KRONOS WORLDWIDE INC
Form 10-K
March 12, 2018

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 and Exchange Act of 1934:
For the fiscal year ended December 31, 2017

Commission file number 1-31763

KRONOS WORLDWIDE, INC.

(Exact name of Registrant as specified in its charter)

DELAWARE	76-0294959
(State or other jurisdiction of incorporation or organization)	(IRS Employer Identification No.)

5430 LBJ Freeway, Suite 1700

Dallas, Texas 75240-2620

(Address of principal executive offices)

Registrant's telephone number, including area code: (972) 233-1700

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

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

No securities are registered pursuant to Section 12(g) of the Act.

Indicate by check mark:

If the Registrant is a well-known seasoned issuer, as defined in Rule 405 of the Securities Act. Yes No

If the Registrant is not required to file reports pursuant to Section 13 or Section 15(d) of the Act. Yes No

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 and (2) has been subject to such filing requirements for the past 90 days. Yes No

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

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. Yes No

Whether the Registrant is a large accelerated filer, an accelerated filer, a non-accelerated filer, 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.

Whether the Registrant is a shell company (as defined in Rule 12b-2 of the Act). Yes No

The aggregate market value of the 22.6 million shares of voting stock held by nonaffiliates of Kronos Worldwide, Inc. as of June 30, 2017 (the last business day of the Registrant's most recently-completed second fiscal quarter) approximated $410.9 million.

As of February 28, 2018, 115,902,098 shares of the Registrant's common stock were outstanding.

Documents incorporated by reference

The information required by Part III is incorporated by reference from the Registrant's definitive proxy statement to be filed with the Commission pursuant to Regulation 14A not later than 120 days after the end of the fiscal year covered by this report.

Forward-Looking Information

This Annual Report on Form 10-K contains forward-looking statements within the meaning of the Private Securities Litigation Reform Act of 1995, as amended. Statements in this Annual Report that are not historical facts are forward-looking in nature and represent management's beliefs and assumptions based on currently available information. In some cases, you can identify forward-looking statements by the use of words such as "believes," "intends," "may," "should," "could," "anticipates," "expects" or comparable terminology, or by discussions of strategies or trends. Although we believe that the expectations reflected in such forward-looking statements are reasonable, we do not know if these expectations will be correct. Such statements by their nature involve substantial risks and uncertainties that could significantly impact expected results. Actual future results could differ materially from those predicted. The factors that could cause actual future results to differ materially from those described herein are the risks and uncertainties discussed in this Annual Report and those described from time to time in our other filings with the SEC include, but are not limited to, the following:

- Future supply and demand for our products
- The extent of the dependence of certain of our businesses on certain market sectors
- The cyclicality of our business
- Customer and producer inventory levels
- Unexpected or earlier-than-expected industry capacity expansion
- Changes in raw material and other operating costs (such as energy and ore costs)
- Changes in the availability of raw materials (such as ore)
- General global economic and political conditions (such as changes in the level of gross domestic product in various regions of the world and the impact of such changes on demand for TiO_2)
- Competitive products and substitute products
- Customer and competitor strategies
- Potential consolidation of our competitors
- Potential consolidation of our customers
- The impact of pricing and production decisions
- Competitive technology positions
- Potential difficulties in upgrading or implementing new accounting and manufacturing software systems (such as our new enterprise resource planning system)
- The introduction of trade barriers
- Possible disruption of our business, or increases in our cost of doing business, resulting from terrorist activities or global conflicts
- Fluctuations in currency exchange rates (such as changes in the exchange rate between the U.S. dollar and each of the euro, the Norwegian krone and the Canadian dollar), or possible disruptions to our business resulting from potential instability resulting from uncertainties associated with the euro or other currencies
- Operating interruptions (including, but not limited to, labor disputes, leaks, natural disasters, fires, explosions, unscheduled or unplanned downtime, transportation interruptions and cyber attacks)
- Our ability to renew or refinance credit facilities
- Our ability to maintain sufficient liquidity
- The ultimate outcome of income tax audits, tax settlement initiatives or other tax matters, including future tax reform

- Our ability to utilize income tax attributes, the benefits of which may or may not have been recognized under the more-likely-than-not recognition criteria
- Environmental matters (such as those requiring compliance with emission and discharge standards for existing and new facilities)
- Government laws and regulations and possible changes therein
- The ultimate resolution of pending litigation
- Possible future litigation.

Should one or more of these risks materialize (or the consequences of such a development worsen), or should the underlying assumptions prove incorrect, actual results could differ materially from those forecasted or expected. We disclaim any intention or obligation to update or revise any forward-looking statements whether as a result of changes in information, future events or otherwise.

PART I

ITEM 1. BUSINESS

General

Kronos Worldwide, Inc. (NYSE: KRO) (Kronos), a Delaware corporation, is a leading global producer and marketer of value-added titanium dioxide pigments, or TiO_2, a base industrial product used in a wide range of applications. We, along with our distributors and agents, sell and provide technical services for our products to approximately 4,000 customers in 100 countries with the majority of sales in Europe, North America and Asia Pacific. We believe we have developed considerable expertise and efficiency in the manufacture, sale, shipment and service of our products in domestic and international markets.

TiO_2 is a white inorganic pigment used in a wide range of products for its exceptional durability and its ability to impart whiteness, brightness and opacity. TiO_2 is a critical component of everyday applications, such as coatings, plastics and paper, as well as many specialty products such as inks, food and cosmetics. TiO_2 is widely considered to be superior to alternative white pigments in large part due to its hiding power (or opacity), which is the ability to cover or mask other materials effectively and efficiently. TiO_2 is designed, marketed and sold based on specific end-use applications.

TiO_2 is the largest commercially used whitening pigment because it has a high refractive rating, giving it more hiding power than any other commercially produced white pigment. In addition, TiO_2 has excellent resistance to interaction with other chemicals, good thermal stability and resistance to ultraviolet degradation. Although there are other white pigments on the market, we believe there are no effective substitutes for TiO_2 because no other white pigment has the physical properties for achieving comparable opacity and brightness or can be incorporated in as cost-effective a manner. Pigment extenders such as kaolin clays, calcium carbonate and polymeric opacifiers are used together with TiO_2 in a number of end-use markets. However, these products are not able to duplicate the opacity performance characteristics of TiO_2 and we believe these products are unlikely to have a significant impact on the use of TiO_2.

TiO_2 is considered a "quality-of-life" product. Demand for TiO_2 has generally been driven by worldwide gross domestic product and has generally increased with rising standards of living in various regions of the world. According to industry estimates, TiO_2 consumption has grown at a compound annual growth rate of approximately 3% since 1990. Per capita consumption of TiO_2 in Western Europe and North America far exceeds that in other areas of the world, and these regions are expected to continue to be the largest consumers of TiO_2 on a per capita basis. We believe that Western Europe and North America currently account for approximately 20% and 17% of global TiO_2 consumption, respectively. Markets for TiO_2 are generally increasing in South America, Eastern Europe, the Asia Pacific region and China and we believe these are significant markets where we expect continued growth as economies in these regions continue to develop and quality-of-life products, including TiO_2, experience greater demand.

At December 31, 2017, approximately 50% of our common stock was owned by Valhi, Inc. (NYSE: VHI) and approximately 30% was owned by a wholly-owned subsidiary of NL Industries, Inc. (NYSE: NL). Valhi also owns approximately 83% of NL Industries' outstanding common stock. A wholly-owned subsidiary of Contran Corporation held approximately 93% of Valhi's outstanding common stock. As discussed in Note 1 to our Consolidated Financial Statements, Lisa K. Simmons and Serena Simmons Connelly may be deemed to control Contran, Valhi, NL and us.

Products and end-use markets

Including our predecessors, we have produced and marketed TiO_2 in North America and Europe, our primary markets, for over 100 years. We believe we are the largest producer of TiO_2 in Europe with approximately one-half of our sales volumes attributable to markets in Europe. The table below shows our market share for our significant markets, Europe and North America, for the last three years.

	2015	2016	2017
Europe	18%	17%	17%
North America	15%	16%	18%

We believe we are the leading seller of TiO_2 in several countries, including Germany, with an estimated 10% share of worldwide TiO_2 sales volume in 2017. Overall, we are one of the top six producers of TiO_2 in the world.

We offer our customers a broad portfolio of products that include over 40 different TiO_2 pigment grades under the KRONOS® trademark, which provide a variety of performance properties to meet customers' specific requirements. Our major customers include domestic and international paint, plastics, decorative laminate and paper manufacturers. We ship TiO_2 to our customers in either a powder or slurry form via rail, truck and/or ocean carrier. Sales of our core TiO_2 pigments represented approximately 94% of our net sales in 2017. We and our agents and distributors primarily sell our products in three major end-use markets: coatings, plastics and paper.

The following tables show our approximate TiO_2 sales volume by geographic region and end use for the year ended December 31, 2017:

Sales volumes percentages by geographic region		Sales volumes percentages by end-use	
Europe	50%	Coatings	58%
North America	31%	Plastics	30%
Asia Pacific	9%	Paper	5%
Rest of World	10%	Other	7%

Some of the principal applications for our products include the following:

TiO_2 for coatings – Our TiO_2 is used to provide opacity, durability, tinting strength and brightness in industrial coatings, as well as coatings for commercial and residential interiors and exteriors, automobiles, aircraft, machines, appliances, traffic paint and other special purpose coatings. The amount of TiO_2 used in coatings varies widely depending on the opacity, color and quality desired. In general, the higher the opacity requirement of the coating, the greater the TiO_2 content.

TiO_2 for plastics – We produce TiO_2 pigments that improve the optical and physical properties in plastics, including whiteness and opacity. TiO_2 is used to provide opacity in items such as containers and packaging materials, and vinyl products such as windows, door profiles and siding. TiO_2 also generally provides hiding power, neutral undertone, brightness and surface durability for housewares, appliances, toys, computer cases and food packages. TiO_2's high brightness along with its opacity, is used in some engineering plastics to help mask their undesirable natural color. TiO_2 is also used in masterbatch, which is a concentrate of TiO_2 and other additives and is one of the largest uses for TiO_2 in the plastics end-use market. In masterbatch, the TiO_2 is dispersed at high concentrations into a plastic resin and is then used by manufacturers of plastic containers, bottles, packaging and agricultural films.

TiO_2 for paper – Our TiO_2 is used in the production of several types of paper, including laminate (decorative) paper, filled paper and coated paper to provide whiteness, brightness, opacity and color stability. Although we sell our TiO_2 to all segments of the paper end-use market, our primary focus is on the TiO_2 grades used in paper laminates, where several layers of paper are laminated together using melamine resin under high temperature and pressure. The top layer of paper contains TiO_2 and plastic resin and is the layer that is printed with decorative patterns. Paper laminates are used to replace materials such as wood and tile for such applications as counter tops, furniture and wallboard. TiO_2 is beneficial in these applications because it assists in preventing the material from fading or changing color after prolonged exposure to sunlight and other weathering agents.

TiO_2 for other applications – We produce TiO_2 to improve the opacity and hiding power of printing inks. TiO_2 allows inks to achieve very high print quality while not interfering with the technical requirements of printing machinery, including low abrasion, high printing speed and high temperatures. Our TiO_2 is also used in textile applications where TiO_2 functions as an opacifying and delustering agent. In man-made fibers such as rayon and polyester, TiO_2 corrects an otherwise undesirable glossy and translucent appearance. Without the presence of TiO_2, these materials would be unsuitable for use in many textile applications.

We produce high purity sulfate process anatase TiO_2 used to provide opacity, whiteness and brightness in a variety of cosmetic and personal care products, such as skin cream, lipstick, eye shadow and toothpaste. Our TiO_2 is also found in food products, such as candy and confectionaries, and in pet foods where it is used to obtain uniformity of color and appearance. In pharmaceuticals, our TiO_2 is used commonly as a colorant in tablet and capsule coatings as well as in liquid medicines to provide uniformity of color and appearance. KRONOS® purified anatase grades meet the applicable requirements of the CTFA (Cosmetics, Toiletries and Fragrances Association), USP and BP (United States Pharmacopoeia and British Pharmacopoeia) and the FDA (United States Food and Drug Administration).

Our TiO_2 business is enhanced by the following three complementary businesses, which comprised approximately 6% of our net sales in 2017:

- We own and operate two ilmenite mines in Norway pursuant to a governmental concession with an unlimited term. Ilmenite is a raw material used directly as a feedstock by some sulfate-process TiO_2 plants. We also sell ilmenite ore to third parties, some of whom are our competitors, and we sell an ilmenite-based specialty product to the oil and gas industry. The mines have estimated ilmenite reserves that are expected to last at least 50 years.
- We manufacture and sell iron-based chemicals, which are co-products and processed co-products of the sulfate and chloride process TiO_2 pigment production. These co-product chemicals are marketed through our Ecochem division and are primarily used as treatment and conditioning agents for industrial effluents and municipal wastewater as well as in the manufacture of iron pigments, cement and agricultural products.
- We manufacture and sell titanium oxychloride and titanyl sulfate, which are side-stream specialty products from the production of TiO_2. Titanium oxychloride is used in specialty applications in the formulation of pearlescent pigments, production of electroceramic capacitors for cell phones and other electronic devices. Titanyl sulfate productions are used in pearlescent pigments, natural gas pipe and other specialty applications.

Manufacturing, operations and properties

We produce TiO_2 in two crystalline forms: rutile and anatase. Rutile TiO_2 is manufactured using both a chloride production process and a sulfate production process, whereas anatase TiO_2 is only produced using a sulfate production process. Manufacturers of many end-use applications can use either form, especially during periods of tight supply for TiO_2. The chloride process is the preferred form for use in coatings and plastics, the two largest end-use markets. Due to environmental factors and customer considerations, the proportion of TiO_2 industry sales represented by chloride process pigments has increased relative to sulfate process pigments, and in 2017, chloride process production facilities represented approximately 50% of industry capacity. The sulfate process is preferred for use in selected paper products, ceramics, rubber tires, man-made fibers, food products, pharmaceuticals and cosmetics. Once an intermediate TiO_2 pigment has been produced by either the chloride or sulfate process, it is "finished" into products with specific performance characteristics for particular end-use applications through proprietary processes involving various chemical surface treatments and intensive micronizing (milling).

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Chloride process – The chloride process is a continuous process in which chlorine is used to extract rutile TiO_2. The chloride process produces less waste than the sulfate process because much of the

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chlorine is recycled and feedstock bearing higher titanium content is used. The chloride process also has lower energy requirements and is less labor-intensive than the sulfate process, although the chloride process requires a higher-skilled labor force. The chloride process produces an intermediate base pigment with a wide range of properties.

- Sulfate process – The sulfate process is a batch process in which sulfuric acid is used to extract the TiO_2 from ilmenite or titanium slag. After separation from the impurities in the ore (mainly iron), the TiO_2 is precipitated and calcined to form an intermediate base pigment ready for sale or can be upgraded through finishing treatments.

We produced 576,000 metric tons of TiO_2 in 2017, up from the 546,000 metric tons we produced in 2016. Our production volumes in 2017 set a new overall record for a full-year period. Our production amounts include our share of the output produced by our TiO_2 manufacturing joint venture discussed below in "TiO_2 Manufacturing Joint Venture." Our average production capacity utilization rates were approximately 95% and 98% of capacity in 2015 and 2016, respectively, and at full practical capacity in 2017. Our production rate in the first quarter of 2015 was impacted by the implementation of certain productivity-enhancing improvement projects at facilities, as well as necessary improvements to ensure continued compliance with our permit regulations, which resulted in longer-than-normal maintenance shutdowns in some instances.

