. In 2016, we changed the method used to estimate the future service and interest cost components of net periodic benefit cost for our defined benefit pension and other postretirement benefit plans. Historically, we estimated the future service and interest cost components using a single weighted-average discount rate derived from the yield curve that was used to measure the benefit obligation at the beginning of the period. For 2017 and beyond, we have elected to use a full yield curve approach in the estimation of these components of benefit cost by applying the specific spot rates along the yield curve used in the determination of the benefit obligation to the relevant projected cash flows. We have made this change to improve the correlation between projected benefit cash flows and the corresponding yield curve spot rates and to provide a more precise measurement of service and interest costs. This change did not affect the measurement of our total benefit obligations, as the change in the service cost and interest cost was entirely offset in the actuarial loss reported.

The expected long-term rate of return on plan assets is determined by performing a detailed analysis of key economic and market factors impacting historical returns for each asset class and formulating a projected return based on factors in the current environment. Factors considered include, but are not limited to, inflation, real economic growth, interest rate yield, interest rate spreads, and other valuation measures and market metrics. The expected long-term rate of return for each asset class is then weighted based on the strategic asset allocation approved by the governing body for each plan. The historical experience with the pension fund asset performance is also considered.

A one-percentage point change in the assumed health care cost trend rate would have had a nominal effect on both service and interest costs, but would result in an approximate $0.4 million impact to the projected benefit obligation.

The net periodic benefit costs for the pension and other postretirement benefit plans for the years ended December 31, 2017, 2016, and 2015 were as follows:

	Defined Benefit Pension Plans December 31,			Other Postretirement Benefit Plans December 31,		
	2017	2016	2015	2017	2016	2015
Net periodic benefit cost						
Service cost	$ 20.5	$ 16.5	$ 16.6	$ 0.2	$ 0.2	$ 0.3
Interest cost	4.9	5.5	5.2	0.3	0.4	0.5
Expected return on plan assets	(1.7)	(2.0)	(1.6)	—	—	—
Amortization of prior service cost (credit)	(2.0)	(1.9)	(1.6)	0.1	0.1	0.1
Amortization of net (gain) loss	5.6	4.4	5.5	(0.1)	(0.2)	—
Settlement and curtailment gain	(21.9)[1]	—	—	—	—	—
Net periodic benefit cost	$ 5.4	$ 22.5	$ 24.1	$ 0.5	$ 0.5	$ 0.9
Amounts recognized in other comprehensive income (loss)						
Net loss (gain)	$ (42.6)	$ 24.8	$ (6.3)	$ (0.1)	$ 1.9	$ (1.5)
Amortization of prior service (cost) credit	2.0	1.9	1.6	(0.1)	(0.1)	(0.1)
Amortization of net gain (loss)	(5.6)	(4.4)	(5.5)	0.1	0.2	—
Settlement and curtailment gain	21.9 [1]	—	—	—	—	—
Prior service credit	—	—	(3.4)[3]	—	—	—
Acquisitions/divestitures	—	0.2 [2]	—	—	(1.1)[2]	—
Total recognized in other comprehensive income (loss)	(24.3)	22.5	(13.6)	(0.1)	0.9	(1.6)
Net periodic benefit cost	5.4	22.5	24.1	0.5	0.5	0.9
Total recognized in net periodic benefit cost and other comprehensive income (loss)	$ (18.9)	$ 45.0	$ 10.5	$ 0.4	$ 1.4	$ (0.7)

(1) Approximately $21.6 million of this amount relates to a curtailment gain on certain of the Company's pension plans in Europe recorded during the year ended December 31, 2017, of which $18.5 million was recorded within "Cost of sales" and $3.1 million was recorded within "Selling, general and administrative expenses" in the consolidated statement of operations. This curtailment is triggered by a plan amendment under which participants will not receive incremental benefits under the existing plan for service provided subsequent to December 31, 2017. Previous participants in the curtailed pension plan will be eligible to participate in a new multi-employer plan starting on January 1, 2018.

(2) These amounts relate to the Company's divestiture of its Brazilian business during 2016. As of December 31, 2016, the Company had no residual AOCI balances recorded related to the Brazilian pension and postretirement medical plans.

(3) This amount is primarily related to a reduction in annuity conversion rates announced by the insurance provider for the pension plans in Switzerland. The impact of the change resulted in an adjustment to prior service credit in other comprehensive income as of December 31, 2015, which will be amortized to net periodic benefit cost over the estimated remaining service period of the employees.

The changes in the pension benefit obligations and the fair value of plan assets and the funded status of all significant plans for the years ended December 31, 2017 and 2016 were as follows:

	Defined Benefit Pension Plans December 31,		Other Postretirement Benefit Plans December 31,	
	2017	2016	2017	2016
Change in projected benefit obligations				
Benefit obligation at beginning of period	$ 303.3	$ 265.5	$ 6.7	$ 7.6
Service cost	20.5	16.5	0.2	0.2
Interest cost	4.9	5.5	0.3	0.4
Plan participants' contributions	2.5	2.3	—	—
Actuarial changes in assumptions and experience	(8.2)	27.6	(0.1)	1.9
Benefits paid from fund	(1.4)	0.1	—	—
Benefit payments by employer	(1.9)	(1.9)	—	—
Acquisitions/divestitures	—	(0.9)	—	(4.0)
Plan amendments	—	—	—	—
Curtailments	(32.6)	—	—	—
Settlements	(5.2)	—	—	—
Other	3.0	—	—	—
Currency impact	36.8	(11.4)	—	0.6
Benefit obligation at end of period	$ 321.7	$ 303.3	$ 7.1	$ 6.7
Change in plan assets				
Fair value of plan assets at beginning of period	$ 114.2	$ 100.5	$ —	$ —
Actual return on plan assets	3.6	4.8	—	—
Settlements	(5.2)	—	—	—
Employer contributions	15.3	12.8	—	—
Plan participants' contributions	2.5	2.3	—	—
Benefits paid	(3.3)	(1.8)	—	—
Other	—	—	—	—
Currency impact	13.0	(4.4)	—	—
Fair value of plan assets at end of period	140.1	114.2	—	—
Funded status at end of period	$ (181.6)	$ (189.1)	$ (7.1)	$ (6.7)

The net amounts recognized in the consolidated balance sheets as of December 31, 2017 and 2016 were as follows:

	Defined Benefit Pension Plans December 31,		Other Postretirement Benefit Plans December 31,	
	2017	2016	2017	2016
Net amounts recognized in the balance sheets as of December 31				
Current liabilities	$ (2.2)	$ (1.6)	$ (0.1)	$ (0.1)
Noncurrent liabilities	(179.4)	(187.5)	(7.0)	(6.6)
Net amounts recognized in the balance sheet	$ (181.6)	$ (189.1)	$ (7.1)	$ (6.7)
Accumulated benefit obligation at the end of the period	$ 290.9	$ 245.3	$ 7.1	$ 6.7
Pretax amounts recognized in AOCI as of December 31:				
Net prior service cost (credit)	$ (5.4)	$ (21.3)	$ 0.3	$ 0.4
Net loss (gain)	65.8	106.0	(0.9)	(0.9)
Total at end of period	$ 60.4	$ 84.7	$ (0.6)	$ (0.5)

Approximately $3.8 million and $1.1 million of net loss and net prior service credit, respectively, for the defined benefit pension plans and less than $0.1 million and $0.1 million of net gain and net prior service cost, respectively, for other postretirement benefit plans will be amortized from AOCI to net periodic benefit cost in 2018.

The estimated future benefit payments, reflecting expected future service, as appropriate, are presented in the following table:

	2018	2019	2020	2021	2022	2023 through 2027	Total
Defined benefit pension plans	$ 5.4	$ 5.1	$ 6.1	$ 5.5	$ 6.2	$ 48.1	$ 76.4
Other postretirement benefit plans	0.1	0.1	0.1	0.2	0.3	2.4	3.2
Total	$ 5.5	$ 5.2	$ 6.2	$ 5.7	$ 6.5	$ 50.5	$ 79.6

The Company estimates it will make cash contributions, including benefit payments for unfunded plans, of $6.3 million in 2018 to the defined benefit pension plans.

The following information relates to pension plans with projected and accumulated benefit obligations in excess of the fair value of plan assets as of December 31, 2017 and 2016:

Projected Benefit Obligation Exceeds the Fair Value of Plan Assets	December 31, 2017	December 31, 2016
Projected benefit obligations	$ 237.3	$ 303.3
Fair value of plan assets	$ 55.8	$ 114.2

Accumulated Benefit Obligation Exceeds the Fair Value of Plan Assets	December 31, 2017	December 31, 2016
Accumulated benefit obligations	$ 206.4	$ 184.2
Fair value of plan assets	$ 50.0	$ 45.4

Plan Assets

As of December 31, 2017 and 2016, respectively, plan assets totaled $140.1 million and $114.2 million, consisting of investments in insurance contracts. Investments in the pension plan insurance were valued utilizing unobservable inputs, which are contractually determined based on cash surrender values, returns, fees, and the present value of the future cash flows of the contracts.

Insurance contracts are classified as Level 3 investments. Changes in the fair value of these Level 3 investments during the years ended December 31, 2017 and 2016 are included in the "Change in plan assets" table above.

Concentration of Risk

The Company mitigates the credit risk of investments by establishing guidelines with investment managers that limit investment in any single issue or issuer to an amount that is not material to the portfolio being managed. These guidelines are monitored for compliance both by the Company and external managers. Credit risk related to derivative activity is mitigated by utilizing multiple counterparties and through collateral support agreements.