We operate facilities throughout North America and Europe, including the only sulfate process plant in North America and four TiO_2 plants in Europe (one in each of Leverkusen, Germany; Nordenham, Germany; Langerbrugge, Belgium; and Fredrikstad, Norway). In North America, we have a TiO_2 plant in Varennes, Quebec, Canada and, through the manufacturing joint venture described below in "TiO_2 Manufacturing Joint Venture," a 50% interest in a TiO_2 plant in Lake Charles, Louisiana.

Our production capacity has increased by approximately 6% over the past ten years due to debottlenecking programs, with only moderate capital expenditures. We currently expect to operate our TiO_2 plants at full practical capacity levels in 2018.

The following table presents the division of our expected 2018 manufacturing capacity by plant location and type of manufacturing process:

		% of capacity by TiO_2 manufacturing process	
Facility	Description	Chloride	Sulfate
Leverkusen, Germany (1)	TiO_2 production, chloride and sulfate process, co-products	30 %	6 %
Nordenham, Germany	TiO_2 production, sulfate process, co-products	-	10
Langerbrugge, Belgium	TiO_2 production, chloride process, co-products, titanium chemicals products	16	-
Fredrikstad, Norway (2)	TiO_2 production, sulfate process, co-products	-	7
Varennes, Canada	TiO_2 production, chloride and sulfate process, slurry facility, titanium chemicals products	15	3
Lake Charles, LA, US (3)	TiO_2 production, chloride process	13	-
Total		74 %	26 %

(1)

The Leverkusen facility is located within an extensive manufacturing complex owned by Bayer AG. We own the Leverkusen facility, which represents about one-third of our current TiO_2 production capacity, but we lease the land under the facility from Bayer under a long-term agreement which expires in 2050. Lease payments are periodically negotiated with Bayer for periods of at least two years at a time. A majority-owned subsidiary of Bayer provides some raw materials including chlorine, auxiliary and operating materials, utilities and services necessary to operate the Leverkusen facility under separate supplies and services agreements.

(2) The Fredrikstad facility is located on public land and is leased until 2063.
(3) We operate the Lake Charles facility in a joint venture with Huntsman P&A Investments LLC (HPA), a wholly-owned subsidiary of Tioxide Group, of which Venator Materials PLC (Venator) owns 100% and the amount indicated in the table above represents the share of TiO_2 produced by the joint venture to which we are entitled. See Note 5 to our Consolidated Financial Statements and “TiO_2 Manufacturing Joint Venture.”

We own the land underlying all of our principal production facilities unless otherwise indicated in the table above.

We also operate two ilmenite mines in Norway pursuant to a governmental concession with an unlimited term. In addition, we operate a rutile slurry manufacturing plant in Lake Charles, Louisiana, which converts dry pigment manufactured for us at the Lake Charles TiO_2 facility into a slurry form that is then shipped to customers.

We have various corporate and administrative offices located in the U.S., Germany, Norway, Canada, Belgium, France and the United Kingdom and various sales offices located in North America.

TiO_2 Manufacturing Joint Venture

Kronos Louisiana, Inc., one of our subsidiaries, and HPA each own a 50% interest in a manufacturing joint venture, Louisiana Pigment Company, L.P., or LPC. LPC owns and operates a chloride-process TiO_2 plant located in Lake Charles, Louisiana. We and Venator share production from the plant equally pursuant to separate offtake agreements, unless we and Venator otherwise agree (such as in 2015, when we purchased approximately 52% of the production from the plant).

A supervisory committee directs the business and affairs of the joint venture, including production and output decisions. This committee is composed of four members, two of whom we appoint and two of whom Venator appoints. Two general managers manage the operations of the joint venture acting under the direction of the supervisory committee. We appoint one general manager and Venator appoints the other.

The joint venture is not consolidated in our financial statements, because we do not control it. We account for our interest in the joint venture by the equity method. The joint venture operates on a break-even basis and therefore we do not have any equity in earnings of the joint venture. We are required to purchase one half of the TiO_2 produced by the joint venture. All costs and capital expenditures are shared equally with Venator with the exception of feedstock (purchased natural rutile ore or slag) and packaging costs for the pigment grades produced. Our share of net costs is reported as cost of sales as the TiO_2 is sold. See Notes 5 and 16 to our Consolidated Financial Statements.

Raw materials

The primary raw materials used in chloride process TiO_2 are titanium-containing feedstock (purchased natural rutile ore or slag), chlorine and coke. Chlorine is available from a number of suppliers, while petroleum coke is available from a limited number of suppliers. Titanium-containing feedstock suitable for use in the chloride process is available from a limited but increasing number of suppliers principally in Australia, South Africa, Canada, India and the United States. We purchase chloride process grade slag from Rio Tinto Iron and Titanium Limited under a long-term supply contract that automatically renews at the end of 2018 for successive two-year renewal periods, unless terminated before December 31, 2018. We also purchase upgraded slag from Rio Tinto Iron and Titanium Limited under a long-term supply contract that expires at the end of 2019. We purchase natural rutile ore primarily from Iluka Resources, Limited under a contract which expires in 2018. In the past we have been, and we expect that we will continue to be, successful in obtaining short-term and long-term extensions to these and other existing supply contracts prior to their expiration. We expect the raw materials purchased under these contracts, and contracts that we may enter into, will meet our chloride process feedstock requirements over the next several years.

The primary raw materials used in sulfate process TiO_2 are titanium-containing feedstock, primarily ilmenite or purchased sulfate grade slag and sulfuric acid. Sulfuric acid is available from a number of suppliers. Titanium-containing feedstock suitable for use in the sulfate process is available from a limited number of suppliers

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principally in Norway, Canada, Australia, India and South Africa. As one of the few vertically-integrated producers of sulfate process TiO_2, we operate two rock ilmenite mines in Norway, which provided all of the feedstock for our European sulfate process TiO_2 plants in 2017. We expect ilmenite production from our mines to meet our European sulfate process feedstock requirements for the foreseeable future. For our Canadian sulfate process plant, we purchase sulfate grade slag primarily from Rio Tinto Fer et Titane Inc. under a supply contract that renews annually, subject to termination upon twelve months written notice. We expect the raw materials purchased under these contracts, and contracts that we may enter into, to meet our sulfate process feedstock requirements over the next several years.

Many of our raw material contracts contain fixed quantities we are required to purchase, or specify a range of quantities within which we are required to purchase. The pricing under these agreements is generally negotiated quarterly.

The following table summarizes our raw materials purchased or mined in 2017.

Production process/raw material	Raw materials procured or mined (In thousands of metric tons)
Chloride process plants -	
Purchased slag or rutile ore	535
Sulfate process plants:	
Ilmenite ore mined and used internally	360
Purchased slag	27

Sales and marketing

Our marketing strategy is aimed at developing and maintaining strong customer relationships with new and existing accounts. Because TiO_2 represents a significant raw material cost for our customers, the purchasing decisions are often made by our customers' senior management. We work to maintain close relationships with the key decision makers, through in-depth and frequent in-person meetings. We endeavor to extend these commercial and technical relationships to multiple levels within our customers' organization using our direct sales force and technical service group to accomplish this objective. We believe this has helped build customer loyalty to Kronos and strengthened our competitive position. Close cooperation and strong customer relationships enable us to stay closely attuned to trends in our customers' businesses. Where appropriate, we work in conjunction with our customers to solve formulation or application problems by modifying specific product properties or developing new pigment grades. We also focus our sales and marketing efforts on those geographic and end-use market segments where we believe we can realize higher selling prices. This focus includes continuously reviewing and optimizing our customer and product portfolios.

Our marketing strategy is also aimed at working directly with customers to monitor the success of our products in their end-use applications, evaluate the need for improvements in product and process technology and identify opportunities to develop new product solutions for our customers. Our marketing staff closely coordinates with our sales force and technical specialists to ensure that the needs of our customers are met, and to help develop and commercialize new grades where appropriate.

We sell a majority of our products through our direct sales force operating in Europe and North America. We also utilize sales agents and distributors who are authorized to sell our products in specific geographic areas. In Europe, our sales efforts are conducted primarily through our direct sales force and our sales agents. Our agents do not sell any TiO_2 products other than KRONOS® brand products. In North America, our sales are made primarily through our direct sales force and supported by a network of distributors. In export markets, where we have increased our marketing efforts over the last several years, our sales are made through our direct sales force, sales agents and distributors. In addition to our direct sales force and sales agents, many of our sales agents also act as distributors to service our customers in all regions. We offer customer and technical service to the customers who purchase our products through distributors as well as to our larger customers serviced by our direct sales force.

We sell to a diverse customer base and no single customer comprised 10% or more of our sales in 2017. Our largest ten customers accounted for approximately 34% of sales in 2017.

Neither our business as a whole nor any of our principal product groups is seasonal to any significant extent. However, TiO_2 sales are generally higher in the second and third quarters of the year, due in part to the increase in paint production in the spring to meet demand during the spring and summer painting seasons. With certain exceptions, we have historically operated our production facilities at near full capacity rates throughout the entire year, which among other things helps to minimize our per-unit production costs. As a result, we normally will build inventories during the first and fourth quarters of each year, in order to maximize our product availability during the higher demand periods normally experienced in the second and third quarters.

Competition

The TiO_2 industry is highly competitive. We compete primarily on the basis of price, product quality, technical service and the availability of high performance pigment grades. Since TiO_2 is not a traded commodity, its pricing is largely a product of negotiation between suppliers and their respective customers. Price and availability are the most significant competitive factors along with quality and customer service for the majority of our product grades. Increasingly we are focused on providing pigments that are differentiated to meet specific customer requests and specialty grades that are differentiated from our competitors' products. During 2017, we had an estimated 10% share of worldwide TiO_2 sales volume, and based on sales volumes, we believe we are the leading seller of TiO_2 in several countries, including Germany.

Our principal competitors are The Chemours Company, or Chemours; Cristal Global; Venator Materials PLC (formerly a wholly-owned subsidiary, and now a majority-owned subsidiary, of Huntsman Corporation); Tronox Incorporated; and Lomon Billions. The top six TiO_2 producers (i.e. we and our five principal competitors) account for approximately 66% of the world's production capacity. Chemours added a new 200,000 metric ton capacity line at its plant in Mexico which commenced production in the second quarter of 2016. In 2016, Venator announced it was closing its sulfate process facility in South Africa, reducing its overall capacity by 25,000 metric tons. In 2017, one of Venator's European sulfate plants, which has a capacity of 130,000 metric tons, operated at significantly reduced rates due to a fire at the facility.

The following chart shows our estimate of worldwide production capacity in 2017:

Worldwide production capacity - 2017	
Chemours	18 %
Cristal	13 %
Venator	10 %
Lomon Billions	9 %
Kronos	9 %
Tronox	7 %
Other	34 %

Chemours has over one-half of total North American TiO_2 production capacity and is our principal North American competitor. In February 2017, Tronox announced a definitive agreement to acquire the TiO_2 assets of Cristal, but in December 2017 the U.S. Federal Trade Commission filed an administrative complaint challenging the merger. Tronox has indicated it intends to vigorously defend against such action.

Over the past ten years, we and our competitors increased industry capacity through debottlenecking projects, which in part compensated for the shut-down of various TiO_2 plants throughout the world. Although overall industry demand is expected to remain strong in 2018 as a result of improving worldwide economic conditions, we do not expect any other significant efforts will be undertaken by us or our principal competitors to further increase capacity for the foreseeable future, other than through debottlenecking projects. If actual developments differ from our expectations, the TiO_2 industry's performance and that of our own could be unfavorably affected.

The TiO_2 industry is characterized by high barriers to entry consisting of high capital costs, proprietary technology and significant lead times (typically three to five years in our experience) required to construct new facilities or to expand existing capacity. We believe it is unlikely any new TiO_2 plants will be constructed in Europe or North America in the foreseeable future.

Research and development

We employ scientists, chemists, process engineers and technicians who are engaged in research and development, process technology and quality assurance activities in Leverkusen, Germany. These individuals have the responsibility for improving our chloride and sulfate production processes, improving product quality and strengthening our competitive position by developing new applications. Our expenditures for these activities were approximately $16 million in 2015, $13 million in 2016 and $20 million in 2017. We expect to spend approximately $19 million on research and development in 2018.

We continually seek to improve the quality of our grades and have been successful at developing new grades for existing and new applications to meet the needs of our customers and increase product life cycles. Since the beginning of 2013, we have added five new grades for pigments and other applications.

Patents, trademarks, trade secrets and other intellectual property rights

We have a comprehensive intellectual property protection strategy that includes obtaining, maintaining and enforcing our patents, primarily in the United States, Canada and Europe. We also protect our trademark and trade secret rights and have entered into license agreements with third parties concerning various intellectual property matters. We have also from time to time been involved in disputes over intellectual property.

Patents – We have obtained patents and have numerous patent applications pending that cover our products and the technology used in the manufacture of our products. Our patent strategy is important to us and our continuing business activities. In addition to maintaining our patent portfolio, we seek patent protection for our technical developments, principally in the United States, Canada and Europe. U.S. Patents are generally in effect for 20 years from the date of filing. Our U.S. patent portfolio includes patents having remaining terms ranging from four years to 20 years.

Trademarks and trade secrets – Our trademarks, including KRONOS®, are covered by issued and/or pending registrations, including in Canada and the United States. We protect the trademarks that we use in connection with the products we manufacture and sell and have developed goodwill in connection with our long-term use of our trademarks. We conduct research activities in secret and we protect the confidentiality of our trade secrets through reasonable measures, including confidentiality agreements and security procedures, including data security. We rely upon unpatented proprietary knowledge and continuing technological innovation and other trade secrets to develop and maintain our competitive position. Our proprietary chloride production process is an important part of our technology and our business could be harmed if we fail to maintain confidentiality of our trade secrets used in this technology.

Employees

As of December 31, 2017, we employed the following number of people:

Europe	1,835

Canada	360
United States (1)	50
Total	2,245

(1) Excludes employees of our Louisiana joint venture.

Certain employees at each of our production facilities are organized by labor unions. In Europe, our union employees are covered by master collective bargaining agreements for the chemical industry that are generally renewed annually. In Canada, our union employees are covered by a collective bargaining agreement that expires in June 2018. We currently expect a new collective bargaining agreement with our Canadian union employees will be entered into before the expiration of the current agreement. At December 31, 2017, approximately 86% of our worldwide workforce is organized under collective bargaining agreements. It is possible that there could be future work stoppages or other labor disruptions that could materially and adversely affect our business, results of operations, financial position or liquidity.

Regulatory and environmental matters

Our operations and properties are governed by various environmental laws and regulations, which are complex, change frequently and have tended to become stricter over time. These environmental laws govern, among other things, the generation, storage, handling, use and transportation of hazardous materials; the emission and discharge of hazardous materials into the ground, air or water; and the health and safety of our employees. Certain of our operations are, or have been, engaged in the generation, storage, handling, manufacture or use of substances or compounds that may be considered toxic or hazardous within the meaning of applicable environmental laws and regulations. As with other companies engaged in similar businesses, certain of our past and current operations and products have the potential to cause environmental or other damage. We have implemented and continue to implement various policies and programs in an effort to minimize these risks. Our policy is to comply with applicable environmental laws and regulations at all our facilities and to strive to improve our environmental performance. It is possible that future developments, such as stricter requirements in environmental laws and enforcement policies, could adversely affect our operations, including production, handling, use, storage, transportation, sale or disposal of hazardous or toxic substances or require us to make capital and other expenditures to comply, and could adversely affect our consolidated financial position and results of operations or liquidity.

Our U.S. manufacturing operations are governed by federal, state and local environmental and worker health and safety laws and regulations. These include the Resource Conservation and Recovery Act, or RCRA, the Occupational Safety and Health Act, the Clean Air Act, the Clean Water Act, the Safe Drinking Water Act, the Toxic Substances Control Act and the Comprehensive Environmental Response, Compensation and Liability Act, as amended by the Superfund Amendments and Reauthorization Act, or CERCLA, as well as the state counterparts of these statutes. Some of these laws hold current or previous owners or operators of real property liable for the costs of cleaning up contamination, even if these owners or operators did not know of, and were not responsible for, such contamination. These laws also assess liability on any person who arranges for the disposal or treatment of hazardous substances, regardless of whether the affected site is owned or operated by such person. Although we have not incurred and do not currently anticipate any material liabilities in connection with such environmental laws, we may be required to make expenditures for environmental remediation in the future.

While the laws regulating operations of industrial facilities in Europe vary from country to country, a common regulatory framework is provided by the European Union, or the EU. Germany and Belgium are members of the EU and follow its initiatives. Norway is not a member but generally patterns its environmental regulatory actions after the EU.

At our sulfate plant facilities in Germany, we recycle spent sulfuric acid either through contracts with third parties or at our own facilities. In addition, at our German locations we have a contract with a third-party to treat certain sulfate-process effluents. At our Norwegian plant, we ship spent acid to a third-party location where it is used as a neutralization agent. These contracts may be terminated by either party after giving three or four years advance notice, depending on the contract.

From time to time, our facilities may be subject to environmental regulatory enforcement under U.S. and non-U.S. statutes. Typically we establish compliance programs to resolve these matters. Occasionally, we may pay penalties. To date such penalties have not involved amounts having a material adverse effect on our consolidated financial position, results of operations or liquidity. We believe that all of our facilities are in substantial compliance with applicable environmental laws.

Our capital expenditures related to ongoing environmental compliance, protection and improvement programs, including capital expenditures which are primarily focused on increasing operating efficiency but also result in improved environmental protection such as lower emissions from our manufacturing facilities, were $16.1 million in 2017 and are currently expected to be approximately $26 million in 2018.

Website and other available information

Our fiscal year ends December 31. Our annual reports on Form 10-K, quarterly reports on Form 10-Q, current reports on Form 8-K and any amendments to those reports are available on our website at kronostio2.com. These reports are available on the website, without charge, as soon as is reasonably practicable after we file or furnish them electronically with the Securities and Exchange Commission, or SEC. Additional information regarding us, including our Audit Committee charter, Code of Business Conduct and Ethics and our Corporate Governance Guidelines, can also be found at this website. Information contained on our website is not part of this report. We will also provide free copies of such documents upon written request. Such requests should be directed to the Corporate Secretary at our address on the cover page of this Form 10-K.

The public may read and copy any materials we file with the SEC at the SEC's Public Reference Room at 100 F Street, N.E., Washington, D.C. 20549. The public may obtain information about the operation of the Public Reference Room by calling the SEC at 1-800-SEC-0330. We are an electronic filer and the SEC maintains an internet website that contains reports, proxy and information statements and other information regarding issuers that file electronically with the SEC at www.sec.gov.

ITEM 1A. RISK FACTORS

Below are certain risk factors associated with our business. See also certain risk factors discussed in Item 7- "Management's Discussion and Analysis of Financial Condition and Results of Operations – Critical Accounting Policies and Estimates." In addition to the potential effect of these risk factors, any risk factor which could result in reduced earnings or operating losses, or reduced liquidity, could in turn adversely affect our ability to service our liabilities or pay dividends on our common stock or adversely affect the quoted market prices for our securities.

Demand for, and prices of, certain of our products are influenced by changing market conditions for our products, which may result in reduced earnings or in operating losses.

Our sales and profitability is largely dependent on the TiO_2 industry. In 2017, 94% of our sales were attributable to sales of TiO_2. TiO_2 is used in many "quality of life" products for which demand historically has been linked to global, regional and local gross domestic product and discretionary spending, which can be negatively impacted by regional and world events or economic conditions. Such events are likely to cause a decrease in demand for our products and, as a result, may have an adverse effect on our results of operations and financial condition.

Pricing within the global TiO_2 industry over the long term is cyclical and changes in economic conditions, especially in Western industrialized nations, can significantly impact our earnings and operating cash flows. Historically, the markets for many of our products have experienced alternating periods of increasing and decreasing demand. Relative changes in the selling prices for our products are one of the main factors that affect the level of our profitability. In periods of increasing demand, our selling prices and profit margins generally will tend to increase, while in periods of decreasing demand our selling prices and profit margins generally tend to decrease. In addition, pricing may affect customer inventory levels as customers may from time to time accelerate purchases of TiO_2 in advance of anticipated price increases or defer purchases of TiO_2 in advance of anticipated price decreases. Our ability to further increase capacity without additional investment in greenfield or brownfield capacity increases may be limited and as a result, our profitability may become even more dependent upon the selling prices of our products.

The TiO_2 industry is concentrated and highly competitive and we face price pressures in the markets in which we operate, which may result in reduced earnings or operating losses.

The global market in which we operate our business is concentrated with the top six TiO_2 producers accounting for approximately two-thirds of the world's production capacity and is highly competitive. Competition is based on a number of factors, such as price, product quality and service. Some of our competitors may be able to drive down prices for our products if their costs are lower than our costs. In addition, some of our competitors' financial, technological and other resources may be greater than our resources and such competitors may be better able to withstand changes in market conditions. Our competitors may be able to respond more quickly than we can to new or emerging technologies and changes in customer requirements. Further, consolidation of our competitors or customers may result in reduced demand for our products or make it more difficult for us to compete with our competitors. The occurrence of any of these events could result in reduced earnings or operating losses.

Higher costs or limited availability of our raw materials may reduce our earnings and decrease our liquidity. In addition, many of our raw material contracts contain fixed quantities we are required to purchase.

The number of sources for and availability of certain raw materials is specific to the particular geographical region in which a facility is located. For example, titanium-containing feedstocks suitable for use in our TiO_2 facilities are available from a limited number of suppliers around the world. Political and economic instability in the countries from which we purchase our raw material supplies could adversely affect their availability. If our worldwide vendors were unable to meet their contractual obligations and we were unable to obtain necessary raw materials, we could incur higher costs for raw materials or may be required to reduce production levels. We experienced significantly higher ore costs in 2012 which carried over into 2013. We have seen moderation in the purchase cost of third-party feedstock ore since 2013 through the first half of 2017; however, the cost of third-party feedstock ore we procured in the last half of 2017 is slightly higher as compared to the first half of 2017. We may also experience higher operating costs such as energy costs, which could affect our profitability. We may not always be able to increase our selling prices to offset the impact of any higher costs or reduced production levels, which could reduce our earnings and decrease our liquidity.

We have long-term supply contracts that provide for our TiO_2 feedstock requirements that currently expire through 2019. While we believe we will be able to renew these contracts, there can be no assurance we will be successful in renewing them or in obtaining long-term extensions to them prior to expiration. Our current agreements (including those entered into through January 2018) require us to purchase certain minimum quantities of feedstock with minimum purchase commitments aggregating approximately $383 million in years subsequent to December 31, 2017. In addition, we have other long-term supply and service contracts that provide for various raw materials and services. These agreements require us to purchase certain minimum quantities or services with minimum purchase commitments aggregating approximately $128 million at December 31, 2017. Our commitments under these contracts could adversely affect our financial results if we significantly reduce our production and were unable to modify the contractual commitments.

Our leverage may impair our financial condition or limit our ability to operate our businesses.

As of December 31, 2017, our total consolidated debt was approximately $474.5 million, which relates primarily to Senior Notes issued in September 2017. Our level of debt could have important consequences to our stockholders and creditors, including:

- making it more difficult for us to satisfy our obligations with respect to our liabilities;
- increasing our vulnerability to adverse general economic and industry conditions;
- requiring that a portion of our cash flows from operations be used for the payment of interest on our debt, which reduces our ability to use our cash flow to fund working capital, capital expenditures, dividends on our common stock, acquisitions or general corporate requirements;
- limiting the ability of our subsidiaries to pay dividends to us;
- limiting our ability to obtain additional financing to fund future working capital, capital expenditures, acquisitions or general corporate requirements;
-

limiting our flexibility in planning for, or reacting to, changes in our business and the industry in which we operate; and

- placing us at a competitive disadvantage relative to other less leveraged competitors.

Indebtedness outstanding under our revolving North American credit facility and revolving European credit facility accrues interest at variable rates. To the extent market interest rates rise, the cost of our debt would increase, adversely affecting our financial condition, results of operations and cash flows.

In addition to our indebtedness, at December 31, 2017 we are party to various lease and other agreements (including feedstock ore purchase contracts and other long-term supply and service contracts, as discussed above) pursuant to which, along with our indebtedness, we are committed to pay approximately $433 million in 2018. Our ability to make payments on and refinance our debt and to fund planned capital expenditures depends on our future ability to generate cash flow. To some extent, this is subject to general economic, financial, competitive, legislative, regulatory and other factors that are beyond our control. In addition, our ability to borrow funds under our revolving credit facilities in the future will, in some instances, depend in part on our ability to maintain specified financial ratios and satisfy certain financial covenants contained in the applicable credit agreement.

Our business may not generate cash flows from operating activities sufficient to enable us to pay our debts when they become due and to fund our other liquidity needs. As a result, we may need to refinance all or a portion of our debt before maturity. We may not be able to refinance any of our debt in a timely manner on favorable terms, if at all, in the current credit markets. Any inability to generate sufficient cash flows or to refinance our debt on favorable terms could have a material adverse effect on our financial condition.

As a global business, we are subject to risks associated with doing business outside the United States.

We have global operations and derive a large portion of our sales from customers outside the United States. Accordingly, our international operations or those of our international customers could be substantially affected by a number of risks arising with operating an international business, including trade barriers, tariffs, exchange controls, economic and political conditions, compliance with a variety of non-United States laws and regulations (including income tax laws and regulations) or compliance with United States law and regulations in respect to doing business internationally, limitations on restrictions on the repatriation of non-United States earnings to the United States, and difficulty in enforcing agreements or other legal rights. Our operations are also subject to the effects of global competition. These risks, individually or in the aggregate, could have an adverse effect on our results of operations and financial condition.

Changes in exchange rates and interest rates can adversely affect our net sales, profits and cash flows.

We operate our businesses in several different countries and sell our products worldwide. For example, during 2017, approximately one-half of our sales volumes were sold into European markets. The majority (but not all) of our sales from our operations outside the United States are denominated in currencies other than the United States dollar, primarily the euro, other major European currencies and the Canadian dollar. Therefore, we are exposed to risks related to the need to convert currencies we receive from the sale of our products into the currencies required to pay for certain of our operating costs and expenses and other liabilities (including indebtedness), all of which could result in future losses depending on fluctuations in currency exchange rates and affect the comparability of our results of operations between periods.

If our intellectual property were to be declared invalid, or copied by or become known to by competitors, or if our competitors were to develop similar or superior intellectual property or technology, our ability to compete could be adversely impacted.

Protection of our intellectual property rights, including patents, trade secrets, confidential information, trademarks and tradenames, is important to our business and our competitive position. We endeavor to protect our intellectual property rights in key jurisdictions in which our products are produced or used and in jurisdictions into which our products are imported. However, we may be unable to obtain protection for our intellectual property in key jurisdictions. Although we own and have applied for numerous patents and trademarks throughout the world, we may have to rely on judicial enforcement of our patents and other proprietary rights. Our patents and other intellectual property rights may be challenged, invalidated, circumvented, and rendered unenforceable or otherwise compromised. A failure to protect, defend or enforce our intellectual property could have an adverse effect on our financial condition and results of operations. Similarly, third parties may assert claims against us and our customers and distributors alleging our products infringe upon third-party intellectual property rights.

Although it is our practice to enter into confidentiality agreements with our employees and third parties to protect our proprietary expertise and other trade secrets, these agreements may not provide sufficient protection for our trade secrets or proprietary know-how, or adequate remedies for breaches of such agreements may not be available in the event of an unauthorized use or disclosure of such trade secrets and know-how. We also may not be able to readily detect breaches of such agreements. The failure of our patents or confidentiality agreements to protect our proprietary technology, know-how or trade secrets could result in a material loss of our competitive position, which could lead to significantly lower revenues, reduced profit margins or loss of market share.

If we must take legal action to protect, defend or enforce our intellectual property rights, any suits or proceedings could result in significant costs and diversion of resources and management's attention, and 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.

We may be subject to litigation, the disposition of which could have a material adverse effect on our results of operations.

The nature of our operations exposes us to possible litigation claims, including disputes with customers and suppliers and matters relating to, among other things, antitrust, product liability, intellectual property, employment and environmental claims. It is possible that judgments could be rendered against us in these or other types of cases for which we could be uninsured or not covered by indemnity, or which may be beyond the amounts that we currently have reserved or anticipate incurring for such matters. Some of the lawsuits may seek fines or penalties and damages in large amounts, or seek to restrict our business activities. Because of the uncertain nature of litigation and coverage decisions, we cannot predict the outcome of these matters or whether insurance claims may mitigate any damages ultimately determined to be owed by us. Any liability we might incur in the future could be material. In addition, litigation is very costly, and the costs associated with defending litigation matters could have a material adverse effect on our results of operations.

Global climate change legislation could negatively impact our financial results or limit our ability to operate our businesses.

We operate production facilities in several countries. In many of the countries in which we operate, legislation has been passed, or proposed legislation is being considered, to limit greenhouse gases through various means, including emissions permits and/or energy taxes. In several of our production facilities, we consume large amounts of energy, primarily electricity and natural gas. To date, the permit system in effect in the various countries in which we operate has not had a material adverse effect on our financial results. However, if further greenhouse gas legislation were to be enacted in one or more countries, it could negatively impact our future results from operations through increased costs of production, particularly as it relates to our energy requirements or our need to obtain emissions permits. If such increased costs of production were to materialize, we may be unable to pass price increases onto our customers to compensate for increased production costs, which may decrease our liquidity, operating income and results of operations.

Technology failures or cyber security breaches could have a material adverse effect on our operations.

We rely on information technology systems to manage, process and analyze data, as well as to facilitate the manufacture and distribution of our products to and from our plants. We receive, process and ship orders, manage the billing of and collections from our customers, and manage the accounting for and payment to our vendors. In this regard, in January 2017 we implemented a new enterprise resource planning system covering certain finance processes (principally general ledger, accounts receivable and accounts payable), and in January 2018 we implemented the remaining portion of such enterprise resource planning system covering sales, procurement, manufacturing and plant maintenance. Although we have systems and procedures in place to protect our information technology systems, there can be no assurance that such systems and procedures would be sufficiently effective. Therefore, any of our information technology systems may be susceptible to outages, disruptions or destruction as well as cyber security breaches or attacks, resulting in a disruption of our business operations, injury to people, harm to the environment or our assets, and/or the inability to access our information technology systems. If any of these events were to occur, our results of operations and financial condition could be adversely affected.

ITEM 1B. UNRESOLVED STAFF COMMENTS

None

ITEM 2. PROPERTIES

Information on our properties is incorporated by reference to Item 1: Manufacturing, Operations and Properties above. Our corporate headquarters is located in Dallas, Texas. See Note 17 to our Consolidated Financial Statements for information on our leases.

ITEM 3. LEGAL PROCEEDINGS

We are involved in various environmental, contractual, intellectual property, product liability and other claims and disputes incidental to our business. Information called for by this Item is incorporated by reference to Note 17 to our Consolidated Financial Statements.