Supplemental Employee Retirement Plan

The Company established a non-qualified supplemental employee retirement plan in 2010. The net benefit costs recognized for the years ended December 31, 2017, 2016, and 2015 were $1.1 million, $1.1 million, and $1.0 million, respectively. Benefit obligations under this plan were $15.3 million and $15.1 million as of December 31, 2017 and 2016, respectively. As of December 31, 2017 and 2016, the amounts of net loss included in AOCI were $0.9 million and $1.8 million, respectively, with $0.9 million and $1.0 million amortized from AOCI into net periodic benefit costs during the years ended December 31, 2017 and 2016, respectively. Approximately $0.5 million is expected to be amortized from AOCI into net periodic benefit cost in 2018.

Based on the Company's current estimates, the estimated future benefit payments under this plan, reflecting expected future service, as appropriate, are presented in the following table:

	2018	2019	2020	2021	2022	Thereafter	Total
Supplemental employee retirement plan	$ —	$ 16.0	$ —	$ —	$ —	$ —	$ 16.0

Defined Contribution Plans

The Company also offers defined contribution plans to eligible employees in the U.S. and in other countries, including Hong Kong, Korea, The Netherlands, Taiwan and the United Kingdom. The defined contribution plans are comprised of a non-discretionary elective matching contribution component as well as a discretionary non-elective contribution component. Employees participate in the non-discretionary component by contributing a portion of their eligible compensation to the plan, which is partially matched by the Company. Non-elective contributions are made at the discretion of the Company and are based on a combination of eligible employee compensation and performance award targets. For the years ended December 31, 2017, 2016, and 2015, respectively, the Company contributed $8.4 million, $8.6 million, and $7.8 million to the defined contribution plans.

NOTE 16—STOCK-BASED COMPENSATION

Summary of Stock-based Compensation Expense

Stock-based compensation expense, which is recorded within "Selling, general and administrative expenses" in the consolidated statements of operations, was as follows for the years ended December 31, 2017, 2016, and 2015, respectively. Share amounts in the tables below are in whole numbers, unless otherwise indicated.

	Year Ended December 31,			As of December 31, 2017	
	2017	2016	2015	Unrecognized Compensation Cost	Weighted Average Years
2014 Omnibus Plan Awards					
RSUs	$ 8.6	$ 5.3	$ 2.1	$ 9.3	1.6
Option Awards	4.1	5.6	3.0	1.2	1.3
PSUs	1.1	—	—	2.7	2.1
Restricted Stock Awards Issued by the former Parent					
Time-based Restricted Stock Awards	—	1.7	2.6	—	—
Modified Time-based Restricted Stock Awards	—	4.5	2.4	—	—
Management Retention Awards	—	—	(1.1)	—	—
Total stock-based compensation expense	$ 13.8	$ 17.1	$ 9.0		

2014 Omnibus Plan

In connection with the IPO, the Company's board of directors approved the 2014 Omnibus Plan, adopted on May 28, 2014, under which 4.5 million ordinary shares is the maximum number that may be delivered upon satisfaction of awards granted. Following the IPO, all equity-based awards granted by the Company will be granted under the 2014 Omnibus Plan, which provides for awards of stock options, share appreciation rights, restricted stock, unrestricted stock, stock units, performance awards, cash awards and other awards convertible into or otherwise based on ordinary shares of the Company. Since the IPO, the board of directors of the Company has approved equity award grants for certain directors, executives, and employees, including restricted share units (RSUs), options to purchase shares (options awards), and performance share units (PSUs).

Restricted Share Units (RSUs)

The RSUs granted to executives and employees vest in full on the third anniversary of the date of grant, generally subject to the employee remaining continuously employed by the Company through the vesting date. RSUs granted to directors of the Company vest in full on the first anniversary of the date of grant. Upon a termination of employment due to the employee's death or retirement or a termination of employment by the Company without cause in connection with a restructuring or redundancy or due to the employee's disability prior to the vesting date, the RSUs will vest in full or in part, depending on the type of termination. In the event employment is terminated for cause, all unvested RSUs will be forfeited. When RSUs vest, shares are issued from the existing pool of treasury shares.

Compensation cost for RSUs is measured at grant date based on the fair value of the award and is recognized ratably as expense over the applicable vesting term. The fair value of RSUs is equal to the fair market value of the Company's ordinary shares based on the closing price on the date of grant. Prior to November 2016, dividend and dividend equivalents did not accumulate on unvested RSUs. In November 2016, the board of directors approved an amendment to all outstanding RSUs, entitling each award holder to an amount equal to any cash dividend paid by the Company upon one ordinary share for each RSU held by the award holder ("dividend equivalents"). The dividend equivalents earned on the RSUs only include dividends paid after this amendment and the award holders have no right to receive the dividend equivalents unless and until the associated RSUs vest. The dividend equivalents will be payable in cash and will not accrue interest. The impact of this amendment is immaterial to the consolidated financial statements.

The following table summarizes the award activity for RSUs during the year ended December 31, 2017:

Restricted Share Units	Shares	Weighted-Average Grant Date Fair Value per Share
Unvested, December 31, 2016	722,783	$ 22.88
Granted	110,767	70.85
Vested	(50,331)	26.01
Forfeited	(39,379)	28.67
Unvested, December 31, 2017	743,840	$ 29.50

The following table summarizes the weighted-average grant date fair value per share of RSUs granted during the years ended December 31, 2017, 2016, and 2015 as well as the total fair value of awards vested during those periods:

	Restricted Share Units	
	Weighted-Average Grant Date Fair Value per Share of Grants during Period	Total Fair Value of Awards Vested during Period
Year Ended December 31, 2017	$ 70.85	$ 1.3
Year Ended December 31, 2016	$ 28.39	$ 0.5
Year Ended December 31, 2015	$ 18.67	$ 0.2

Option Awards

The option awards, which contain an exercise term of nine years from the date of grant, vest in three equal annual installments beginning on the first anniversary of the date of grant, generally subject to the employee remaining continuously employed on the applicable vesting date. Upon a termination of employment due to the employee's death or retirement or a termination of employment by the Company without cause in connection with a restructuring or redundancy or due to the employee's disability prior to a vesting date, the option awards will vest in full or will continue to vest on the original vesting schedule, depending on the type of termination. In the event employment is terminated for cause, all vested and unvested option awards will be forfeited. When option awards are exercised, shares are issued from the existing pool of treasury shares.

Compensation cost for option awards is measured at the grant date based on the fair value of the award and is recognized as expense over the appropriate service period utilizing graded vesting. The following table summarizes the activity for option awards during the years ended December 31, 2017, 2016 and 2015:

Option Awards	Shares	Weighted-Average Exercise Price per share	Weighted-Average Contractual Term (years)	Aggregate Intrinsic Value
Outstanding as of December 31, 2014	—	$ —		
Granted	607,382	18.20		
Exercised	—	—		
Forfeited	(48,641)	18.14		
Outstanding as of December 31, 2015	558,741	$ 18.20		
Granted	569,281	27.96		
Exercised	(11,562)	18.46		
Forfeited	(6,160)	22.90		
Outstanding as of December 31, 2016	1,110,300	$ 23.18		
Granted	192,546	71.43		
Exercised	(446,715)	20.75		
Forfeited	(2,037)	46.21		
Outstanding as of December 31, 2017	854,094	$ 35.27	7.1	$ 31.9
Exercisable as of December 31, 2017	101,396	$ 25.13	6.8	$ 4.8
Expected to vest as of December 31, 2017	752,698	$ 36.64	7.2	$ 27.1

The range of exercise prices for the above option awards outstanding at December 31, 2017 is from $18.14 to $71.45. During the years ended December 31, 2017 and 2016, the Company received cash of $9.3 million and $0.2 million, respectively, from the exercise of option awards and the total intrinsic value of option awards exercised was $21.4 million and $0.4 million, respectively (noting no option awards were exercised in 2015).

The fair value for option awards is computed using the Black-Scholes pricing model, whose inputs and assumptions are determined as of the date of grant. Determining the fair value of the option awards requires considerable judgment, including estimating the expected term of said awards and the expected volatility of the price of the Company's ordinary shares.

Since the Company's equity interests were privately held prior to the IPO in June 2014, there is limited publicly traded history of the Company's ordinary shares. Until such time that the Company can determine expected volatility based solely on the publicly traded history of its ordinary shares, expected volatility used in the Black-Scholes model for option awards granted is based on a combination of the Company's historical volatility and similar companies' stock that are publicly traded. The expected term of option awards represents the period of time that option awards granted are expected to be outstanding. For all grants of option awards presented herein, the simplified method was used to calculate the expected term, given the Company's limited historical exercise data. The risk-free interest rate for the periods within the expected term of option awards is based on the U.S. Treasury yield curve in effect at the time of grant. The dividend yield is estimated based on historical and expected dividend activity.

The following are the weighted-average assumptions used within the Black-Scholes pricing model for grants during the years ended December 31, 2017, 2016 and 2015:

	Year Ended December 31,		
	2017	2016	2015
Expected term (in years)	5.50	5.50	5.50
Expected volatility	35.00 %	40.00 %	45.00 %
Risk-free interest rate	2.19 %	1.42 %	1.65 %
Dividend yield	2.00 %	0.60 %	—

Utilizing the above assumptions, the weighted-average grant date fair value per option award granted in the years ended December 31, 2017, 2016 and 2015 was $20.61, $10.10 and $7.82, respectively.

Performance Share Units (PSUs)

The Company granted PSUs for the first time during the year ended December 31, 2017. The PSUs, which are granted to executives, cliff vest on the third anniversary of the date of grant, generally subject to the executive remaining continuously employed by the Company through the vesting date and achieving certain performance conditions. The number of the PSUs that vest upon completion of the service period can range from 0 to 200 percent of the original grant, subject to certain limitations, contingent upon the Company's total shareholder return ("TSR") during the performance period relative to a pre-defined set of industry peer companies. Upon a termination of employment due to the executive's death or retirement, or termination in connection with a change in control or other factors prior to the vesting date, the PSUs will vest in full or in part, depending on the type of termination and the achievement of the performance conditions. Dividend equivalents will accumulate on PSUs during the vesting period, will be paid in cash upon vesting, and do not accrue interest. When PSUs vest, shares will be issued from the existing pool of treasury shares. During the year ended December 31, 2017, a total of 50,937 PSUs were granted at a weighted-average fair value of $75.74 per award. No PSUs vested or were forfeited during the period.

The fair value for PSU awards is computed using a Monte Carlo valuation model, whose inputs and assumptions are determined as of the date of grant. Determining the fair value of the PSU awards requires considerable judgment, including estimating the expected volatility of the price of the Company's ordinary shares, the correlation between the Company's stock price and that of its peer companies, and the expected rate of interest. The expected volatility for each grant is determined based on the historical volatility of the Company's common stock. The expected term of PSU awards represents the length of the performance period. The risk-free interest rate is based on the U.S. Treasury yield curve in effect at the time of grant for a duration equivalent to the performance period. The stock price is the closing price of the Company's common stock on the grant date.

The following are the weighted-average assumptions used within the Monte Carlo valuation model for grants during the year ended December 31, 2017:

	Year Ended December 31, 2017
Expected term (in years)	3.00
Expected volatility	39.00 %
Risk-free interest rate	1.56 %
Stock Price	$ 71.45

Utilizing the above assumptions, the total grant date fair value for PSU awards granted in the year ended December 31, 2017 was $3.9 million.

Restricted Stock Awards issued by the former Parent

On June 17, 2010, the former Parent authorized the issuance of up to 750,000 of its shares in restricted stock awards to certain key members of management. Any related compensation associated with these awards has since been allocated to the Company from the former Parent. Since the adoption of the 2014 Omnibus Plan in May 2014, discussed further above, restricted stock awards are no longer issued by the former Parent on behalf of the Company.

During the year ended December 31, 2016, the former Parent completed the sale of its ordinary shares of the Company through secondary offerings, and as a result, no longer holds an ownership interest in the Company. Given that the former Parent sold its interest in the substantive assets of the Company, under the terms of the related securityholder agreements, vesting of all outstanding restricted stock awards was fully accelerated into the year ended December 31, 2016. There will be no additional grants or expense related to these awards in future periods.

Time-based Restricted Stock Awards

Prior to the full acceleration of vesting in 2016 noted above, the time-based restricted stock awards issued by the former Parent contained a service-based condition that required continued employment with the Company. Generally, these awards were to vest over three to five years of service, with a portion (20% to 40%) cliff vesting after the first one or two years, and the remaining portion vesting ratably over the subsequent service period. Compensation cost for the

time-based restricted stock awards was measured at the grant date based on the fair value of the award and was recognized as expense over the appropriate service period utilizing graded vesting.

The following table summarizes the weighted-average grant date fair value per share of time-based restricted stock awards granted during the years ended December 31, 2016 and 2015, as well as the total fair value of awards vested during those periods:

	Time-Based Restricted Stock	
	Weighted-Average Grant Date Fair Value per Share of Grants during Period	Total Fair Value of Awards Vested during Period
Year Ended December 31, 2016	N/A [(1)]	$ 4.7
Year Ended December 31, 2015	N/A [(1)]	$ 5.1

(1) There were no grants of time-based restricted stock awards by the former Parent during the years ended December 31, 2016 and 2015 as a result of the adoption of the 2014 Omnibus Plan.

Modified Time-based Restricted Stock Awards

Prior to June 2014, the former Parent had issued performance-based restricted stock awards that contained provisions wherein vesting was subject to the full satisfaction of both time and performance vesting criterion. On June 10, 2014, prior to the completion of the Company's IPO, the former Parent entered into agreements to modify the outstanding performance-based restricted stock awards to remove the performance-based vesting condition associated with such awards related to the achievement of certain investment returns (while maintaining the requirement for a change in control or IPO). This modification also changed the time-based vesting requirement associated with such awards to provide that any shares which would have satisfied the time-based vesting condition previously applicable on or prior to June 30, 2017 to instead vest on June 30, 2017, subject to the holder remaining continuously employed by the Company through such date. Any such awards that were subject to a time-based vesting condition beyond June 30, 2017 remained subject to those previous conditions. Henceforth, these awards have been described as modified time-based restricted stock awards.

With the completion of the Company's IPO in June 2014, the remaining performance condition associated with these modified time-based restricted stock awards was achieved. As a result, the Company began recognizing compensation expense on these awards, which was measured at the modification date based on their fair value. Prior to the full acceleration of vesting in 2016 noted above, compensation expense on these awards was being recognized over the appropriate service period utilizing graded vesting.

The following table summarizes the weighted-average grant date fair value per share of modified time-based restricted stock awards granted during the years ended December 31, 2016 and 2015, as well as the total fair value of awards vested during those periods:

	Modified Time-Based Restricted Stock	
	Weighted-Average Grant Date Fair Value per Share of Grants during Period	Total Fair Value of Awards Vested during Period
Year Ended December 31, 2016	N/A [(1)]	$ 8.5
Year Ended December 31, 2015	N/A [(1)]	$ 0.3

(1) There were no grants of modified time-based restricted stock awards by the former Parent during the years ended December 31, 2016 and 2015 as a result of the adoption of the 2014 Omnibus Plan.

Adoption of Accounting Standards Update

Effective April 1, 2016, the Company adopted new accounting guidance issued by the FASB that simplifies several aspects of accounting for share-based payments. Among other things, as part of this adoption, the Company made an accounting policy election to recognize forfeitures as incurred, rather than estimating the forfeitures in advance. The impact of this change was applied utilizing a modified retrospective approach, with an adjustment of $0.9 million recorded during the year ended December 31, 2016 to decrease opening retained earnings and increase opening additional paid-in-capital. All other impacts of this adoption were not material to the Company's financial position and results of operations.

NOTE 17—RELATED PARTY AND DOW TRANSACTIONS

Related Party Transactions

During the year ended December 31, 2016, the former Parent sold 37,269,567 ordinary shares pursuant to the Company's shelf registration statement filed with the SEC. As such, the former Parent no longer holds an ownership interest in the Company. In connection with these offerings, the Company incurred advisory, accounting, legal and printing expenses on behalf of the former Parent of $2.5 million during the year ended December 31, 2016. These expenses were included within "Selling, general and administrative expenses" in the consolidated statement of operations.

Dow Transactions

The Company has entered into certain agreements with Dow, including the Second Amended and Restated Master Outsourcing Services Agreement, which was modified on June 1, 2013 (or SAR MOSA), site and operating services agreements, and supply agreements.

The SAR MOSA provides for ongoing worldwide services from Dow in areas such as information technology, enterprise resource planning, finance, environmental health and safety, training, customer service, marketing and sales support, supply chain and certain sourcing and transactional procurement services. This agreement is effective through December 31, 2020, with automatic two year renewals, barring six months' notice of non-renewal provided by either party. Subsequent to June 1, 2015, the Company has the ability to terminate all or a portion of the services under the SAR MOSA, subject to payment of termination charges, noting that certain 'highly integrated' services follow a separate process for evaluation and termination. Either party may terminate for cause, which includes a bankruptcy, liquidation or similar proceeding by the other party, for material breach which is not cured. Dow has the right to terminate the agreement in the event of failure by the Company to pay for the services or in the event of a change of control, as defined in the agreement. As of December 31, 2017, the Company's estimated minimum contractual obligations under the SAR MOSA are approximately $16.9 million.

In addition, the Company entered into various site service agreements with Dow, as amended June 1, 2013 (the Second Amended and Restated Site Services Agreements, or SAR SSAs). Under the SAR SSAs, general site services are provided at specific facilities co-located with Dow including utilities, site administration, environmental health and safety, site maintenance and supply chain. Conversely, the Company entered into similar agreements with Dow, where at Company-owned sites, it provides such services to Dow. These agreements generally have 25-year terms from the date amended, with options to renew. These agreements may be terminated at any time by agreement of the parties, or, by either party, for cause, including a bankruptcy, liquidation or similar proceeding by the other party, or under certain circumstances for a material breach which is not cured. In addition, the Company may terminate for convenience any services that Dow has agreed to provide that are identified in any site services agreement as "terminable" with 12 months prior notice to Dow, dependent upon whether the service is highly integrated into Dow operations. Highly integrated services are agreed to be nonterminable. With respect to "nonterminable" services that Dow has agreed to provide to the Company, such as electricity and steam, the Company generally cannot terminate such services prior to the termination date unless the Company experiences a production unit shut down for which Dow is provided with 15-months prior notice, or upon payment of a shutdown fee. Upon expiration or termination, the Company would be obligated to pay a monthly fee to Dow, which obligation extends for a period of 45 (in the case of expiration) to 60 months (in the case of termination) following the respective event of each site services agreement. The agreements under which Dow receives services from the Company may be terminated under the same circumstances and conditions.