ITEM 4. MINE SAFETY DISCLOSURES

Not applicable

PART II

ITEM 5. MARKET FOR COMMON EQUITY AND RELATED STOCKHOLDER MATTERS

Our common stock is listed and traded on the New York Stock Exchange (symbol: KRO). As of February 28, 2018, there were approximately 2,000 holders of record of our common stock. The following table sets forth the high and low closing per share sales price for our common stock for the periods indicated according to Bloomberg and dividends paid during such periods. On February 28, 2018 the closing price of our common stock was $21.45.

	High	Low	Cash dividends paid
Year ended December 31, 2016			
First Quarter	$6.58	$4.00	$ .15
Second Quarter	6.87	5.08	.15
Third Quarter	9.01	4.82	.15
Fourth Quarter	12.48	7.32	.15
Year ended December 31, 2017			
First Quarter	$16.64	$12.09	$ .15
Second Quarter	19.94	15.13	.15
Third Quarter	23.10	18.12	.15
Fourth Quarter	29.24	23.77	.15
January 1, 2018 through February 28, 2018	$28.53	$21.45	$ -

In February 2018, our board of directors declared a first quarter 2018 regular quarterly dividend of $.17 per share (an increase of $.02 per share from the prior regular quarterly dividend of $.15 per share), payable on March 15, 2018 to stockholders of record as of March 6, 2018. The declaration and payment of future dividends is discretionary, and the amount, if any, will be dependent upon our results of operations, financial condition, cash requirements for our business, the current long-term outlook for our business and other factors deemed relevant by our board. There are currently no restrictions on our ability to pay dividends, although provisions in certain credit agreements to which we are a party could in the future limit or restrict our ability to pay dividends.

In December 2010, our board of directors authorized the repurchase of up to 2.0 million shares of our common stock in open market transactions, including block purchases, or in privately-negotiated transactions at unspecified prices and over an unspecified period of time. We have 1,951,000 shares available for repurchase under the plan at December 31, 2017. See Note 15 to our Consolidated Financial Statements.

Performance graph

Set forth below is a table and line graph comparing the yearly change in our cumulative total stockholder return on our common stock against the cumulative total return of the S&P 500 Composite Stock Index and the S&P 500 Diversified Chemicals Index. The graph shows the value at December 31 of each year, assuming an original investment of $100 at December 31, 2012 and reinvestment of cash dividends and other distributions to stockholders.

	2012	2013	2014	2015	2016	2017
Kronos common stock	$100	$101	$72	$34	$78	$173
S&P 500 Composite Stock Index	100	132	151	153	171	208
S&P 500 Diversified Chemicals Index	100	143	154	160	182	230

The information contained in the performance graph shall not be deemed "soliciting material" or "filed" with the SEC, or subject to the liabilities of Section 18 of the Securities Exchange Act, except to the extent we specifically request that the material be treated as soliciting material or specifically incorporate this performance graph by reference into a document filed under the Securities Act or the Securities Exchange Act.

Equity compensation plan information

We have an equity compensation plan, which was approved by our stockholders, pursuant to which an aggregate of 200,000 shares of our common stock can be awarded to members of our board of directors. At December 31, 2017, 155,500 shares are available for award under this plan. See Note 15 to our Consolidated Financial Statements.

ITEM 6. SELECTED FINANCIAL DATA

The following selected financial data should be read in conjunction with our Consolidated Financial Statements and Item 7 - "Management's Discussion and Analysis of Financial Condition and Results of Operations."

	Years ended December 31,				
	2013	2014	2015	2016	2017
	(In millions, except per share data and TiO_2 operating statistics)				
STATEMENTS OF OPERATIONS DATA:					
Net sales	$1,732.4	$1,651.9	$1,348.8	$1,364.3	$1,729.0
Gross margin	112.2	349.7	192.3	257.0	558.9
Income (loss) from operations	(132.6)	149.7	(1.1)	81.1	330.4
Net income (loss)	(102.0)	99.2	(173.6)	43.3	354.5
Net income (loss) per share	(.88)	.86	(1.50)	.37	3.06
Cash dividends per share	.60	.60	.60	.60	.60
BALANCE SHEET DATA (at year end):					
Total assets	$1,610.0	$1,633.1	$1,242.7	$1,179.6	$1,824.4
Notes payable and long-term debt including current maturities	183.5	343.6	341.0	339.0	474.5
Common stockholders' equity	935.1	781.1	461.9	395.0	754.3
STATEMENTS OF CASH FLOW DATA:					
Net cash provided by (used in):					
Operating activities	$130.4	$87.7	$52.1	$89.6	$276.1
Investing activities	(67.7)	(61.2)	(47.1)	(53.0)	(77.9)
Financing activities	(292.3)	89.6	(72.1)	(73.3)	58.8
TiO_2 OPERATING STATISTICS:					
Sales volume (1)	498	496	525	559	586
Production volume (1)	474	511	528	546	576
Production capacity at beginning of year (1)	550	555	555	555	555
Production rate as a percentage of capacity	86%	92%	95%	98%	100%

(1) Metric tons in thousands

ITEM 7. MANAGEMENT'S DISCUSSION AND ANALYSIS OF FINANCIAL CONDITION AND RESULTS OF OPERATIONS

RESULTS OF OPERATIONS

Business overview

We are a leading global producer and marketer of value-added TiO_2. TiO_2 is used for a variety of manufacturing applications, including plastics, paints, paper and other industrial products. During 2017, approximately one-half of our sales volumes were sold into European markets. We believe we are the largest producer of TiO_2 in Europe with an estimated 17% share of European TiO_2 sales volumes in 2017. In addition, we estimate we have an 18% share of North American TiO_2 sales volumes in 2017. Our production facilities are located in Europe and North America.

We consider TiO_2 to be a "quality of life" product, with demand affected by gross domestic product, or GDP, and overall economic conditions in our markets located in various regions of the world. Over the long-term, we expect demand for TiO_2 will grow by 2% to 3% per year, consistent with our expectations for the long-term growth in GDP. However, even if we and our competitors maintain consistent shares of the worldwide market, demand for TiO_2 in any interim or annual period may not change in the same proportion as the change in GDP, in part due to relative changes in the TiO_2 inventory levels of our customers. We believe that our customers' inventory levels are influenced in part by their expectation for future changes in market TiO_2 selling prices as well as their expectation for future availability of product. Although certain of our TiO_2 grades are considered specialty pigments, the majority of our grades and substantially all of our production are considered commodity pigment products with price and availability being the most significant competitive factors along with quality and customer service.

The factors having the most impact on our reported operating results are:

- TiO_2 selling prices,
- Our TiO_2 sales and production volumes,
- Manufacturing costs, particularly raw materials such as third-party feedstock ore, maintenance and energy-related expenses, and
- Currency exchange rates (particularly the exchange rate for the U.S. dollar relative to the euro, the Norwegian krone and the Canadian dollar).

Our key performance indicators are our TiO_2 average selling prices, our level of TiO_2 sales and production volumes and the cost of our third-party feedstock ore. TiO_2 selling prices generally follow industry trends and the selling prices will increase or decrease generally as a result of competitive market pressures.

In addition, our effective income tax rate in 2015, 2016 and 2017 was impacted by certain favorable and unfavorable developments discussed below.

Executive summary

We reported net income of $354.5 million, or $3.06 per share for 2017 compared to net income of $43.3 million, or $.37 per share for 2016. We reported higher net income in 2017 compared to 2016 in part due to higher income from operations in 2017. Our income from operations improved in 2017 primarily due to the net impact of higher average selling prices, higher sales and production volumes, higher raw materials and other production costs, the recognition of an insurance settlement gain totaling $4.3 million in 2016 from two separate business interruption claims and the net effect of changes in currency exchange rates. In addition, we recognized an aggregate net income tax benefit of $136.5 million in 2017 as a result of the net effect of reversing our deferred income tax asset valuation allowances associated with our German and Belgian operations ($186.7 million income tax benefit) and our deferred income tax asset valuation allowance related to certain U.S. deferred income tax assets of one of our non-U.S. subsidiaries ($18.7

million income tax benefit), the one-time repatriation tax imposed on the post-1986 undistributed earnings of our non-U.S. subsidiaries imposed as a result of the Tax Cuts and Jobs Act (2017 Tax Act) enacted on

December 22, 2017 ($76.2 million income tax expense), an income tax benefit related to the execution and finalization of an Advance Pricing Agreement between Canada and Germany ($11.8 million income tax benefit), and an income tax expense related to a change in our conclusions regarding our permanent reinvestment assertion with respect to the post-1986 undistributed earnings of our European subsidiaries ($4.5 million income tax expense).

We reported net income of $43.3 million, or $.37 per share for 2016 compared to a net loss of $173.6 million, or $1.50 per share for 2015. We reported net income in 2016 as compared to a net loss in 2015 due to higher income from operations in 2016, as well as an aggregate $159.0 million non-cash deferred income tax expense as a result of a net increase in our deferred income tax asset valuation allowance related to our German and Belgian operations recognized in 2015, and an aggregate $12.0 million pre-tax other-than-temporary impairment (OTTI) charge on our investment in a marketable equity security recognized in 2015. Our income from operations improved in 2016 primarily due to the net impact of higher sales and production volumes and lower average selling prices in 2016, a $21.7 million charge associated with the implementation of certain workforce reductions in 2015, lower raw materials and other production costs in 2016 (including cost savings resulting from workforce reductions implemented in 2015), the recognition of an insurance settlement gain totaling $4.3 million in 2016 from two separate business interruption claims and the net effect of changes in currency exchange rates. Of such $21.7 million charge related to the workforce reductions, $10.8 million was classified as part of cost of sales and $10.9 million was classified in selling, general and administrative expense.

Our net income in 2017 includes:

- the recognition of an aggregate $186.7 million ($1.61 per share) non-cash deferred income tax benefit as a result of the reversal of our deferred income tax asset valuation allowances associated with our German and Belgian operations, mostly recognized in the second quarter,
- the fourth quarter recognition of an $18.7 million ($.16 per share) non-cash deferred income tax benefit as a result of the reversal of our deferred income tax asset valuation allowance related to certain U.S. deferred income tax assets of one of our non-U.S. subsidiaries (which subsidiary is treated as a dual resident for U.S. income tax purposes),
- the fourth quarter recognition of a $76.2 million ($.66 per share) provisional current income tax expense as a result of the 2017 Tax Act for the one-time repatriation tax imposed on the post-1986 undistributed earnings of our non-U.S. subsidiaries,

- the recognition of an $11.8 million ($.10 per share) aggregate income tax benefit related to the execution and finalization of an Advance Pricing Agreement between Canada and Germany, mostly recognized in the third quarter (which includes an $8.6 million non-cash income tax benefit as a result of a net decrease in our reserve for uncertain tax positions),

- the fourth quarter recognition of a $4.5 million ($.04 per share) provisional non-cash deferred income tax expense related to a change in our conclusions regarding our permanent reinvestment assertion with respect to the post-1986 undistributed earnings of our European subsidiaries, and

- a pre-tax aggregate charge of $7.1 million ($4.6 million, or $.04 per share, net of income tax benefit) recognized in the third quarter related to the loss on prepayment of debt.

Our net income in 2016 includes:

- a pre-tax insurance settlement gain of $4.3 million ($3.2 million, or $.03 per share, net of income tax expense) recognized in the first, second and fourth quarters,

- the recognition of a net \$3.4 million (\$.03 per share) current income tax benefit related to the execution and finalization of an Advance Pricing Agreement between the U.S. and Canada,
- the recognition of an aggregate \$2.2 million (\$.02 per share) non-cash deferred income tax benefit as a result of a net decrease in our deferred income tax asset valuation allowance related to our German and Belgian operations, recognized in the second, third and fourth quarters, and

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- the recognition of a $2.4 million ($.02 per share) non-cash income tax expense related to an increase in our reserve for uncertain tax positions, mostly recognized in the fourth quarter.

Our net loss in 2015 includes:

- the recognition of an aggregate $159.0 million ($1.37 per share) non-cash deferred income tax expense as a result of a net increase in our deferred income tax asset valuation allowance related to our German and Belgian operations, mostly recognized in the second quarter,
- the third quarter recognition of an aggregate pre-tax OTTI loss on our investment in a marketable equity security of $12.0 million ($7.8 million, or $.07 per share, net of income tax benefit), and
- a pre-tax charge of $21.7 million ($18.5 million, or $.16 per share, net of income tax benefit) related to workforce reduction costs, mostly recognized in the second quarter.

Critical accounting policies and estimates

The accompanying "Management's Discussion and Analysis of Financial Condition and Results of Operations" is based upon our Consolidated Financial Statements, which we have prepared in accordance with accounting principles generally accepted in the United States of America, or GAAP. The preparation of these financial statements requires us to make estimates and judgments 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 amount of revenues and expenses during the reported period. On an ongoing basis we evaluate our estimates, including those related to the recoverability of long-lived assets, pension and other postretirement benefit obligations and the underlying actuarial assumptions related thereto, the realization of deferred income tax assets and accruals for litigation, income tax and other contingencies. We base our estimates on historical experience and on various other assumptions which we believe to be reasonable under the circumstances, the results of which form the basis for making judgments about the reported amounts of assets, liabilities, revenues and expenses. Actual results may differ significantly from previously-estimated amounts under different assumptions or conditions.

The following critical accounting policies affect our more significant judgments and estimates used in the preparation of our Consolidated Financial Statements:

- Long-lived assets – We recognize an impairment charge associated with our long-lived assets, including property and equipment, whenever we determine that recovery of such long-lived asset is not probable. Such determination is made in accordance with the applicable GAAP requirements of Accounting Standard Codification, or ASC, Topic 360-10-35 Property, Plant and Equipment and is based upon, among other things, estimates of the amount of future net cash flows to be generated by the long-lived asset and estimates of the current fair value of the asset. Significant judgment is required in estimating such cash flows. Adverse changes in such estimates of future net cash flows or estimates of fair value could result in an inability to recover the carrying value of the long-lived asset, thereby possibly requiring an impairment charge to be recognized in the future. We do not assess our property and equipment for impairment unless certain impairment indicators specified in ASC Topic 360-10-35 are present. We did not evaluate any long-lived assets for impairment during 2017 because no such impairment indicators were present.
- Benefit plans – We maintain various defined benefit pension plans and postretirement benefits other than pensions, or OPEB, plans. The amounts recognized as defined benefit pension and OPEB expenses and the reported amounts of pension asset and accrued pension and OPEB costs are actuarially determined based on several assumptions, including discount rates, expected rates of return on plan assets, expected health care trend rates and expected mortality. Variances from these actuarially assumed rates will result in increases or decreases, as applicable, in the recognized pension and OPEB obligations, pension and OPEB expenses and funding requirements. These assumptions are more fully described below under "Defined Benefit Pension Plans" and "OPEB Plans."
- Income taxes – We recognize deferred taxes for future tax effects of temporary differences between financial and income tax reporting. Deferred income tax assets and liabilities for each tax-paying

jurisdiction in which we operate are netted and presented as either a noncurrent deferred income tax

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asset or liability, as applicable. We record a valuation allowance to reduce our deferred income tax assets to the amount that is believed to be realized under the more-likely-than-not recognition criteria. While we have considered future taxable income and ongoing prudent and feasible tax planning strategies in assessing the need for a valuation allowance, it is possible that we may change our estimate of the amount of the deferred income tax assets that would more-likely-than-not be realized in the future, resulting in an adjustment to the deferred income tax asset valuation allowance that would either increase or decrease, as applicable, reported net income in the period such change in estimate was made.