The following tables detail expenses incurred during the years ended December 31, 2017, 2016, and 2015 under the SAR MOSA and SAR SSAs by financial statement line item:

	Year Ended December 31, 2017		
Financial Statement Line Item	**SAR MOSA**	**SAR SSAs**	**Total**
Cost of sales	$ 39.8	$ 179.2	$ 219.0
Selling, general, and administrative expenses	9.3	4.1	13.4
Total	$ 49.1	$ 183.3	$ 232.4

	Year Ended December 31, 2016		
Financial Statement Line Item	**SAR MOSA**	**SAR SSAs**	**Total**
Cost of sales	$ 41.7	$ 169.9	$ 211.6
Selling, general, and administrative expenses	5.6	4.9	10.5
Total	$ 47.3	$ 174.8	$ 222.1

	Year Ended December 31, 2015		
Financial Statement Line Item	**SAR MOSA**	**SAR SSAs**	**Total**
Cost of sales	$ 42.9	$ 188.6	$ 231.5
Selling, general, and administrative expenses	5.1	5.5	10.6
Total	$ 48.0	$ 194.1	$ 242.1

The Company has transactions in the normal course of business with Dow and its affiliates. For the years ended December 31, 2017, 2016, and 2015, sales to Dow and its affiliated companies were approximately $235.2 million, $203.5 million, and $227.0 million, respectively. For the years ended December 31, 2017, 2016, and 2015, purchases from Dow and its affiliated companies were approximately $1,357.2 million, $1,090.4 million, and $1,244.2 million, respectively.

NOTE 18—SEGMENTS

The Company operates under two divisions: Performance Materials and Basic Plastics & Feedstocks. The Performance Materials division includes the following reporting segments: Latex Binders, Synthetic Rubber, and Performance Plastics. The Basic Plastics & Feedstocks division includes the following reporting segments: Basic Plastics, Feedstocks, and Americas Styrenics.

The Latex Binders segment produces SB latex and other latex polymers and binders, primarily for coated paper and packaging board, carpet and artificial turf backings, as well as a number of performance latex binders applications, such as adhesive, building and construction and the technical textile paper market. The Synthetic Rubber segment produces synthetic rubber products used predominantly in high-performance tires, impact modifiers and technical rubber products, such as conveyer belts, hoses, seals and gaskets. The Performance Plastics segment produces highly engineered compounds and blends and some specialized ABS grades for automotive end markets, as well as consumer electronics, medical, electrical and lighting, collectively consumer essential markets, or CEM. The Basic Plastics segment produces styrenic polymers, including polystyrene, basic ABS, and SAN products, as well as PC, all of which are used as inputs in a variety of end use markets. The Basic Plastics segment also included the results of our 50%-owned joint venture, Sumika Styron Polycarbonate, until the Company sold its share in the entity in January 2017 (refer to Note 4 for further information). The Feedstocks segment includes the Company's production and procurement of styrene monomer outside of North America, which is used as a key raw material in many of the Company's products, including polystyrene, SB latex, ABS resins, SSBR, etc. Lastly, the Americas Styrenics segment consists solely of the operations of our 50%-owned joint venture, Americas Styrenics, a producer of both styrene monomer and polystyrene in North America.

Asset, capital expenditure, and intersegment sales information is not reviewed or included with the Company's reporting to the chief operating decision maker. Therefore, the Company has not disclosed this information for each reportable segment.

Year Ended	Performance Materials			Basic Plastics & Feedstocks				
	Latex Binders	Synthetic Rubber	Performance Plastics	Basic Plastics	Feedstocks	Americas Styrenics	Corporate Unallocated	Total
December 31, 2017								
Sales to external customers	$ 1,097.1	$ 582.8	$ 808.3	$ 1,552.2	$ 407.7	$ —	$ —	$ 4,448.1
Equity in earnings (losses) of unconsolidated affiliates	—	—	—	0.8	—	122.9	—	123.7
Adjusted EBITDA(1)	138.5	83.3	122.4	156.7	110.5	122.9		
Investment in unconsolidated affiliates	—	—	—	—	—	152.5	—	152.5
Depreciation and amortization	23.6	35.7	13.2	16.6	12.6	—	8.9	110.6
December 31, 2016								
Sales to external customers	$ 925.3	$ 450.7	$ 693.4	$ 1,352.7	$ 294.5	$ —	$ —	$ 3,716.6
Equity in earnings (losses) of unconsolidated affiliates	—	—	—	8.9	—	135.8	—	144.7
Adjusted EBITDA(1)	94.3	110.9	136.2	148.2	80.2	135.8		
Investment in unconsolidated affiliates	—	—	—	41.7	—	149.7	—	191.4
Depreciation and amortization	23.8	34.7	6.1	15.7	10.6	—	5.5	96.4
December 31, 2015								
Sales to external customers	$ 966.2	$ 474.6	$ 742.8	$ 1,478.1	$ 310.2	$ —	$ —	$ 3,971.9
Equity in earnings (losses) of unconsolidated affiliates	—	—	—	4.9	—	135.3	—	140.2
Adjusted EBITDA(1)	79.0	93.0	107.6	115.6	51.3	135.3		
Investment in unconsolidated affiliates	—	—	—	39.0	—	143.9	—	182.9
Depreciation and amortization	32.4	30.4	5.6	15.3	10.0	—	3.1	96.8

(1) The Company's primary measure of segment operating performance is Adjusted EBITDA, which is defined as income from continuing operations before interest expense, net; provision for income taxes; depreciation and amortization expense; loss on extinguishment of long-term debt; asset impairment charges; gains or losses on the dispositions of businesses and assets; restructuring; acquisition related costs and other items. Segment Adjusted EBITDA is a key metric that is used by management to evaluate business performance in comparison to budgets, forecasts, and prior year financial results, providing a measure that management believes reflects core operating performance by removing the impact of transactions and events that would not be considered a part of core operations. Other companies in the industry may define Segment Adjusted EBITDA differently than the Company, and as a result, it may be difficult to use Segment Adjusted EBITDA, or similarly-named financial measures, that other companies may use to compare the performance of those companies to the Company's segment performance.

The reconciliation of income (loss) before income taxes to Segment Adjusted EBITDA is as follows:

	Year Ended December 31,		
	2017	2016	2015
Income before income taxes	$ 411.1	$ 405.3	$ 203.8
Interest expense, net	70.1	75.0	93.2
Depreciation and amortization	110.6	96.4	96.8
Corporate Unallocated(2)	91.8	94.8	89.8
Adjusted EBITDA Addbacks(3)	50.7	34.2	98.2
Segment Adjusted EBITDA	$ 734.3	$ 705.7	$ 581.8

(2) Corporate unallocated includes corporate overhead costs and certain other income and expenses.

(3) Adjusted EBITDA addbacks for the years ended December 31, 2017, 2016, and 2015 are as follows:

	Year Ended December 31,		
	2017	2016	2015
Loss on extinguishment of long-term debt (Note 10)	$ 65.3	$ —	$ 95.2
Net loss (gain) on disposition of businesses and assets (Notes 3 and 4)	(9.7)	15.1	—
Restructuring and other charges (Note 19)	6.0	23.5	0.8
Acquisition transaction and integration costs (Note 3)	4.7	—	—
Asset impairment charges or write-offs(a)	4.3	—	—
Other items(b)	(19.9)	(4.4)	2.2
Total Adjusted EBITDA Addbacks	$ 50.7	$ 34.2	$ 98.2

(a) Asset impairment charges for the year ended December 31, 2017 primarily related to the impairment of certain long-lived assets within the Company's Performance Plastics segment.

(b) Other items for the year ended December 31, 2017 primarily relate to a curtailment gain recorded on certain of the Company's pension plans in Europe (refer to Note 15 for further information), offset by fees incurred in conjunction with the Company's debt refinancing which was completed during the third quarter of 2017. For the year ended December 31, 2016, other items include other income of $6.9 million from the effective settlement of certain value-added tax positions, offset by $2.5 million of fees incurred in conjunction with the Company's secondary offerings completed during the year. For the year ended December 31, 2015, other items represents costs related to the process of changing our corporate name from Styron to Trinseo.

Geographic Information

As of December 31, 2017, the Company operates 30 manufacturing plants (which include a total of 75 production units) at 23 sites in 12 countries, inclusive of joint ventures and contract manufacturers as well as 11 R&D facilities globally, including mini plants, development centers and pilot coaters. Sales are attributed to geographic areas based on the location where sales originated; long-lived assets are attributed to geographic areas based on asset location. The Company is incorporated under the existing laws of the Grand Duchy of Luxembourg, as discussed in Note 1, which therefore represents its country of domicile. The Company has no existing long-lived assets or sales generated from this country.

	As of and for the Year Ended December 31,		
	2017	2016	2015
United States			
Sales to external customers	$ 602.7	$ 538.4	$ 551.8
Long-lived assets	43.2	49.2	51.2
Europe			
Sales to external customers	$ 2,688.9	$ 2,229.5	$ 2,373.2
Long-lived assets	449.3	338.7	355.0
Asia-Pacific			
Sales to external customers	$ 1,051.4	$ 811.8	$ 889.5
Long-lived assets	134.4	121.9	104.4
Rest of World			
Sales to external customers	$ 105.1	$ 136.9	$ 157.4
Long-lived assets	0.1	0.2	8.1
Total			
Sales to external customers(1)	$ 4,448.1	$ 3,716.6	$ 3,971.9
Long-lived assets(2)(3)	627.0	510.0	518.7

(1) Sales to external customers in China represented approximately 7%, 8% and 7% of the total for the years ended December 31, 2017, 2016, and 2015, respectively. Sales to external customers in Germany represented

approximately 10%, 11% and 11% of the total for the years ended December 31, 2017, 2016, and 2015, respectively. Sales to external customers in Hong Kong represented approximately 13%, 10% and 11% of the total for the years ended December 31, 2017, 2016, and 2015, respectively.

(2) Long-lived assets in China represented approximately 13%, 14%, and 8% of the total as of December 31, 2017, 2016, and 2015, respectively. Long-lived assets in Germany represented approximately 45%, 42%, and 42% of the total as of December 31, 2017, 2016, and 2015, respectively. Long-lived assets in The Netherlands represented approximately 15%, 14%, and 14% of the total as of December 31, 2017, 2016, and 2015, respectively.

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

New Segmentation

Effective for the first quarter of 2018, the Company realigned its reporting segments to reflect the new model under which the business will be managed and results will be reviewed by the chief executive officer, who is the Company's chief operating decision maker. Under this new segmentation, we will continue to report operating results for six segments, four of which will remain unchanged from the Company's current segmentation: Latex Binders, Synthetic Rubber, Feedstocks, and Americas Styrenics. The results of our Polystyrene business, which is currently included within the results of the Basic Plastics segment, will now be reported as a standalone segment. Performance Plastics, which previously consisted of compounds, blends, and ABS products sold to the automotive market, will now also include the remaining portion of our ABS business, as well as the results of our SAN and polycarbonate businesses. This segmentation change will provide enhanced clarity to investors by concentrating the Company's more specialized plastics into a single reporting segment, while also reducing complexity as polycarbonate and ABS are the primary inputs into the downstream production of our compounds and blends. The Company's quarterly report on Form 10-Q for the quarter ended March 31, 2018 will be presented under this new segmentation.

NOTE 19—RESTRUCTURING

Refer to the narrative below for discussion of the Company's restructuring activities included in the tables below. Restructuring charges are included within "Selling, general and administrative expenses" in the consolidated statement of operations. The following table provides detail of the Company's restructuring charges for the years ended December 31, 2017, 2016, and 2015, respectively:

	Year Ended December 31, 2017	2016	2015	Cumulative Life-to-date Charges	Segment
Terneuzen Compounding Restructuring					
Asset impairment/accelerated depreciation	$ 2.0	$ —	$ —	$ 2.0	
Employee termination benefits	0.5	—	—	0.5	
Contract terminations	0.6	—	—	0.6	
Decommissioning and other	0.2	0.6	—	0.8	
Terneuzen Subtotal	$ 3.3	$ 0.6	$ —	$ 3.9	Performance Plastics
Livorno Plant Restructuring					
Asset impairment/accelerated depreciation	$ —	$ 14.3	$ —	$ 14.3	
Employee termination benefits	0.8	4.6	—	5.4	
Contract terminations	—	0.3	—	0.3	
Decommissioning and other	2.3	0.7	—	3.0	
Livorno Subtotal	$ 3.1	$ 19.9	$ —	$ 23.0	Latex Binders
Allyn's Point Restructuring					
Asset impairment/accelerated depreciation	$ —	$ 0.6	$ 6.7	$ 7.3	
Employee termination benefits	—	0.4	0.4	0.8	
Contract terminations	—	—	—	—	
Decommissioning and other	0.4	1.7	—	2.1	
Allyn's Point Subtotal	$ 0.4	$ 2.7	$ 7.1	$ 10.2	Latex Binders
Other Restructurings	1.2	0.7	1.1		Various
Total Restructuring Charges	$ 8.0	$ 23.9	$ 8.2		

The following tables provides a rollforward of the liability balances associated with the Company's restructuring activities as of December 31, 2017 and 2016. Employee termination benefit and contract termination charges are recorded within "Accrued expenses and other current liabilities" in the consolidated balance sheets. No individual restructuring activity had a material liability balance as of December 31, 2017 or 2016.

	Balance at December 31, 2016	Expenses	Deductions[(1)]	Balance at December 31, 2017
Employee termination benefits	$ 5.0	$ 2.9	$ (6.5)	$ 1.4
Contract terminations	0.3	0.6	(0.3)	0.6
Decommissioning and other	—	3.2	(3.2)	—
Total	$ 5.3	$ 6.7	$ (10.0)	$ 2.0

	Balance at December 31, 2015	Expenses	Deductions[(1)]	Balance at December 31, 2016
Employee termination benefits	$ 0.4	$ 5.7	$ (1.1)	$ 5.0
Contract terminations	—	0.3	—	0.3
Decommissioning and other	—	2.3	(2.3)	—
Total	$ 0.4	$ 8.3	$ (3.4)	$ 5.3

(1) Includes primarily payments made against the existing accrual, as well as immaterial impacts of foreign currency remeasurement.

Terneuzen Compounding Restructuring

In March 2017, the Company announced plans to upgrade its production capability for compounded resins with the construction of a new state-of-the art compounding facility to replace its existing compounding facility in Terneuzen, The Netherlands. The new facility is expected to start up by the end of 2018, with substantive production at the existing facility expected to cease by December 2018, followed by decommissioning activities in 2019.

The Company expects to incur incremental accelerated depreciation charges of approximately $1.1 million through the end of 2018, as well as estimated decommissioning and other charges of approximately $1.1 million throughout 2019, the majority of which are expected to be paid in late 2018 and throughout 2019.

Livorno Plant Restructuring

In August 2016, the Company announced its plan to cease manufacturing activities at its latex binders manufacturing facility in Livorno, Italy. This is a result of declining demand for graphical paper and is expected to provide improved asset utilization, as well as cost reductions within the Company's European latex binders business. Production at the facility ceased in October 2016, followed by decommissioning activities which began in the fourth quarter of 2016.

The Company does not expect to incur additional employee termination benefit charges related to this restructuring. The Company expects to incur additional decommissioning costs associated with this plant shutdown in 2018, the cost of which will be expensed as incurred.

Allyn's Point Plant Shutdown

In September 2015, the Company approved the plan to close its Allyn's Point latex binders manufacturing facility in Gales Ferry, Connecticut. This restructuring plan was a strategic business decision to improve the results of the overall Latex Binders segment due to continuing declines in the coated paper industry in North America. Production at the facility ceased at the end of 2015, followed by decommissioning activities which began in 2016.

The Company does not expect to incur additional employee termination benefit charges related to this restructuring. The Company expects to incur a limited amount of decommissioning costs associated with this plant shutdown in 2018, the cost of which will be expensed as incurred.

NOTE 20—ACCUMULATED OTHER COMPREHENSIVE INCOME (LOSS)

The components of accumulated other comprehensive income (loss), net of income taxes, consisted of:

Years Ended December 31, 2017, 2016, and 2015	Cumulative Translation Adjustments	Pension & Other Postretirement Benefit Plans, Net	Cash Flow Hedges, Net	Total
Balance at December 31, 2014	$ (17.8)	$ (57.5)	$ —	$ (75.3)
Other comprehensive income (loss)	(91.4)	7.9	6.1	(77.4)
Amounts reclassified from AOCI to net income (1)	—	3.4	(0.5)	2.9
Balance at December 31, 2015	$ (109.2)	$ (46.2)	$ 5.6	$ (149.8)
Other comprehensive income (loss)	(9.8)	(20.6)	9.5	(20.9)
Amounts reclassified from AOCI to net income (1)	—	3.3	(2.8)	0.5
Balance at December 31, 2016	$ (119.0)	$ (63.5)	$ 12.3	$ (170.2)
Other comprehensive income (loss)	24.5	31.8	(20.7)	35.6
Amounts reclassified from AOCI to net income (1)	—	(13.3)	2.3	(11.0)
Balance at December 31, 2017	$ (94.5)	$ (45.0)	$ (6.1)	$ (145.6)

(1) The following is a summary of amounts reclassified from AOCI to net income for the years ended December 31, 2017, 2016, and 2015:

AOCI Components	Amount Reclassified from AOCI Year Ended December 31, 2017	2016	2015	Statement of Operations Classification
Cash flow hedging items				
Foreign exchange cash flow hedges	$ 2.0	$ (2.8)	$ (0.5)	Cost of sales
Interest rate swaps	0.3	—	—	Interest expense, net
Total before tax	2.3	(2.8)	(0.5)	
Tax effect	—	—	—	Provision for income taxes
Total, net of tax	$ 2.3	$ (2.8)	$ (0.5)	
Amortization of pension and other postretirement benefit plan items				
Curtailment and settlement gain	$ (21.9)	$ —	$ —	(a)
Prior service credit	(1.9)	(1.8)	(1.5)	(b)
Net actuarial loss	6.4	5.2	6.4	(b)
Acquisitions/divestitures	—	1.0	—	(c)
Total before tax	(17.4)	4.4	4.9	
Tax effect	4.1	(1.1)	(1.5)	Provision for income taxes
Total, net of tax	$ (13.3)	$ 3.3	$ 3.4	

(a) This amount primarily relates to the curtailment of certain of the Company's pension plans in Europe. Refer to Note 15 for further information.
(b) These AOCI components are included in the computation of net periodic benefit costs. Refer to Note 15 for further information.
(c) This amount relates to the Company's divestiture of its Brazilian business during 2016. As of December 31, 2016, the Company had no residual AOCI balances recorded related to the Brazilian pension and postretirement medical plans.

NOTE 21—EARNINGS PER SHARE

Basic earnings (loss) per ordinary share ("basic EPS") is computed by dividing net income (loss) available to ordinary shareholders by the weighted average number of the Company's ordinary shares outstanding for the applicable period. Diluted earnings (loss) per ordinary share ("diluted EPS") is calculated using net income (loss) available to ordinary shareholders divided by diluted weighted-average ordinary shares outstanding during each period, which includes unvested RSUs, option awards, and PSUs. Diluted EPS considers the impact of potentially dilutive securities except in periods in which there is a loss because the inclusion of the potential ordinary shares would have an anti-dilutive effect.

The following table presents basic EPS and diluted EPS for the years ended December 31, 2017, 2016, and 2015, respectively.