For example, at December 31, 2017 we have substantial net operating loss (NOL) carryforwards in Germany (the equivalent of $652 million for German corporate purposes and $.5 million for German trade tax purposes) and in Belgium (the equivalent of $50 million for Belgian corporate tax purposes), all of which have an indefinite carryforward period. As a result, we have net deferred income tax assets with respect to these two jurisdictions, primarily related to these NOL carryforwards. The German corporate tax is similar to the U.S. federal income tax, and the German trade tax is similar to the U.S. state income tax. As more fully described below under “Comparison of 2017 to 2016 Results of Operations – Income tax expense (benefit)” and “Comparison of 2016 to 2015 Results of Operations – Income tax expense,” we had a deferred income tax asset valuation allowance recognized with respect to such net deferred income tax assets of our Belgian and German operations beginning June 30, 2015. At June 30, 2017 we concluded we had sufficient positive evidence under the more-likely-than-not recognition criteria to support reversal of the entire valuation allowance related to our German and Belgian operations.

In addition, at the end of each reporting period we evaluate whether or not some or all of the undistributed earnings of our non-U.S. subsidiaries are permanently reinvested (as that term is defined in GAAP). While we may have concluded in the past that some of such undistributed earnings are permanently reinvested, facts and circumstances can change in the future and it is possible that a change in facts and circumstances, such as a change in the expectation regarding the capital needs of our non-U.S. subsidiaries or a change in tax law, could result in a conclusion that some or all of such undistributed earnings are no longer permanently reinvested. Prior to enactment of the new tax legislation in December 2017 referred to below, the undistributed earnings of our European subsidiaries were deemed to be permanently reinvested (we had not made a similar determination with respect to the undistributed earnings of our Canadian subsidiary). On December 22, 2017, the H.R.1 formally known as the “Tax Cuts and Jobs Act” (2017 Tax Act) was enacted into law. Among other things, this new tax legislation, as discussed more fully below under “Comparison of 2017 to 2016 Results of Operations – Income tax expense (benefit)”, implements a territorial tax system and imposes a one-time repatriation tax on the deemed repatriation of the post-1986 undistributed earnings of non-U.S. subsidiaries accumulated up through December 31, 2017, regardless of whether such earnings are repatriated, and eliminates any U.S. federal income tax on future non-U.S. earnings after such date (subject to certain exceptions). Our provision for income taxes in the fourth quarter of 2017 includes a provisional current income tax expense for the one-time repatriation tax imposed under the new tax law. In addition, and as a result of this significant change in tax law, effective December 31, 2017 we have now determined that all of the post-1986 undistributed earnings of our European subsidiaries are not permanently reinvested (we had previously concluded that all of the undistributed earnings of our Canadian subsidiary are not permanently reinvested), and accordingly our provision for income taxes in the fourth quarter of 2017 also includes a provisional deferred income tax expense for the estimated incremental U.S. state income tax, non-U.S. income tax and withholding tax liability attributable to all of such previously-considered permanently reinvested undistributed earnings.

We record a reserve for uncertain tax positions where we believe it is more-likely-than-not our tax positions will not prevail with the applicable tax authorities. It is possible that in the future we may change our assessment regarding the probability that our tax positions will prevail that would require an adjustment to the amount of our reserve for uncertain tax positions that could either increase or decrease, as applicable, reported net income in the period the change in assessment was made.

- Contingencies – We record accruals for legal and other contingencies when future expenditures associated with such contingencies and commitments become probable and the amounts can be reasonably estimated. However, new information may become available or circumstances (such as applicable laws and regulations) may change, thereby resulting in an increase or decrease in the amount required to be accrued for such matters (and therefore a decrease or increase in reported net income in the period of such change).

Results from operations is impacted by certain of these and other significant judgments and estimates, such as allowance for doubtful accounts, reserves for obsolete or unmarketable inventories, impairment of equity method investments and long-lived assets, defined benefit pension plans and loss accruals. In addition, net income is impacted by the significant judgments and estimates for deferred income tax asset valuation allowances and loss accruals.

Comparison of 2017 to 2016 Results of Operations

	Year ended December 31,				
	2016		2017		
	(Dollars in millions)				
Net sales	$1,364.3	100%	$1,729.0	100	%
Cost of sales	1,107.3	81	1,170.1	68	
Gross margin	257.0	19	558.9	32	
Other operating income and expense, net	175.9	13	228.5	13	
Income from operations	$81.1	6 %	$330.4	19	%
				% Change	
TiO_2 operating statistics:					
Sales volumes*	559		586	5	%
Production volumes*	546		576	5	%
Percentage change in net sales:					
TiO_2 product pricing				22	%
TiO_2 sales volumes				5	
TiO_2 product mix/other				(1	)
Changes in currency exchange rates				1	
Total				27	%

* Thousands of metric tons

Industry conditions and 2017 overview – Due to the successful implementation of previously-announced price increases, average selling prices began to rise in the second quarter of 2016 and have continued to rise through the full year of 2017. We started 2017 with average selling prices 11% higher than the beginning of 2016. Our average selling prices at the end of 2017 were 27% higher than at the end of 2016, with higher prices in all major markets. We experienced higher sales volumes in 2017 due to strength in the North American and European markets as compared to 2016.

The following table shows our capacity utilization rates during 2016 and 2017.

	2016	2017
First Quarter	97 %	100%
Second Quarter	95 %	100%
Third Quarter	100%	100%
Fourth Quarter	100%	100%
Overall	98 %	100%

Throughout 2016, we experienced moderation in the cost of TiO_2 feedstock ore procured from third parties. Our cost of sales per metric ton of TiO_2 sold declined throughout 2016 and into the first six months of 2017 primarily due to the moderation in the cost of TiO_2 feedstock ore in 2016 and the first half of 2017. However, the cost of third-party feedstock ore we procured in 2017 was comparable to slightly higher as compared to 2016, and such higher cost feedstock began to be reflected in our results of operations in the third quarter of 2017 and continued through the fourth quarter of 2017. Overall, the cost of third-party feedstock ore we procured in the full year of 2017 was slightly higher as compared to 2016. Consequently, the cost of sales per metric ton of TiO_2 sold in 2017 was slightly higher than our cost of sales per metric ton of TiO_2 sold in 2016 (excluding the effect of changes in currency exchange rates).

Net sales – Our net sales increased 27% or $364.7 million in 2017 compared to 2016, primarily due to the favorable effects of a 22% increase in average TiO_2 selling prices (which increased net sales by approximately $300 million) and a 5% increase in sales volumes (which increased net sales by approximately $68 million). TiO_2 selling prices will increase or decrease generally as a result of competitive market pressures, changes in the relative level of supply and demand as well as changes in raw material and other manufacturing costs.

Our sales volumes increased in 2017 primarily due to strength in the North American and European markets as compared to 2016. Our sales volumes in 2017 set a new overall record for a full-year period. We estimate that changes in currency exchange rates increased our net sales by approximately $16 million, or 1%, as compared to 2016.

Cost of sales and gross margin – Cost of sales increased $62.8 million or 6% in 2017 compared to 2016 due to the net impact of a 5% increase in sales volumes, efficiencies related to a 5% increase in TiO_2 production volumes, higher raw materials and other production costs of approximately $13 million and currency fluctuations (primarily the euro). Our production volumes in 2017 set a new overall record for a full-year period.

Our cost of sales as a percentage of net sales decreased to 68% in 2017 compared to 81% in 2016 as the favorable effects of higher average selling prices and efficiencies related to higher production volumes more than offset the higher raw materials and other production costs, as discussed above.

Gross margin as a percentage of net sales increased to 32% in 2017 compared to 19% in 2016. As discussed and quantified above, our gross margin increased primarily due to the net effect of higher average selling prices, higher sales and production volumes and higher raw materials and other production costs.

Other operating income and expense, net – Other operating income and expense, net in 2017 was $228.5 million, an increase of $52.6 million compared to 2016. Other operating income and expense, net increased in 2017 in part due to higher shipping and handling costs of $11 million, higher general and administrative costs related to the implementation of a new accounting and manufacturing software system of $8 million, higher research, development and certain sales technical support costs of $7 million and currency fluctuations (primarily the euro). Other operating income and expense, net in 2016 includes income aggregating $4.3 million related to insurance settlement gains from two separate business interruption claims. Selling, general and administrative expenses were approximately 12% of net sales in 2017 and 13% in 2016.

Income from operations – Income from operations increased by $249.3 million, from $81.1 million in 2016 to $330.4 million in 2017. Income from operations as a percentage of net sales increased to 19% in 2017 from 6% in 2016. This increase was driven by the increase in gross margin, discussed above, partially offset by income aggregating $4.3 million related to insurance settlement gains from two separate business interruption claims in 2016. We estimate that changes in currency exchange rates decreased income from operations by approximately $18 million in 2017 as compared to 2016.

Other non-operating income (expense) – We recognized a loss on prepayment of debt in the third quarter of 2017 aggregating $7.1 million, associated with the prepayment and termination of our term loan indebtedness. See Note 8 to our Consolidated Financial Statements.

Interest expense decreased $1.5 million from $20.5 million in 2016 to $19.0 million in 2017 primarily due to higher capitalized interest in 2017. See Notes 1 and 8 to our Consolidated Financial Statements.

Income tax expense (benefit) – We recognized an income tax benefit of $48.8 million in 2017 compared to income tax expense of $17.9 million in 2016. Our income tax expense in 2016 includes a $3.4 million current income tax benefit related to the execution and finalization of an Advance Pricing Agreement between the U.S. and Canada, an aggregate $2.2 million non-cash tax benefit as the result of a net decrease in our deferred income tax valuation allowance and a $2.4 increase to our reserve for uncertain tax positions. As discussed below, our income tax benefit in 2017 includes the following:

- a $186.7 million non-cash deferred income tax benefit as a result of the reversal of our deferred income tax asset valuation allowances associated with our German and Belgian operations, mostly recognized in the second quarter,
- an $18.7 million non-cash deferred income tax benefit as a result of the reversal of our deferred income tax asset valuation allowance related to certain U.S. deferred income tax assets of one of our non-U.S. subsidiaries (which subsidiary is treated as a dual resident for U.S. income tax purposes),
- a $76.2 million provisional current income tax expense as a result of the 2017 Tax Act for the one-time repatriation tax imposed on the post-1986 undistributed earnings of our non-U.S. subsidiaries,
- a $4.5 million provisional non-cash deferred income tax expense related to a change in our conclusions regarding our permanent reinvestment assertion with respect to the post-1986 undistributed earnings of our European subsidiaries, and
- an $11.8 million aggregate income tax benefit related to the execution and finalization of an Advance Pricing Agreement between Canada and Germany, mostly recognized in the third quarter (which includes an $8.6 million non-cash income tax benefit as a result of a net decrease in our reserve for uncertain tax positions).

Our earnings are subject to income tax in various U.S. and non-U.S. jurisdictions, and the income tax rates applicable to our pre-tax earnings (losses) of our non-U.S. operations are generally lower than the income tax rates applicable to our U.S. operations. Excluding the effect of any increase or decrease in our deferred income tax asset valuation allowance or changes in our reserve for uncertain tax positions, we would generally expect our overall effective tax rate to be lower than the U.S. federal statutory tax rate of 35% primarily because of our non-U.S. operations. Our effective income tax rate in 2016, excluding the impact of the reduction in our deferred income tax asset valuation allowances we recognized and the change to our reserve for uncertain tax positions, was lower than the U.S. federal statutory rate of 35% primarily due to the change to prior year tax discussed above. Our effective income tax rate in 2017, excluding the impact of the reversal of the deferred income tax asset valuation allowances, the one-time repatriation tax, the impact of the change in our permanent reinvestment assertion with respect to the undistributed earnings of our European subsidiaries and the change to our reserve for uncertain tax positions, was lower than the U.S. federal statutory rate of 35% primarily due to the impact of the earnings of our non-U.S. subsidiaries. See Note 14 to our Consolidated Financial Statements for a tabular reconciliation of our statutory income tax provision to our actual tax provision.

We have substantial net operating loss (NOL) carryforwards in Germany (the equivalent of $652 million for German corporate purposes and $.5 million for German trade tax purposes at December 31, 2017) and in

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Belgium (the equivalent of $50 million for Belgian corporate tax purposes at December 31, 2017), all of which have an indefinite carryforward period. As a result, we have net deferred income tax assets with respect to these two jurisdictions, primarily related to these NOL carryforwards. The German corporate tax is similar to the U.S. federal income tax, and the German trade tax is similar to the U.S. state income tax. Prior to June 30, 2015, and using all available evidence, we had concluded no deferred income tax asset valuation allowance was required to be recognized with respect to these net deferred income tax assets under the more-likely-than-not recognition criteria, primarily because (i) the carryforwards have an indefinite carryforward period, (ii) we utilized a portion of such carryforwards during the most recent three-year period, and (iii) we expected to utilize the remainder of the carryforwards over the long term. We had also previously indicated that facts and circumstances could change, which might in the future result in the recognition of a valuation allowance against some or all of such deferred income tax assets. However, as of June 30, 2015, and given our operating results during the second quarter of 2015 and our expectations at that time for our operating results for the remainder of 2015, which had been driven in large part by the trend in our average TiO_2 selling prices over such periods as well as the $21.1 million pre-tax charge recognized in the second quarter of 2015 in connection with the implementation of certain workforce reductions, we did not have sufficient positive evidence to overcome the significant negative evidence of having cumulative losses in the most recent twelve consecutive quarters in both our German and Belgian jurisdictions at June 30, 2015 (even considering that the carryforward period of our German and Belgian NOL carryforwards is indefinite, one piece of positive evidence). Accordingly, at June 30, 2015, we concluded that we were required to recognize a non-cash deferred income tax asset valuation allowance under the more-likely-than-not recognition criteria with respect to our German and Belgian net deferred income tax assets at such date. We recognized an additional non-cash deferred income tax asset valuation allowance during the second half of 2015 due to losses recognized by our German and Belgian operations during such period. Such valuation allowance aggregated $168.9 million at December 31, 2015. During 2016, we recognized an aggregate $2.2 million non-cash tax benefit as the result of a net decrease in such deferred income tax asset valuation allowance, as the impact of utilizing a portion of our German NOLs during such period more than offset the impact of additional losses recognized by our Belgian operations during such period. Such valuation allowance aggregated approximately $173 million at December 31, 2016 ($153 million with respect to Germany and $20 million with respect to Belgium). During the first six months of 2017, we recognized an aggregate non-cash income tax benefit of $12.7 million as a result of a net decrease in such deferred income tax asset valuation allowance, due to the utilization of a portion of both the German and Belgian NOLs during such period. We continue to believe we will ultimately realize the full benefit of these German and Belgian NOL carryforwards, in part because of their indefinite carryforward period. As previously disclosed, our ability to reverse all or a portion of either the German or Belgian valuation allowance is dependent on the presence of sufficient positive evidence, such as the existence of cumulative profits in the most recent twelve consecutive quarters or profitability in recent quarters during which such profitability was trending upward throughout such period, and the ability to demonstrate future profitability for a sustainable period. As noted below, we determined such conditions were satisfied at June 30, 2017.