(in millions, except per share data)	Year Ended December 31, 2017	2016	2015
Earnings:			
Net income	$ 328.3	$ 318.3	$ 133.6
Shares:			
Weighted-average ordinary shares outstanding	43.8	46.5	48.8
Dilutive effect of RSUs, option awards, and PSUs*	1.2	1.0	0.2
Diluted weighted-average ordinary shares outstanding	45.0	47.5	49.0
Income per share:			
Income per share—basic	$ 7.49	$ 6.84	$ 2.74
Income per share—diluted	$ 7.30	$ 6.70	$ 2.73

* Refer to Note 16 for discussion of RSUs, option awards, and PSUs granted to certain Company directors and employees. The number of anti-dilutive shares that have been excluded in the computation of diluted earnings per share were 0.2 million, zero, and zero for the years ended December 31, 2017, 2016, and 2015, respectively..

NOTE 22—SELECTED QUARTERLY FINANCIAL DATA (Unaudited)

(in millions, except per share data)	First Quarter	Second Quarter	Third Quarter	Fourth Quarter
2017				
Net sales	$ 1,104.5	$ 1,145.2	$ 1,096.6	$ 1,101.8
Gross profit	197.8	125.2	147.1	183.9
Equity in earnings of unconsolidated affiliates	19.3	29.9	43.8	30.7
Operating income	156.7	99.8	125.2	157.0 (3)
Income before income taxes	146.6 (1)	79.0	41.5 (2)	144.0 (3)
Net income	117.3 (1)	60.2	33.2 (2)	117.6 (3)(4)
Net income per share- basic	$ 2.66 (1)	$ 1.37	$ 0.76 (2)	$ 2.69 (3)(4)
Net income per share- diluted	$ 2.59 (1)	$ 1.34	$ 0.74 (2)	$ 2.63 (3)(4)
2016				
Net sales	$ 894.1	$ 969.7	$ 935.4	$ 917.4
Gross profit	139.7	169.7	140.4	137.8
Equity in earnings of unconsolidated affiliates	35.0	38.6	36.7	34.4
Operating income	120.2	156.1	103.2 (6)	111.3 (6)
Income before income taxes	98.6	124.4 (5)	83.3 (5)(6)	99.0 (5)(6)(7)
Net income	76.7	95.8 (5)	67.3 (5)(6)	78.5 (5)(6)(7)
Net income per share- basic	$ 1.58	$ 2.04 (5)	$ 1.47 (5)(6)	$ 1.76 (5)(6)(7)
Net income per share- diluted	$ 1.56	$ 2.00 (5)	$ 1.43 (5)(6)	$ 1.72 (5)(6)(7)

(1) Includes a gain on sale of $9.3 million related to the sale of Sumika Styron Polycarbonate during the first quarter of 2017. Refer to Note 4 for further information.

(2) Includes a $65.3 million loss on extinguishment of debt related to the third quarter of 2017 debt refinancing. Refer to Note 10 for further information.

(3) Includes a $21.6 million gain related to the curtailment of certain of the Company's pension plans in Europe. Refer to Note 15 for further information.

(4) Includes an $8.5 million benefit related to the recording of a previously unrecognized tax benefit, including interest and penalties, during the fourth quarter of 2017. Refer to Note 13 for further information.

(5) Includes charges for the loss on sale of Trinseo Brazil of $12.9 million, $0.3 million, and $1.8 million during the second, third, and fourth quarters of 2016, respectively. Refer to Note 3 for further information.

(6) Includes restructuring charges related to the Company's decision to cease manufacturing activities at its latex binders manufacturing facility in Livorno, Italy of $16.0 million and $3.9 million during the third and fourth quarters of 2016, respectively. Refer to Note 19 for further information.

(7) Includes other income of $6.9 million from the effective settlement of certain value-added tax positions during the fourth quarter of 2016

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TRINSEO S.A.
SCHEDULE II—FINANCIAL STATEMENT SCHEDULE
VALUATION AND QUALIFYING ACCOUNTS
(In Millions)

	Balance at Beginning of the Period	Charged to Cost and Expense	Deduction from Reserves	Currency Translation Adjustments	Balance at End of the Period
Allowance for doubtful accounts:					
Year ended December 31, 2017	$ 3.1	$ 1.5	$ (0.1)[a]	$ 1.1	$ 5.6
Year ended December 31, 2016	2.4	1.0	(0.1)[a]	(0.2)	3.1
Year ended December 31, 2015	6.3	0.3	(3.3)[a]	(0.9)	2.4
Tax valuation allowances:					
Year ended December 31, 2017	$ 112.6	$ 35.6	$ —	$ 1.4	$ 149.6
Year ended December 31, 2016	85.1	27.7	—	(0.2)	112.6
Year ended December 31, 2015	66.9	22.1	—	(3.9)	85.1

(a) Amounts written off, net of recoveries.

REPORT OF INDEPENDENT REGISTERED PUBLIC ACCOUNTING FIRM

To the Board of Directors of and Members of
Americas Styrenics LLC
The Woodlands, Texas

Opinion on the Financial Statements

We have audited the accompanying consolidated balance sheets of Americas Styrenics LLC and its subsidiaries (the "Company") as of December 31, 2017 and 2016, the related consolidated statements of comprehensive income, members' equity, and cash flows for each of the three years in the period ended December 31, 2017, 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, 2017 and 2016, and the results of its operations and its cash flows for each of the three years in the period ended December 31, 2017, in conformity with accounting principles generally accepted in the United States of America.

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 Public Company Accounting Oversight Board (United States) (PCAOB) and are required to be independent with respect to the Company in accordance with the U.S. federal securities laws and the applicable rules and regulations of the Securities and Exchange Commission and the PCAOB.

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

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

/s/ DELOITTE & TOUCHE LLP

Houston, Texas
February 14, 2018

We have served as the Company's auditor since 2008.

AMERICAS STYRENICS LLC

CONSOLIDATED BALANCE SHEETS
AS OF DECEMBER 31, 2017 AND 2016
(In millions of dollars)

	2017	2016
ASSETS		
CURRENT ASSETS:		
Cash and cash equivalents	$ 66.2	$ 62.9
Trade receivables (net of allowance of $3.1 in 2017 and $2.6 in 2016)	146.4	120.0
Related company receivables	6.3	11.3
Inventories	134.1	146.8
Other current assets	11.0	13.8
Total current assets	364.0	354.8
NET PROPERTY, PLANT AND EQUIPMENT	224.1	233.5
OTHER ASSETS:		
Deferred income taxes	0.8	1.8
Other assets	11.3	13.2
Total other assets	12.1	15.0
TOTAL	$ 600.2	$ 603.3
LIABILITIES AND MEMBERS' EQUITY		
CURRENT LIABILITIES:		
Trade payables	$ 111.6	$ 69.1
Related company payables	36.3	36.6
Other payables	17.3	14.8
Income taxes payable	6.3	5.3
Accrued liabilities	12.8	17.4
Total current liabilities	184.3	143.2
POSTRETIREMENT BENEFIT LIABILITY	16.3	16.9
OTHER LONG-TERM LIABILITIES	1.6	1.3
Total liabilities	202.2	161.4
COMMITMENTS AND CONTINGENCIES (Note 7)		
MEMBERS' EQUITY:		
Members' equity	400.6	446.2
Accumulated other comprehensive loss	(2.6)	(4.3)
Total members' equity	398.0	441.9
TOTAL	$ 600.2	$ 603.3

See notes to consolidated financial statements.

AMERICAS STYRENICS LLC

CONSOLIDATED STATEMENTS OF COMPREHENSIVE INCOME
FOR THE YEARS ENDED DECEMBER 31, 2017, 2016, AND 2015
(In millions of dollars)

	2017	2016	2015
Net sales	$ 1,783.6	$ 1,483.1	$ 1,600.1
Cost of sales	1,543.5	1,205.0	1,309.5
Gross margin	240.1	278.1	290.6
Technical service and development	2.4	2.4	2.5
Selling and marketing	7.5	8.9	8.7
Administrative	28.2	31.0	29.0
Foreign exchange loss	0.4	0.6	4.7
Other expense—net	0.6	0.3	2.0
Operating income	201.0	234.9	243.7
Interest income	0.2	0.2	0.1
Income tax expense	(6.8)	(6.3)	(6.3)
Net income	194.4	228.8	237.5
Other comprehensive loss:			
Net actuarial gain (loss)	1.0	0.7	(0.5)
Reclassification of actuarial loss to income	—	0.1	—
Reclassification of prior-service cost to income	0.7	0.7	0.7
Net other comprehensive income (loss)—defined benefit plans	1.7	1.5	0.2
Total comprehensive income	$ 196.1	$ 230.3	$ 237.7

See notes to consolidated financial statements.

AMERICAS STYRENICS LLC

CONSOLIDATED STATEMENTS OF MEMBERS' EQUITY
FOR THE YEARS ENDED DECEMBER 31, 2017, 2016, AND 2015
(In millions of dollars)

	Members' Equity	Accumulated Other Comprehensive Loss	Total
BALANCE—January 1, 2015	$ 489.9	$ (6.0)	$ 483.9
Distribution to Members	(250.0)	—	(250.0)
Defined benefit plans—other comprehensive income	—	0.2	0.2
Net income	237.5	—	237.5
BALANCE—December 31, 2015	477.4	(5.8)	471.6
Distribution to Members	(260.0)	—	(260.0)
Defined benefit plans—other comprehensive income	—	1.5	1.5
Net income	228.8	—	228.8
BALANCE—December 31, 2016	446.2	(4.3)	441.9
Distribution to Members	(240.0)	—	(240.0)
Defined benefit plans—other comprehensive income	—	1.7	1.7
Net income	194.4	—	194.4
BALANCE—December 31, 2017	$ 400.6	$ (2.6)	$ 398.0

See notes to consolidated financial statements.

AMERICAS STYRENICS LLC

CONSOLIDATED STATEMENTS OF CASH FLOWS
FOR THE YEARS ENDED DECEMBER 31, 2017, 2016, AND 2015
(In millions of dollars)

	2017	2016	2015
OPERATING ACTIVITIES:			
Net income	$ 194.4	$ 228.8	$ 237.5
Adjustments to reconcile net income to net cash provided by operating activities:			
Depreciation and amortization	42.4	41.0	39.0
Net gain on disposal of assets	0.1	—	0.4
Deferred income taxes	1.0	1.0	(0.4)
Allowance for doubtful accounts	0.4	(1.2)	(0.7)
Changes in assets and liabilities that provided (used) cash:			
Trade receivables	(26.8)	9.3	33.4
Related company receivables	5.0	(3.1)	7.1
Inventories	12.6	(12.3)	(20.5)
Trade payables	42.5	(8.1)	(21.4)
Related company payables	(0.2)	4.9	(9.5)
Other assets and liabilities	0.9	5.1	10.3
Net cash provided by operating activities	272.3	265.4	275.2
INVESTING ACTIVITIES:			
Capital expenditures	(29.2)	(22.5)	(36.5)
Proceeds from settlement treated as reimbursement of capital expenditures (Note 7)	—	—	7.8
Disposal of assets	0.2	0.1	—
Net cash used in investing activities	(29.0)	(22.4)	(28.7)
FINANCING ACTIVITY—Distribution to Members	(240.0)	(260.0)	(250.0)
Cash used in financing activity	(240.0)	(260.0)	(250.0)
INCREASE (DECREASE) IN CASH AND CASH EQUIVALENTS	3.3	(17.0)	(3.5)
CASH AND CASH EQUIVALENTS—Beginning of year	62.9	79.9	83.4
CASH AND CASH EQUIVALENTS—End of year	$ 66.2	$ 62.9	$ 79.9
SUPPLEMENTAL CASH FLOW INFORMATION:			
Noncash investing activity—capital expenditures payable	$ 4.3	$ 2.1	$ 2.9
Cash paid for income taxes	$ 4.5	$ 4.7	$ 3.3

See notes to consolidated financial statements.

(Amounts in millions of dollars)

1. FORMATION OF VENTURE

Effective May 1, 2008, Chevron Phillips Chemical Company LP ("CPChem") and The Dow Chemical Company ("Dow") joined forces in styrenics by creating Americas Styrenics LLC (the "Company"). Effective June 17, 2010, Dow sold its ownership in the Company to Trinseo LLC (formerly, Styron LLC). CPChem and Trinseo LLC are referred to herein as the "Members." The Members share equally in the profits and losses of the Company.

2. NATURE OF OPERATIONS AND SIGNIFICANT ACCOUNTING POLICIES

Principles of Consolidation—The consolidated financial statements include the accounts of the Company and its subsidiaries. All intercompany accounts and transactions have been eliminated in consolidation. The Company's subsidiaries and partnership interests are as follows: Americas Styrenics Colombia Ltda, Americas Styrenics de Mexico, de R.L. de C.V., Americas Styrenics Canada Inc., and Americas Styrenics Industria e Comercico de Poliestireno Ltda (Brazil).

Nature of Operations—The Company was formed as a joint venture and focuses on styrenics (styrene and polystyrene) production, sales, and distribution in North America and South America.

Cash and Cash Equivalents—Included in cash and cash equivalents, from time to time, are short-term interest-bearing investments on deposit with financial institutions. There was $17.6 of interest-bearing investments at December 31, 2017 and 2016.

Trade Receivables—The Company's United States' customers are primarily in the packaging industry, but also consist of other chemical and plastics manufacturers. The Company's foreign customers reside primarily in Argentina, Brazil, Chile, Colombia, and Mexico. The Company evaluates the creditworthiness of customers and in certain circumstances, may require letters of credit to support product sales. The Company maintains an allowance for doubtful accounts based on anticipated collection of its accounts receivable.

Inventories—Inventories at December 31, 2017 and 2016, were as follows:

	2017	2016
Finished goods	$ 55.4	$ 55.1
Work in process	35.8	67.6
Raw materials	30.7	13.5
Supplies	12.2	10.6
Total inventories	$ 134.1	$ 146.8

Inventories are stated at the lower of cost or market. Finished products and work-in-process inventories include material, labor, and manufacturing overhead costs. US inventories are accounted for on a last-in, first-out (LIFO) basis. The reserves reducing inventories from a first-in, first-out (FIFO) basis to a LIFO basis amounted to $67.2 at December 31, 2017, and $31.4 at December 31, 2016. In 2017, the liquidation of certain of the Company's LIFO inventory layers increased operating income by $6.3. Foreign inventories are accounted for on a FIFO basis.

Property, Plant, and Equipment—Upon formation of the Company, property, plant, and equipment were recorded at CPChem's and Dow's net book value. Current additions of property, plant, and equipment are recorded at cost. The Company provides for depreciation using the straight-line method at rates based on the estimated service lives of the various classes of assets (3–45 years). Expenditures for repairs and maintenance, including major maintenance commonly known as turnarounds, are expensed as incurred. Components of property, plant, and equipment at December 31, 2017 and 2016, are as follows:

	2017	2016
Land and waterway improvements	$ 12.7	$ 11.2
Buildings	32.2	28.4
Transportation and construction equipment	64.6	67.0
Machinery and other equipment	880.4	862.8
Utilities and supply lines/other property	14.4	10.9
Construction in progress	19.5	17.6
Total property, plant, and equipment	1,023.8	997.9
Less accumulated depreciation	(799.7)	(764.4)
Net property, plant, and equipment	$ 224.1	$ 233.5

Income Taxes—The Company is treated as a flow-through partnership for U.S. federal income tax purposes and for most state income tax purposes. As such, the Company itself is not liable for U.S. federal income taxes. The Company files a U.S. partnership return which reflects each Member's share of income or loss. The Members are responsible for reporting and paying any tax on their respective income tax returns. The Company is directly liable for certain state income and franchise taxes, foreign withholding, and foreign direct or indirect taxes.

The Company has foreign subsidiaries in Canada, Colombia, and Mexico. All foreign entities except the Canadian subsidiary have elected to be treated as disregarded foreign branches of the Company for U.S. purposes. As such, the income or loss of the respective disregarded entities will be included in the U.S. federal partnership return. The foreign subsidiaries are responsible for all applicable taxes on foreign operations, and these taxes have been provided for in the consolidated financial statements.

Accounting standards establish a "more-likely-than-not" recognition threshold that must be met before a tax benefit can be recognized in the financial statements. If a tax deduction is taken on a tax return, but does not meet the more-likely-than-not recognition threshold, an increase in income tax liability, above what is payable on the tax return, is required to be recorded. An uncertain tax position may also result in an asset which means that, after settlement, taxable income could be less than what was reported on the original tax return. The Company has not recorded any liabilities for uncertain tax positions.

Impairment of Long-Lived Assets—The Company evaluates the carrying value of long-lived assets to be held and used, including intangible assets, when events or circumstances warrant such a review. The carrying value of a long-lived asset to be held and used is considered impaired when the anticipated, separately identifiable undiscounted cash flows from such an asset are less than the carrying value of the asset. In that event, a loss is recognized based on the amount by which the carrying value exceeds the fair value of the long-lived asset. Fair value is determined primarily using the anticipated cash flows discounted at a rate commensurate with the risk involved. No impairment was recorded in 2017, 2016, or 2015.

Asset Retirement Obligation—The Company assesses whether it has legal obligations associated with the retirement of tangible long-lived assets that result from the acquisition, construction, or development and/or the normal operation of a long-lived asset, including any legal obligations that require disposal of a replaced part that is a component of a tangible long-lived asset. At December 31, 2017 and 2016, the Company had no significant asset retirement obligations.

Insurance —The Company maintains insurance for automobile risks, general liability, including products, directors, officers, workers' compensation, and property. This insurance is placed with highly rated insurance carriers. The limits and deductibles are consistent for a company of this size and structure.

Foreign Currency—The functional currency for the Company's foreign operations is the U.S. dollar, resulting in no currency translation adjustments. Foreign currency gains and losses are reflected in operations.

Use of Estimates—The preparation of the consolidated financial statements in conformity with accounting principles generally accepted in the United States of America (U.S. 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.

Fair Value of Financial Instruments—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.

Revenue Recognition—The Company recognizes revenue when there is evidence of a sales agreement, the delivery of goods has occurred, the sales price is fixed or determinable, and the collectability of revenue is reasonably assured. Revenue includes the selling price of the product and all related delivery charges paid by the customer. Freight costs and any directly related associated costs of transporting finished product to customers are recorded as "cost of sales." Revenue is reduced at the time of sale for estimated customer-related incentives (mostly volume-related incentives).

Subsequent Events—The Company has evaluated subsequent events through February 14, 2018, the date the financial statements were available to be issued.

3. RECENT ACCOUNTING GUIDANCE

Accounting Pronouncements Adopted During 2017

In July 2015, the Financial Accounting Standards Board (FASB) issued ASU No. 2015-11, Simplifying the Measurement of Inventory. This ASU requires entities to measure most inventory at the lower of cost and net realizable value, thereby simplifying the current guidance under which an entity must measure inventory at the lower of cost or market. ASU No. 2015-11 is effective for fiscal years beginning after December 15, 2016, and should be applied prospectively. We adopted the amendments in this ASU effective January 1, 2017, and the initial adoption of the amendment in this ASU did not have a significant impact on our consolidated financial statements.