Although our Belgian operations were profitable in the first quarter of 2017 and we utilized a portion of the Belgian NOLs during such period, our Belgian operations continued to have cumulative losses in the most recent twelve quarters at March 31, 2017. Although the results of our German operations had improved during 2016 and the first quarter of 2017, indicating a change in the negative trend in earnings that existed at December 31, 2015, and we utilized a portion of our German NOLs during 2016 and the first quarter of 2017, and we had cumulative income with respect to our German operations for the most recent twelve consecutive quarters at March 31, 2017, the sustainability of such positive trend in earnings had not yet been demonstrated at such date. As previously disclosed, while neither our business as a whole nor any of our principal product groups is seasonal to any significant extent, TiO_2 sales are generally higher in the second and third quarters of the year, due in part to the increase in paint production in the spring to meet demand during the spring and summer painting seasons. While we have some insight into the overall demand expected to be generated by a particular year's paint season and TiO_2 pricing at the end of the first quarter (the start of the paint season), we have much greater insight and certainty regarding overall demand and TiO_2 pricing for a particular year's paint season by the end of the second quarter of the year, in part because some factors, such as weather, can have an impact on both overall demand and pricing each year. Accordingly, at March 31, 2017 we did not have sufficient positive evidence to support a sustainable profit trend and consequently, we did not have sufficient positive evidence under the more-likely-than-not recognition criteria to support reversal of the entire valuation allowance related to our German or Belgian operations at such date. During the second quarter of 2017, our German and Belgian operations continued to be profitable, and both reported levels of profitability higher as compared to the first quarter of 2017. As previously disclosed, our consolidated results of operations in general, and our German and Belgian operations in particular, were favorably impacted during the second quarter of 2017 by, among other things, continued higher average TiO_2 selling prices and higher sales volumes. Our German operations had cumulative income for the most recent twelve consecutive quarters at June 30, 2017. While our Belgian operations had cumulative losses in the most recent twelve consecutive quarters at June 30, 2017, such operations generated income in both the first and second quarters of 2017, with higher income in the second quarter as compared to the first quarter, the amount of cumulative losses of our Belgian operations for the most recent twelve consecutive quarters was lower as of June 30, 2017 as compared to both March 31, 2017 and December 31, 2016 and we expected to have cumulative profits in the third and fourth quarters. Our production facilities had been operating at near practical capacity utilization rates in the first six months of 2017. In addition, consistent with our previously-disclosed expectation regarding our consolidated results of operations for the second half of 2017, we believed it was likely our German and Belgian operations would continue to report improved operating results in 2017 as compared to 2016. Accordingly, at June 30, 2017 we concluded we had sufficient positive evidence under the more-likely-than-not recognition criteria to support reversal of the entire valuation allowance related to our German and Belgian operations. Such sufficient positive evidence included, among other things, the existence of cumulative profits in the most recent twelve consecutive quarters (Germany) or profitability in recent quarters during which such profitability was trending upward throughout such period (Belgium), the ability to demonstrate future profitability in Germany and Belgium for a sustainable period (as supported by, among other things, recent trends in profitability, driven in large part by increases in TiO_2 selling prices, and continued strong demand indicating that such profitability trends will continue in the future), and the indefinite carryforward period for the German and Belgian NOLs. As discussed below regarding accounting for income taxes at interim dates, a large portion ($149.9 million) of the remaining valuation allowance as of June 30, 2017 was reversed in the second quarter, with the remainder reversed during the second half of 2017.

In accordance with the ASC 740-270 guidance regarding accounting for income taxes at interim dates, the amount of the valuation allowance reversed at June 30, 2017 ($149.9 million, of which $141.9 million related to Germany and $8.0 million related to Belgium) relates to our change in judgment at that date regarding the realizability of the related deferred income tax asset as it relates to future years (i.e. 2018 and after). A change in judgment regarding the realizability of deferred tax assets as it relates to the current year is considered in determining the estimated annual effective tax rate for the year and is recognized throughout the year, including interim periods subsequent to the date of the change in judgment. Accordingly, our income tax benefit in 2017 includes an aggregate non-cash income tax benefit of $186.7 million related to the reversal of the German and Belgian valuation allowance, comprised of $12.7 million recognized in the first half of 2017 related to the utilization of a portion of both the German and Belgian NOLs during such period, $149.9 million related to the portion of the valuation allowance reversed as of June 30, 2017 and $24.1 million recognized in the second half of 2017 related to the utilization of a portion of both the German and Belgian NOLs during such period. In addition, our deferred income tax asset valuation allowance increased $13.7 million in 2017 as a result of changes in currency exchange rates, which increase was recognized as part of other comprehensive income (loss).

On December 22, 2017, the 2017 Tax Act was enacted into law. This new tax legislation, among other changes, (i) reduces the U.S. Federal corporate income tax rate from 35% to 21% effective January 1, 2018; (ii) implements a territorial tax system and imposes a one-time repatriation tax (Transition Tax) on the deemed repatriation of the post-1986 undistributed earnings of non-U.S. subsidiaries accumulated up through December 31, 2017, regardless of whether such earnings are repatriated; (iii) eliminates U.S. tax on future non-U.S. earnings (subject to certain exceptions); (iv) eliminates the domestic production activities deduction beginning in 2018; (v) eliminates the net operating loss carryback and provides for an indefinite carryforward period subject to an 80% annual usage limitation; (vi) allows for the expensing of certain capital expenditures; (vii) imposes a tax on global intangible low-tax income; and (viii) imposes a base erosion anti-abuse tax. Following the enactment of the 2017 Tax Act, the Securities and Exchange Commission issued Staff Accounting Bulletin (SAB) 118 to provide guidance on the accounting and reporting impacts of the 2017 Tax Act. SAB 118 states that companies should account for changes related to the 2017

Tax Act in the period of enactment if all information is available and the accounting can be completed. In situations where companies do not have enough information to complete the accounting in the period of enactment, a company must either 1) record an estimated provisional amount if the impact of the change can be reasonably estimated; or 2) continue to apply the accounting guidance that was in effect immediately prior to the 2017 Tax Act if the impact of the change cannot be reasonably estimated. If estimated provisional amounts are recorded, SAB 118 provides a measurement period of no longer than one year during which companies should adjust those amounts as additional information becomes available.

Under GAAP, we are required to revalue our net deferred tax asset associated with our U.S. net deductible temporary differences in the period in which the new tax legislation is enacted based on deferred tax balances as of the enactment date, to reflect the effect of such reduction in the corporate income tax rate. Our temporary differences as of December 31, 2017 are not materially different from our temporary differences as of the enactment date, accordingly revaluation of our net deductible temporary differences is based on our net deferred tax assets as of December 31, 2017. Such revaluation is recognized in continuing operations and is not material to us.

Prior to the enactment of the 2017 Tax Act, the undistributed earnings of our European subsidiaries were deemed to be permanently reinvested (we had not made a similar determination with respect to the undistributed earnings of our Canadian subsidiary). Pursuant to the Transition Tax provisions imposing a one-time repatriation tax on post-1986 undistributed earnings, we recognized a provisional current income tax expense of $76.2 million in the fourth quarter of 2017. We will elect to pay such tax over an eight year period beginning in 2018, including approximately $6.1 million which will be paid in 2018 and is netted with our current receivables from affiliates (income taxes receivable from Valhi) classified as a current asset in our Consolidated Balance Sheet, and the remaining $70.1 million is recorded as a noncurrent payable to affiliate (income taxes payable to Valhi) classified as a noncurrent liability in our Consolidated Balance Sheet and will be paid in increments over the remainder of the eight year period. The amounts recorded as of December 31, 2017 as a result of the 2017 Tax Act represent estimates based on information currently available and, in accordance with the guidance in SAB 118, these amounts are provisional and subject to adjustment as we obtain additional information and complete our analysis in 2018. If the underlying guidance or tax laws change and such change impacts the income tax effects of the new legislation recognized at December 31, 2017 or we determine we have additional tax liabilities under other provisions of the 2017 Tax Act, including the tax on global intangible low-tax income and the base erosion anti-abuse tax, we will recognize an adjustment in the reporting period within the measurement period in which such adjustment is determined. Such measurement period ends December 22, 2018 pursuant to the guidance under SAB 118.

Prior to the enactment of the 2017 Tax Act, the undistributed earnings of our European subsidiaries were deemed to be permanently reinvested (we had not made a similar determination with respect to the undistributed earnings of our Canadian subsidiary). As a result of the implementation of a territorial tax system under the 2017 Tax Act, effective January 1, 2018 and the Transition Tax which in effect taxes the post-1986 undistributed earnings of our non-U.S. subsidiaries accumulated up through December 31, 2017, we have now determined that all of the post-1986 undistributed earnings of our European subsidiaries are not permanently reinvested (we had previously concluded that all of the undistributed earnings of our Canadian subsidiary are not permanently reinvested). Accordingly, in the fourth quarter of 2017 we have recognized an aggregate provisional non-cash deferred income tax expense of $4.5 million for the estimated U.S. state and non-U.S. income tax and withholding tax liability attributable to all of such previously-considered permanently reinvested undistributed earnings. We are currently reviewing certain other provisions under the 2017 Tax Act that would impact our determination of the aggregate temporary differences attributable to our investments in our non-U.S. subsidiaries. We continue to assert indefinite reinvestment as it relates to our outside basis differences attributable to our investments in our non-U.S. subsidiaries, other than post-1986 undistributed earnings of our European subsidiaries and all undistributed earnings of our Canadian subsidiary. It is possible that a change in facts and circumstances, such as a change in the expectation regarding future dispositions or acquisitions or a change in tax law, could result in a conclusion that some or all of such investments are no longer permanently reinvested. It is currently not practical for us to determine the amount of the unrecognized deferred income tax liability related to our investments in our non-U.S. subsidiaries due to the complexities associated with our organizational structure, changes in the 2017 Tax Act and the U.S. taxation of such investments in the states in which we operate.

Certain U.S. deferred tax attributes of one of our non-U.S. subsidiaries, which subsidiary is treated as a dual resident for U.S. income tax purposes, were subject to various limitations. As a result, we had previously concluded that a deferred income tax asset valuation allowance was required to be recognized with respect to such subsidiary's U.S. net deferred income tax asset because such assets did not meet the more-likely-than-not recognition criteria primarily due to (i) the various limitations regarding use of such attributes due to the dual residency; (ii) the dual resident subsidiary had a history of losses and absent distributions from our non-U.S. subsidiaries, which were previously not determinable, such subsidiary was expected to continue to generate losses; and (iii) a limited NOL carryforward period for U.S. tax purposes. Because we had concluded the likelihood of realization of such subsidiary's net deferred income tax asset was remote, we had not previously disclosed such valuation allowance or the associated amount of the subsidiary's net deferred income tax assets (exclusive of such valuation allowance). Primarily due to changes enacted under the 2017 Tax Act, we have concluded we now have sufficient positive evidence under the more-likely-than-not recognition criteria to support reversal of the entire valuation allowance related to such subsidiary's net deferred income tax asset, which evidence included, among other things, (i) the inclusion under Transition Tax provisions of significant earnings for U.S. income tax purposes which significantly and positively impacts the ability of such deferred tax attributes to be utilized by us; (ii) the indefinite carryforward period for U.S. net operating losses incurred after December 31, 2017; (iii) an expectation of continued future profitability for our U.S. operations; and (iv) a positive taxable income basket for U.S. tax purposes in excess of the U.S. deferred tax asset related to the U.S. attributes of such subsidiary. Accordingly, in the fourth quarter we recognized an $18.7 million non-cash deferred income tax benefit as a result of the reversal of such valuation allowance.

Our consolidated effective income tax rate in 2018 is expected to be higher than the U.S. federal statutory rate of 21% because the income tax rates applicable to our earnings (losses) of our non-U.S. operations will be higher than the income tax rates applicable to our U.S. operations.

Comparison of 2016 to 2015 Results of Operations

	Year ended December 31,			
	2015		2016	
	(Dollars in millions)			
Net sales	$1,348.8	100%	$1,364.3	100 %
Cost of sales	1,156.5	86	1,107.3	81
Gross margin	192.3	14	257.0	19
Other operating income and expense, net	193.4	14	175.9	13
Income (loss) from operations	$(1.1)	- %	$81.1	6 %

	2015	2016	% Change
TiO_2 operating statistics:			
Sales volumes*	525	559	7 %
Production volumes*	528	546	3 %
Percentage change in net sales:			
TiO_2 product pricing			(3)%
TiO_2 sales volumes			7
TiO_2 product mix/other			(2)
Changes in currency exchange rates			(1)
Total			1 %

* Thousands of metric tons

Net sales – Our net sales increased 1% or $15.5 million in 2016 compared to 2015, primarily due to the net effect of a 7% increase in sales volumes (which increased net sales by approximately $94 million) and a 3% decrease in average TiO_2 selling prices (which decreased net sales by approximately $40 million). TiO_2 selling prices will increase or decrease generally as a result of competitive market pressures, changes in the relative level of supply and demand as well as changes in raw material and other manufacturing costs.

Our sales volumes increased primarily due to higher sales in North American, European and export markets partially offset by lower sales in the Latin American market. Our sales volumes in 2016 set a new overall record for a full-year period. We estimate that changes in currency exchange rates decreased our net sales by approximately $9 million, or 1%, as compared to 2015.

Cost of sales and gross margin – Cost of sales decreased $49.2 million or 4% in 2016 compared to 2015 due to the net impact of lower raw materials and other production costs of approximately $76 million (primarily caused by the lower third-party feedstock ore costs, as discussed above), approximately $4.6 million in savings resulting from workforce reductions implemented in 2015, a 3% increase in TiO_2 production volumes and currency fluctuations (primarily the euro). In addition, cost of sales in 2015 includes approximately $10.8 million of severance costs related to the workforce reduction plan.

Our cost of sales as a percentage of net sales decreased to 81% in 2016 compared to 86% in 2015, as the favorable effects of lower raw materials and other production costs, efficiencies related to higher production volumes, and the impact of the $10.8 million workforce reduction charge classified in cost of sales in 2015 and associated cost savings from such workforce reduction realized in 2016 more than offset the unfavorable impact of lower average selling prices, as discussed above.

Gross margin as a percentage of net sales increased to 19% in 2016 compared to 14% in 2015. As discussed and quantified above, our gross margin increased primarily due to the net effect of lower selling prices, lower raw materials and other production costs (including 2015 workforce reduction charges of $10.8 million classified as cost of sales and the associated $4.6 million of cost savings from such workforce reduction realized in 2016), higher sales volumes and higher production volumes.

Other operating income and expense, net – Other operating income and expense, net in 2016 was $175.9 million, a decrease of $17.5 million compared to 2015. Other operating income and expense, net in 2015 included $10.9 million of severance costs related to workforce reductions classified in selling, general and administrative expense. Other operating income and expense, net in 2016 includes the favorable impact of approximately $5.6 million in cost savings realized from the workforce reductions implemented in 2015 along with income aggregating $4.3 million related to insurance settlement gains from two separate business interruption claims. Selling, general and administrative expenses were approximately 13% of net sales in 2016 and 2015.

Income (loss) from operations – Income from operations increased by $82.2 million, from a loss from operations of $1.1 million in 2015 to income from operations of $81.1 million in 2016. Income (loss) from operations as a percentage of net sales increased to 6% in 2016 from less than 1% in 2015. This increase was driven by the increase in gross margin, discussed above, as well as the impact of the $10.9 million 2015 workforce reduction charge classified in selling, general and administrative expense and the associated cost savings from such workforce reductions realized in 2016 of $5.6 million, and the income aggregating $4.3 million related to insurance settlement gains from two separate business interruption claims. We estimate that changes in currency exchange rates increased income from operations by approximately $14 million in 2016 as compared to 2015.

Other non-operating income (expense) – We recognized a $12.0 million pre-tax impairment charge in the third quarter of 2015 due to other-than-temporary impairment on our investment in a marketable equity security available for sale. See Note 6 to our Consolidated Financial Statements.

Interest expense increased $2.0 million from $18.5 million in 2015 to $20.5 million in 2016 primarily due to the interest rate swap contract which was effective September 30, 2015 and higher average debt levels in 2016. See Note 8 to our Consolidated Financial Statements.