Accounting Pronouncements Pending Adoption in Future Periods

In 2016, the FASB issued ASUs which amended ASU No. 2014-09, Revenue from Contracts with Customers (Topic 606). ASU 2014-09, as amended, provides a comprehensive new revenue recognition model that requires revenue to be recognized in a manner that depicts the transfer of goods or services to a customer at an amount that reflects the consideration expected to be received in exchange for those goods or services. ASU 2014-09, as amended, is effective for fiscal years beginning after December 15, 2018 and permits early adoption by nonpublic entities. The ASU, as amended, permits retrospective application using either of the following methodologies: (i)restatement of each prior reporting period presented or (ii) recognition of a cumulative-effect adjustment as of the date of initial application. The Company is currently evaluating the impact of adopting the ASU, including the transition method to be applied.

In February 2016, the FASB issued ASU No. 2016-02, Leases (Topic 842). This ASU will increase transparency and comparability among entities by recognizing lease assets and lease liabilities on the balance sheet and disclosing key information about leasing arrangements. This ASU will require lessees to recognize in the statement of financial position a liability to make lease payments (the lease liability) and a right-of-use asset representing its right to use the underlying asset for the lease term. ASU No. 2016-02 is effective for fiscal years beginning after December 15, 2019. Early adoption is permitted. Reporting entities are required to recognize and measure leases under these amendments at the beginning of the earliest period presented using a modified retrospective approach. The Company is currently evaluating the impact of adopting ASU No. 2016-02.

In March 2017, the FASB issued ASU No. 2017-07, Compensation—Retirement Benefits (Topic 715): Improving the Presentation of Net Periodic Pension Cost and Net Periodic Postretirement Benefit Cost. The amendments in this ASU require that an employer report the service cost component of net periodic pension cost and net periodic postretirement benefit cost in the same line items as other compensation costs arising from services rendered by the pertinent employees during the period. The other components of net benefit cost are required to be presented in the income statement separately from the service cost component and outside of income from operations. The amendments in this ASU also allow only the service cost component to be eligible for capitalization when applicable (for example, as a cost of internally manufactured inventory or a self-constructed asset). The amendments in this ASU are effective for fiscal years beginning after December 15, 2017. The amendments in this ASU should be applied retrospectively for the presentation of the service cost component and the other components of net periodic pension cost and net periodic postretirement benefit cost in the income statement and prospectively, on and after the effective date, for the capitalization of the service cost component of net periodic pension cost and net periodic postretirement benefit cost in assets. We do not expect the adoption of this ASU to have a significant impact on our consolidated financial statements.

4. REVOLVING CREDIT FACILITY

The Company's unsecured $50.0 revolving credit facility with Comerica Bank terminates in August 2020. Interest on amounts drawn under the facility equal, at the Company's option, a margin over either the prime rate or the London InterBank Offered Rate-based rate (plus 125 basis points as of December 31, 2017) as defined in the credit agreement. There were no outstanding borrowings at December 31, 2017 or 2016.

5. INCOME TAXES

The components of income before taxes for the years ended December 31, 2017, 2016, and 2015, are as follows:

	2017	2016	2015
Domestic	$ 188.2	$ 215.0	$ 240.3
Foreign	13.0	20.1	3.5
Total income before taxes	$ 201.2	$ 235.1	$ 243.8

The components of income tax expense for the years ended December 31, 2017, 2016, and 2015, are as follows:

	2017	2016	2015
State—current	$ 0.2	$ 0.2	$ 0.2
Foreign—current	5.6	5.1	6.5
Foreign—deferred	1.0	1.0	(0.4)
Total income tax expense	$ 6.8	$ 6.3	$ 6.3

The components of deferred income tax assets and liabilities at December 31, 2017 and 2016, are as follows:

	2017	2016
Inventory	$ 0.7	$ 1.2
Fixed assets	—	1.1
Other temporary differences	0.1	(0.5)
Deferred tax assets	$ 0.8	$ 1.8

Undistributed earnings of foreign subsidiaries are not deemed to be permanently reinvested. Currently, undistributed earnings exist in the Canadian, Colombian, and Mexican subsidiaries. Future repatriation of earnings will not be subject to tax by the Company (but rather its Members); however, foreign withholding taxes may apply.

6. EMPLOYEE BENEFIT PLANS

The Company provides reimbursement of medical and dental costs to retired employees. The Company's plan, the Retiree Reimbursement Account (RRA), is an unfunded plan and is calculated at the time of the employee's retirement based on years of credited service. The Company has the ability to change the benefits at any time. All employees are eligible, except for former Dow employees who choose to participate in The Dow Chemical Company Retiree Medical Care Program upon retirement. The Company uses a December 31 measurement date for the RRA.

At each of December 31, 2017 and 2016, the RRA had benefit obligations in the amount of $17.2 and $17.7, respectively. The Company contributed and paid benefits in the amount of $0.7 in 2017, $0.5 in 2016, and $0.4 in 2015.

At December 31, 2017 and 2016, amounts recognized in the consolidated balance sheets consist of:

	2017	2016
Current liabilities	$ (0.9)	$ (0.8)
Noncurrent liabilities	(16.3)	(16.9)
Total	$ (17.2)	$ (17.7)

At December 31, 2017 and 2016, amounts recognized in accumulated other comprehensive loss were as follows:

	2017	2016
Net actuarial loss	$ 0.6	$ 1.6
Prior service cost	2.0	2.7
Total	$ 2.6	$ 4.3

In 2018, $0.7 of estimated prior service cost will be amortized from accumulated other comprehensive loss into net periodic benefit cost.

Net periodic benefit cost and components of other amounts recognized in other comprehensive (income) loss were as follows:

	2017	2016	2015
Net periodic postretirement benefit cost	$ 1.8	$ 2.0	$ 1.8
Other changes in benefit obligations recognized in other comprehensive loss (income):			
Net actuarial (gain) loss	(1.0)	(0.7)	0.5
Recognized actuarial loss	—	(0.1)	—
Recognized prior-service cost	(0.7)	(0.7)	(0.7)
Total recognized in other comprehensive (income) loss	(1.7)	(1.5)	(0.2)
Total recognized in net periodic benefit cost and other comprehensive loss (income)	$ 0.1	$ 0.5	$ 1.6

Actuarial assumptions used to determine benefit obligations and net periodic benefit cost were as follows:

	2017	2016	2015
Discount rate used to determine net periodic benefit cost	3.82 %	3.76 %	3.65 %
Discount rate used to determine benefit obligation at December 31	3.49 %	3.82 %	N/A

	2017	2016	2015
Health Care Cost Assumptions			
Initial health care cost trend rate	7.65 %	8.00 %	8.00 %
Ultimate health care cost trend rate	4.50 %	4.50 %	4.50 %
Year ultimate reached	2027	2027	2023

Estimated health care cost trend rates can have a significant effect on the amounts reported for the RRA.

The Company expects to contribute approximately $0.9 to its RRA plan in 2018.

At December 31, 2017, the estimated future benefit payments, reflecting expected future service, as appropriate, are expected to be paid as follows:

2018	$ 0.9
2019	1.1
2020	1.3
2021	1.5
2022	1.7
2023 through 2027	9.5
Total	$ 16.0

The Company also has a defined contribution employee savings plan and made discretionary contributions of $3.7 in 2017 and $3.5 in 2016 and 2015.

7. COMMITMENTS AND CONTINGENCIES

Commitments

The Company and its subsidiaries maintain outside service agreements and lease buildings, ground and easements, rail cars, and other vehicles under noncancelable operating leases, which expire on varying dates between 2018 and 2028.

Total future minimum annual rentals in effect at December 31, 2017, for noncancelable operating leases are as follows:

Years Ending December 31	
2018	$ 12.6
2019	7.0
2020	4.8
2021	3.7
2022	2.7
2023 and thereafter	9.5
Total	$ 40.3

Expense for total rental and long-term commitments was $12.2, $9.3, and $7.6 for the years ended December 31, 2017, 2016, and 2015, respectively.

The Company has entered into long-term sales commitments and purchase agreements with several of its key suppliers, including its Members (see Note 8). The commitment contracts are for one- to three-year periods. Because the pricing and supply fluctuates with the commodity market, a definitive dollar value cannot be determined.

In addition, the Company has purchase commitments of $44.6 mainly related to certain feedstock, utility, and third party service costs. The Company does not consider purchase orders to be firm commitments. If the Company chooses to cancel a purchase order, it may be obligated to reimburse the vendor for unrecoverable outlays incurred prior to cancellation under certain circumstances.

Contingencies

The Company is a party to various legal proceedings and claims incidental to the normal conduct of its business. Management believes that the ultimate disposition of these matters will not have a material adverse effect on the Company's consolidated financial position or results of operations.

Pursuant to the contribution agreement, all preexisting environmental matters have been outlined for each site and any contingencies are the responsibility of Dow and CPChem. All subsequent obligations are the liability of the Company. No environmental reserve was recorded as of December 31, 2017, 2016, or 2015. During 2015, the Company received reimbursement from Dow of certain capital costs at one of its polystyrene facilities, totaling $7.8, which was recorded as a reduction of the carrying cost of the assets.

8. RELATED-PARTY TRANSACTIONS

The Company entered into various supply and purchase agreements with the Members and their affiliated companies. These agreements include sales and purchases of energy, raw materials, and services. A summary of transactions for the years ended December 31, 2017, 2016, and 2015, is as follows:

	2017	2016	2015
Net sales	$ 82.9	$ 134.4	$ 161.4
Purchases	386.1	384.0	483.3

Balances receivable and payable to the Members are included in the consolidated financial statements as related company receivables and payables.

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