Income tax expense – We recognized income tax expense of $17.9 million in 2016 compared to income tax expense of $142.8 million in 2015. As discussed above, our income tax expense in 2015 includes an aggregate non-cash deferred income tax expense of $159.0 million related to the recognition of a deferred income tax asset valuation for our German and Belgian operations (mostly recognized in the second quarter), while our income tax expense in 2016 includes an aggregate $2.2 million non-cash tax benefit as the result of a net decrease in such deferred income tax valuation allowance. Our earnings are subject to income tax in various U.S. and non-U.S. jurisdictions, and the income tax rates applicable to our pre-tax earnings (losses) of our non-U.S. operations is generally lower than the income tax rates applicable to our U.S. operations. Our income tax expense in 2016 includes a $3.4 million current income tax benefit related to the execution and finalization of an Advance Pricing Agreement between the U.S. and Canada. Excluding the effect of any increase or decrease in our deferred income tax asset valuation allowance, we would generally expect our overall effective tax rate to be lower than the U.S. federal statutory rate of 35% primarily because of our non-U.S. operations. Our effective income tax rate in 2015, excluding the impact of the deferred income tax asset valuation allowances we recognized, was higher than the U.S. federal statutory tax rate of 35%, primarily due to a current U.S. income tax benefit attributable to current year losses of one of our non-U.S. subsidiaries. Our effective income tax rate in 2016, excluding the impact of the reduction in our deferred income tax asset valuation allowances we recognized and the change to our reserve for uncertain tax positions, was lower than the U.S. federal statutory rate of 35% primarily due to the change to prior year tax disclosed above. Excluding the effect of any increase or decrease in our deferred income tax asset valuation allowance or changes in our reserve for uncertain tax positions, we would generally expect our overall effective tax rate to be lower than the U.S. federal statutory rate of 35% primarily because of our non-U.S. operations. See Note 14 to our Consolidated Financial Statements for a tabular reconciliation of our statutory income tax provision to our actual tax provision.

Effects of currency exchange rates

We have substantial operations and assets located outside the United States (primarily in Germany, Belgium, Norway and Canada). The majority of our sales from non-U.S. operations are denominated in currencies other than the U.S. dollar, principally the euro, other major European currencies and the Canadian dollar. A portion of our sales generated from our non-U.S. operations is denominated in the U.S. dollar (and consequently our non-U.S. operations will generally hold U.S. dollars from time to time). Certain raw materials used worldwide, primarily titanium-containing feedstocks, are purchased primarily in U.S. dollars, while labor and other production costs are purchased primarily in local currencies. Consequently, the translated U.S. dollar value of our non-U.S. sales and operating results are subject to currency exchange rate fluctuations which may favorably or unfavorably impact reported earnings and may affect the comparability of period-to-period operating results. In addition to the impact of the translation of sales and expenses over time, our non-U.S. operations also generate currency transaction gains and losses which primarily relate to (i) the difference between the currency exchange rates in effect when non-local currency sales or operating costs (primarily U.S. dollar denominated) are initially accrued and when such amounts are settled with the non-local currency, (ii) changes in currency exchange rates during time periods when our non-U.S. operations are holding non-local currency (primarily U.S. dollars), and (iii) relative changes in the aggregate fair value of currency forward contracts held from time to time. As discussed in Note 18 to our Consolidated Financial Statements, we periodically use currency forward contracts to manage a portion of our currency exchange risk, and relative changes in the aggregate fair value of any currency forward contracts we hold from time to time serves in part to mitigate the currency transaction gains or losses we would otherwise recognize from the first two items described above.

Overall, we estimate that fluctuations in currency exchange rates had the following effects on our sales and income from operations for the periods indicated.

Impact of changes in currency exchange rates - 2017 vs. 2016

	Transaction gains/(losses) recognized			Translation gain/loss- impact of rate changes	Total currency impact 2017 vs. 2016
	2016	2017	Change		
			(In millions)		
Impact on:					
Net sales	$-	$ -	$ -	$ 16	$ 16
Income from operations	6	(8)	(14)	(4)	(18)

The $16 million increase in net sales (translation gain) was caused primarily by a weakening of the U.S. dollar relative to the euro (mostly in the fourth quarter), as our euro-denominated sales were translated into more U.S. dollars in 2017 as compared to 2016. The weakening of the U.S. dollar relative to the Canadian dollar and the Norwegian krone in 2017 did not have a significant effect on the reported amount of our net sales, as a substantial portion of the sales generated by our Canadian and Norwegian operations are denominated in the U.S. dollar.

The $18 million decrease in income from operations was comprised of the following:

- Approximately $14 million from net currency transaction losses caused by relative changes in currency exchange rates at each applicable balance sheet date between the U.S. dollar and the euro, Canadian dollar and the Norwegian krone, which causes increases or decreases, as applicable, in U.S. dollar-denominated receivables and payables and U.S. dollar currency held by our non-U.S. operations, and

- Approximately $4 million from net currency translation losses primarily caused by a weakening of the U.S. dollar relative to the Canadian dollar, as its local currency-denominated operating costs were translated into more U.S. dollars in 2017 as compared to 2016, and such translation, as it related to the U.S. dollar relative to the euro, had a nominal effect on income from operations in 2017 as compared to 2016.

Impact of changes in currency exchange rates - 2016 vs. 2015

	Transaction gains/(losses) recognized 2015	2016	Change	Translation gain/loss- impact of rate changes	Total currency impact 2016 vs. 2015
			(In millions)		
Impact on:					
Net sales	$ -	$ -	$ -	$ (9)	$ (9)
Income from operations	-	6	6	8	14

The $9 million reduction in net sales (translation loss) was caused primarily by a strengthening of the U.S. dollar relative to the euro, as our euro-denominated sales were translated into fewer U.S. dollars in 2016 as compared to 2015. The strengthening of the U.S. dollar relative to the Canadian dollar and the Norwegian krone in 2016 did not have a significant effect on the reported amount of our net sales, as a substantial portion of the sales generated by our Canadian and Norwegian operations are denominated in the U.S. dollar.

The $14 million increase in income from operations was comprised of the following:

- Approximately $6 million from net currency transaction gains caused primarily by a strengthening of the U.S. dollar relative to the euro, Norwegian krone and Canadian dollar, as U.S. dollar-denominated receivables and U.S. dollar currency held by our non-U.S. operations became equivalent to a greater amount of local currency in 2016 as compared to 2015, and
- Approximately $8 million from net currency translation gains caused primarily by a strengthening of the U.S. dollar relative to the Canadian dollar and the Norwegian krone, as their local currency-denominated operating costs were translated into fewer U.S. dollars in 2016 as compared to 2015, (and such translation, as it related to the U.S. dollar relative to the euro, had a negative effect on income from operations in 2016 as compared to 2015, as the negative impact of the stronger U.S. dollar on euro-denominated sales more than offset the favorable effect of euro-denominated operating costs being translated into fewer U.S. dollars in 2016 compared to 2015).

Outlook

During 2017 we operated our production facilities at full practical capacity compared to 98% of practical capacity in 2016. We expect our production volumes in 2018 to be slightly lower as compared to the record 2017 production volumes. Assuming current global economic conditions continue and based on anticipated production levels, we expect our 2018 sales volumes to be slightly lower as compared to record 2017 sales volumes. We will continue to monitor current and anticipated near-term customer demand levels and align our production and inventories accordingly.

The cost of third-party feedstock ore we purchased in 2017 was slightly higher as compared to 2016, and such higher cost feedstock ore began to be reflected in our results of operations in the third quarter of 2017 and continued through the fourth quarter of 2017. Consequently, our cost of sales per metric ton of TiO_2 sold in 2017 was slightly higher as compared to our cost of sales per metric ton of TiO_2 sold in 2016 (excluding the effect of changes in currency exchange rates). We expect our cost of sales per metric ton of TiO_2 sold in 2018 will be higher than our per-metric ton cost in 2017 primarily due to higher feedstock costs.

We started 2017 with average selling prices 11% higher than the beginning of 2016, and average selling prices increased by an additional 27% during the full year of 2017. Industry data indicates that overall TiO_2 inventory held by producers declined significantly during 2016 and remained at low levels throughout 2017. With the strong sales volumes experienced in 2017, we continue to see evidence of strong demand for our TiO_2 products across nearly all segments.

Overall, we expect our sales in 2018 will be higher as compared to 2017, principally as a result of expected higher average selling prices, and we expect our income from operations in 2018 will be higher as compared to 2017, principally as a result of expected higher average selling prices in 2018 as compared to 2017, partially offset by higher raw material costs (principally feedstock ore). However, we expect our net income in 2018 will be lower as compared to 2017, as the favorable impact of higher expected income from operations in 2018 would be more than offset by the favorable impact of the aggregate net income tax benefit of $136.5 million we recognized in 2017.

Due to the constraints of high capital costs and extended lead time associated with adding significant new TiO_2 production capacity, especially for premium grades of TiO_2 products produced from the chloride process, we believe increased and sustained profit margins will be necessary to financially justify major expansions of TiO_2 production capacity required to meet expected future growth in demand. Any major expansion of TiO_2 production capacity, if announced, would take several years before such production would become available to meet future growth in demand.

Our expectations for our future operating results are based upon a number of factors beyond our control, including worldwide growth of gross domestic product, competition in the marketplace, continued operation of competitors, unexpected or earlier-than-expected capacity additions or reductions and technological advances. If actual developments differ from our expectations, our results of operations could be unfavorably affected.

Assumptions on Defined Benefit Plans and OPEB Plans

Defined benefit pension plans

We maintain various defined benefit pension plans in the U.S., Europe and Canada. See Note 10 to our Consolidated Financial Statements.

Under defined benefit pension plan accounting, defined benefit pension plan expense, pension assets and accrued pension costs are each recognized based on certain actuarial assumptions. These assumptions are principally the assumed discount rate, the assumed long-term rate of return on plan assets and the assumed increase in future compensation levels. We recognize the full funded status of our defined benefit pension plans as either an asset (for overfunded plans) or a liability (for underfunded plans) in our Consolidated Balance Sheet.

We recognized consolidated defined benefit pension plan expense of $23.4 million in 2015, $22.0 million in 2016 and $28.9 million in 2017. Certain non-U.S. employees are covered by plans in their respective countries, principally in Germany, Canada and Norway. Participation in the defined benefit pension plan in Germany was closed to new participants effective in 2005. German employees hired beginning in 2005 participate in a new plan in which the retirement benefit is based upon the amount of employee and employer contributions to the plan, but for which in accordance with German law the employer guarantees a minimum rate of return on invested assets and a guaranteed indexed lifetime benefit payment after retirement based on the participant's account balance at the time of retirement. In accordance with GAAP, the new pension plan is accounted for as a defined benefit plan, principally because of such guaranteed minimum rate of return and guaranteed lifetime benefit payment. Participation in the defined benefit plan in Canada with respect to hourly and salaried workers was closed to new participants in December 2013 and 2014, respectively, and existing hourly and salaried plan participants will no longer accrue additional defined pension benefits after December 2013 and 2014, respectively. Our U.S. plan was closed to new participants in 1996, and existing participants no longer accrued any additional benefits after that date. The amount of funding requirements for these defined benefit pension plans is generally based upon applicable regulations (such as ERISA in the U.S.) and will generally differ from pension expense for financial reporting purposes. We made contributions to all of our plans which aggregated $17.2 million in 2015, $15.5 million in 2016 and $16.2 million in 2017.

The discount rates we use for determining defined benefit pension expense and the related pension obligations are based on current interest rates earned on long-term bonds that receive one of the two highest ratings given by recognized rating agencies in the applicable country where the defined benefit pension benefits are being paid. In addition, we receive third-party advice about appropriate discount rates and these advisors may in some cases use their own market indices. We adjust these discount rates as of each December 31 valuation date to reflect then-current interest rates on such long-term bonds. We use these discount rates to determine the actuarial present value of the pension obligations as of December 31 of that year. We also use these discount rates to determine the interest component of defined benefit pension expense for the following year.

At December 31, 2017, approximately 70%, 17%, 8% and 3% of the projected benefit obligations related to our plans in Germany, Canada, Norway and the U.S., respectively. We use several different discount rate assumptions in determining our consolidated defined benefit pension plan obligation and expense. This is because we maintain defined benefit pension plans in several different countries in Europe and North America and the interest rate environment differs from country to country.

We used the following discount rates for our defined benefit pension plans:

	Discount rates used for:		
	Obligations at December 31, 2015 and expense in 2016	Obligations at December 31, 2016 and expense in 2017	Obligations at December 31, 2017 and expense in 2018
Germany	2.3%	1.8%	1.8%
Canada	3.9%	3.7%	3.3%
Norway	2.8%	2.5%	2.5%
U.S.	4.1%	3.9%	3.5%

The assumed long-term rate of return on plan assets represents the estimated average rate of earnings expected to be earned on the funds invested or to be invested in the plans' assets provided to fund the benefit payments inherent in the projected benefit obligations. Unlike the discount rate, which is adjusted each year based on changes in current long-term interest rates, the assumed long-term rate of return on plan assets will not necessarily change based upon the actual short-term performance of the plan assets in any given year. Defined benefit pension expense each year is based upon the assumed long-term rate of return on plan assets for each plan, the actual fair value of the plan assets as of the beginning of the year and an estimate of the amount of contributions to and distributions from the plan during the year. Differences between the expected return on plan assets for a given year and the actual return are deferred and amortized over future periods based either upon the expected average remaining service life of the active plan participants (for plans for which benefits are still being earned by active employees) or the average remaining life expectancy of the inactive participants (for plans for which benefits are not still being earned by active employees).

At December 31, 2017, approximately 58%, 24%, 12% and 3% of the plan assets related to our plans in Germany, Canada, Norway and the U.S., respectively. We use several different long-term rates of return on plan asset assumptions in determining our consolidated defined benefit pension plan expense. This is because the plan assets in different countries are invested in a different mix of investments and the long-term rates of return for different investments differ from country to country.

In determining the expected long-term rate of return on plan asset assumptions, we consider the long-term asset mix (e.g. equity vs. fixed income) for the assets for each of our plans and the expected long-term rates of return for such asset components. In addition, we receive third-party advice about appropriate long-term rates of return. All of the assets of our U.S. plan are invested in the Combined Master Retirement Trust (CMRT), a collective investment trust sponsored by Contran to permit the collective investment by certain master trusts which fund certain employee benefits sponsored by Contran and certain of its affiliates, including us. Such assumed asset mixes are discussed in Note 10 to our Consolidated Financial Statements.

Our pension plan weighted average asset allocations by asset category were as follows:

	December 31, 2017			
	Germany	Canada	Norway	CMRT
Equity securities and limited partnerships	20 %	23 %	12 %	62 %
Fixed income securities	69	77	51	31
Real estate	9	-	9	-
Other	2	-	28	7
Total	100 %	100 %	100 %	100 %

	December 31, 2016			
	Germany	Canada	Norway	CMRT
Equity securities and limited partnerships	20 %	37 %	12 %	58 %
Fixed income securities	71	63	59	36
Real estate	8	-	9	-
Other	1	-	20	6
Total	100 %	100 %	100 %	100 %

We regularly review our actual asset allocation for each non-US plan and will periodically rebalance the investments in each plan to more accurately reflect the targeted allocation when considered appropriate. The CMRT trustee and investment committee do not maintain a specific target asset allocation in order to achieve their objectives, but instead they periodically change the asset mix of the CMRT based upon, among other things, advice they receive from third-party advisors and their expectations regarding potential returns for various investment alternatives and what asset mix will generate the greatest overall return.

Our assumed long-term rates of return on plan assets for 2015, 2016 and 2017 were as follows:

	2015	2016	2017
Germany	4.3 %	3.5 %	1.3 %
Canada	5.8 %	5.2 %	4.3 %
Norway	3.8 %	3.3 %	3.5 %
U.S.	7.5 %	7.5 %	7.5 %

Our long-term rate of return on plan asset assumptions in 2018 used for purposes of determining our 2018 defined benefit pension plan expense for Germany, Canada, Norway and the U.S. are 2.0%, 4.2%, 4.0% and 7.5%, respectively.

To the extent that a plan's particular pension benefit formula calculates the pension benefit in whole or in part based upon future compensation levels, the projected benefit obligations and the pension expense will be based in part upon expected increases in future compensation levels. For all of our plans for which the benefit formula is so calculated, we generally base the assumed expected increase in future compensation levels upon average long-term inflation rates for the applicable country.

In addition to the actuarial assumptions discussed above, the amount of recognized defined benefit pension expense and the amount of net pension asset and net pension liability will vary based upon relative changes in currency exchange rates.

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A reduction in the assumed discount rate generally results in an actuarial loss, as the actuarially-determined present value of estimated future benefit payments will increase. Conversely, an increase in the assumed discount rate generally results in an actuarial gain. In addition, an actual return on plan assets for a given year that is greater than the assumed return on plan assets results in an actuarial gain, while an actual return on plan assets that is less than the assumed return results in an actuarial loss. Other actual outcomes that differ from previous assumptions, such as individuals living longer or shorter than assumed in mortality tables, which are also used to determine the actuarially-determined present value of estimated future benefit payments, changes in such mortality table themselves or plan amendments, will also result in actuarial losses or gains. These amounts are recognized in other comprehensive income. In addition, any actuarial gains generated in future periods would reduce the negative amortization effect of any cumulative unrecognized actuarial losses, while any actuarial losses generated in future periods would reduce the favorable amortization effect of any cumulative unrecognized actuarial gains.

During 2017, all of our defined benefit pension plans generated a combined net actuarial gain of approximately $3.5 million. This actuarial gain resulted primarily from an actual return on plan assets during 2017 greater than the expected return, partially offset by a decrease in discount rates from December 31, 2016 to December 31, 2017.

Based on the actuarial assumptions described above and our current expectation for what actual average currency exchange rates will be during 2018, we expect our defined benefit pension expense will approximate $26.2 million in 2018. In comparison, we expect to be required to contribute approximately $17.0 million to such plans during 2018.

As noted above, defined benefit pension expense and the amounts recognized as accrued pension costs are based upon the actuarial assumptions discussed above. We believe all of the actuarial assumptions used are reasonable and appropriate. However, if we had lowered the assumed discount rate by 25 basis points for all plans as of December 31, 2017, our aggregate projected benefit obligations would have increased by approximately $30.0 million at that date and our defined benefit pension expense would be expected to increase by approximately $1.8 million during 2018. Similarly, if we lowered the assumed long-term rate of return on plan assets by 25 basis points for all of our plans, our defined benefit pension expense would be expected to increase by approximately $.9 million during 2018.

OPEB plans

Certain of our subsidiaries in the U.S. and Canada currently provide certain health care and life insurance benefits for eligible retired employees. Under other postretirement employee benefits (OPEB) accounting, OPEB expense and accrued OPEB costs are based on certain actuarial assumptions, principally the assumed discount rate and the assumed rate of increases in future health care costs. We recognize the full unfunded status of our OPEB plans as a liability. See Note 10 to the Consolidated Financial Statements for a discussion of the consolidated OPEB cost we recognized during the last three years, the amount of our accrued OPEB costs, and the associated actuarial assumptions utilized.

Based on such actuarial assumptions and our current expectation for what actual average currency exchange rates will be during 2018, we expect our consolidated OPEB expense will be nil in 2018. In comparison, we expect to be required to make approximately $.4 million of contributions to such plans during 2018.

We believe that all of the actuarial assumptions used are reasonable and appropriate. However, if we had lowered the assumed discount rate by 25 basis points for all plans as of December 31, 2017, our aggregate projected benefit obligations would have increased approximately $.2 million at that date and our OPEB cost during 2017 would not be materially impacted. Similarly, a one percent assumed change in health care trend rates for all plans would not materially impact our OPEB costs.

Operations outside the United States

As discussed above, we have substantial operations located outside the United States for which the functional currency is not the U.S. dollar. As a result, the reported amount of our assets and liabilities related to our non-U.S. operations, and therefore our consolidated net assets, will fluctuate based upon changes in currency exchange rates. At December 31, 2017, we had substantial net assets denominated in the euro, Canadian dollar and Norwegian krone.

LIQUIDITY AND CAPITAL RESOURCES

Consolidated cash flows

Operating activities

Trends in cash flows as a result of our operating activities (excluding the impact of significant asset dispositions and relative changes in assets and liabilities) are generally similar to trends in our earnings. In addition to the impact of the operating, investing and financing cash flows discussed below, changes in the amount of cash, cash equivalents and restricted cash we report from year to year can be impacted by changes in currency exchange rates, since a portion of our cash, cash equivalents and restricted cash is held by our non-U.S. subsidiaries. For example, during 2017, relative changes in currency exchange rates resulted in a $14.4 million increase in the reported amount of our cash, cash equivalents and restricted cash compared to a $5.3 million decrease in 2016 and an $8.5 million decrease in 2015.

Cash provided by operating activities was $276.1 million in 2017 compared to $89.6 million in 2016. This $186.5 million increase in the amount of cash provided was primarily due to the net effect of the following:

- higher income from operations in 2017 of $249.3 million,
- lower amount of net cash used associated with relative changes in our inventories, receivables, payables and accruals in 2017 of $18.7 million as compared to 2016,
- higher cash paid for taxes of $30.5 million due to our increased profitability, and
- higher contributions to our TiO_2 manufacturing joint venture in 2017 of $9.6 million, primarily due to the timing of the joint venture’s working capital needs.

Cash provided by operating activities was $89.6 million in 2016 compared to $52.1 million in 2015. This $37.5 million increase in the amount of cash provided was primarily due to the net effect of the following:

- higher income from operations in 2016 of $82.2 million,
- a higher amount of net cash used associated with relative changes in our inventories, receivables, payables and accruals in 2016 of $34.0 million as compared to 2015,
- lower net distributions from our TiO_2 manufacturing joint venture in 2016 of $2.9 million, primarily due to the timing of the joint venture’s working capital needs, and
- higher cash paid for income taxes in 2016 of $5.2 million due to our increased profitability.

Changes in working capital are affected by accounts receivable and inventory changes. As shown below:

- Our average days sales outstanding, or DSO, decreased slightly from December 31, 2016 to December 31, 2017, primarily as a result of relative changes in the timing of collections, and
- Our average days sales in inventory, or DSI, decreased from December 31, 2016 to December 31, 2017 primarily due to lower inventory volumes.

For comparative purposes, we have provided prior year numbers below.

	December 31, 2015	December 31, 2016	December 31, 2017
Days sales outstanding	66 days	65 days	63 days
Days sales in inventory	80 days	71 days	62 days

Investing activities

Our capital expenditures were $47.1 million in 2015, $53.0 million in 2016 and $64.3 million in 2017. Capital expenditures are primarily incurred to maintain and improve the cost effectiveness of our manufacturing facilities. In addition, approximately $37.5 million (including $19.4 million in 2017) of our capital expenditures during the past three years relates to the implementation of a new accounting and manufacturing software system. Our capital expenditures during the past three years include an aggregate of approximately $34.7 million (including $16.1 million in 2017) for our ongoing environmental protection and compliance programs.

In addition, during 2017 we loaned $18.2 million and subsequently collected $4.6 million under our unsecured revolving demand promissory note with Valhi.

Financing activities

During 2017, we:

- issued €400 million ($477.6 million) aggregate principal amount of 3.75% Senior Secured Notes on September 13, 2017,
- repaid the remaining balance of $340.4 million on our term loan,
- borrowed $253.9 million under our North American revolving credit facility and subsequently repaid $253.9 million, and
- paid quarterly dividends to stockholders aggregating $.60 per share ($69.5 million).

During 2016, we:

- borrowed $266.2 million under our revolving North American credit facility and subsequently repaid $266.2 million,
- repaid $3.5 million on our term loan, and
- paid quarterly dividends to stockholders aggregating $.60 per share ($69.5 million).

During 2015, we paid quarterly dividends aggregating $.60 per share ($69.5 million).

In February 2018, our board of directors declared a first quarter 2018 regular quarterly dividend of $.17 per share, payable March 15, 2018 to stockholders of record as of March 6, 2018.

Outstanding debt obligations and borrowing availability

At December 31, 2017, our consolidated debt comprised:

- €400 million aggregate outstanding on our KII 3.75% Senior Secured Notes ($471.1 million carrying amount, net of unamortized debt issuance costs) due in September 2025, and
- approximately $3.4 million of other indebtedness.

Our North American and European revolvers and our Senior Notes contain a number of covenants and restrictions which, among other things, restrict our ability to incur or guarantee additional debt, incur liens, pay dividends or make other restricted payments, or merge or consolidate with, or sell or transfer substantially all of our assets to, another entity, and contain other provisions and restrictive covenants customary in lending transactions of this type. Certain of our credit agreements contain provisions which could result in the acceleration of indebtedness prior to their stated maturity for reasons other than defaults for failure to comply with typical financial or payment covenants. For example, certain credit agreements allow the lender to accelerate the maturity of the indebtedness upon a change of control (as defined in the agreement) of the borrower. In addition, certain credit agreements could result in the acceleration of all or a portion of the indebtedness following a sale of assets outside the ordinary course of business. Our European revolving credit facility also requires the maintenance of certain financial ratios, and one of such requirements is based on the ratio of net debt to the last twelve months EBITDA of the borrowers. The terms of all of our debt instruments (including revolving lines of credit for which we have no outstanding borrowings at December 31, 2017) are discussed in Note 8 to our Consolidated Financial Statements. We are in compliance with all of our debt covenants at December 31, 2017. We believe that we will be able to continue to comply with the financial covenants contained in our credit facilities through their maturity.

In January 2017, we extended the maturity date of our North American revolving credit facility to the earlier of (i) January 2022 or (ii) 90 days prior to the maturity date of our then-existing term loan indebtedness (or 90 days prior to the maturity date of any indebtedness incurred in a permitted refinancing of such existing term loan indebtedness). The issuance of the Senior Notes was a permitted refinancing of our term loan, and accordingly, the maturity date of the North American revolving credit facility is January 30, 2022.

In September 2017, we extended the maturity date of our European revolving credit facility from September 2017 to September 2022 and reduced the maximum amount of this credit facility from €120 million to €90 million.

In addition to the outstanding indebtedness indicated above, at December 31, 2017 we had $98.2 million available for borrowing under our North American revolving credit facility. At December 31, 2017, based upon the last twelve months EBITDA and the net debt to EBITDA financial test for our European revolving credit facility, the full €90 million amount of the credit facility ($107.7 million) was available for borrowing. We could borrow all available amounts under each of our credit facilities without violating our existing debt covenants.

Our assets consist primarily of investments in operating subsidiaries, and our ability to service our obligations, including the Senior Notes, depends in part upon the distribution of earnings of our subsidiaries, whether in the form of dividends, advances or payments on account of intercompany obligations or otherwise. Our Senior Notes are collateralized by, among other things, a first priority lien on (i) 100% of the common stock or other ownership interests of each existing and future direct domestic subsidiary of KII and the guarantors, and (ii) 65% of the voting common stock or other ownership interests and 100% of the non-voting common stock or other ownership interests of each non-U.S. subsidiary that is directly owned by KII or any guarantor. Our North American revolving credit facility is collateralized by, among other things, a first priority lien on the borrower’s trade receivables and inventories. Our European revolving credit facility is collateralized by, among other things, the accounts receivable and inventories of the borrowers plus a limited pledge of all the other assets of the Belgian borrower. See Note 8 to our Consolidated Financial Statements.

Future cash requirements

Liquidity

Our primary source of liquidity on an ongoing basis is cash flows from operating activities which is generally used to (i) fund capital expenditures, (ii) repay any short-term indebtedness incurred for working capital purposes and (iii) provide for the payment of dividends. From time-to-time we will incur indebtedness, generally to (i) fund short-term working capital needs, (ii) refinance existing indebtedness or (iii) fund major capital expenditures or the acquisition of other assets outside the ordinary course of business. We will also from time-to-time sell assets outside the ordinary course of business and use the proceeds to (i) repay existing indebtedness, (ii) make investments in marketable and other securities, (iii) fund major capital expenditures or the acquisition of other assets outside the ordinary course of business or (iv) pay dividends.

The TiO_2 industry is cyclical, and changes in industry economic conditions significantly impact earnings and operating cash flows. Changes in TiO_2 pricing, production volumes and customer demand, among other things, could significantly affect our liquidity.

We routinely evaluate our liquidity requirements, alternative uses of capital, capital needs and availability of resources in view of, among other things, our dividend policy, our debt service, our capital expenditure requirements and estimated future operating cash flows. As a result of this process, we have in the past and may in the future seek to reduce, refinance, repurchase or restructure indebtedness, raise additional capital, repurchase shares of our common stock, modify our dividend policy, restructure ownership interests, sell interests in our subsidiaries or other assets, or take a combination of these steps or other steps to manage our liquidity and capital resources. Such activities have in the past and may in the future involve related companies. In the normal course of our business, we may investigate, evaluate, discuss and engage in acquisition, joint venture, strategic relationship and other business combination opportunities in the TiO_2 industry. In the event of any future acquisition or joint venture opportunity, we may consider using then-available liquidity, issuing our equity securities or incurring additional indebtedness.

Based upon our expectation for the TiO_2 industry and anticipated demands on cash resources, we expect to have sufficient liquidity to meet our short term obligations (defined as the twelve-month period ending December 31, 2018) and our long-term obligations (defined as the five-year period ending December 31, 2022, our time period for long-term budgeting). If actual developments differ from our expectations, our liquidity could be adversely affected.

Cash, cash equivalents, restricted cash and marketable securities

At December 31, 2017 we had:

	Held by U.S. entities	Non-U.S. entities	Total
	(In millions)		
Cash and cash equivalents	$155.0		

Receivables — Trade receivables are comprised primarily of amounts owed to the Company by clients and are presented net of an allowance for doubtful accounts of $5.9 and $9.3 at December 31, 2012 and 2011, respectively. Contracts with individual clients determine when receivables are due, generally within 30-60 days, and whether interest is accrued on late payments.

The allowance for doubtful accounts is the Company's best estimate of the amount of probable credit losses in the Company's existing accounts receivable. The Company regularly reviews the adequacy of its allowance for doubtful accounts. The Company determines the allowance based on historical write-off experience and current economic conditions and also considers factors such as customer credit, past transaction history with the customer and changes in customer payment terms when determining whether the collection of a receivable is reasonably assured. Account balances are charged off against the allowance after all means of collection have been exhausted and the potential for recovery is considered remote.

Property and Equipment — Property and equipment are stated at cost. Depreciation is based on the straight-line method over the estimated useful lives of the assets. Buildings are depreciated over a 30-year life, software over a three- to eight-year life and equipment generally over a three- to five-year life. Leasehold improvements are depreciated over the shorter of their estimated useful life or the remaining term of the associated lease.

The Company reviews property, plant and equipment asset groups for impairment whenever events or changes in circumstances indicate the carrying amount of an asset may not be recoverable. The Company monitors these changes and events on at least a quarterly basis. Examples of events or changes in circumstances could include, but are not limited to, a prolonged economic downturn, current period operating or cash flow losses combined with a history of losses or a forecast of continuing losses associated with the use of an asset group, or a current expectation that an asset group will be sold or disposed of before the end of its previously estimated useful life. Recoverability is based upon projections of anticipated future undiscounted cash flows associated with the use and eventual disposal of the property, plant and equipment asset groups, as well as specific appraisals in certain instances. Reviews occur at the lowest level for which identifiable cash flows are largely independent of cash flows associated with other property, plant and equipment asset groups. If the future undiscounted cash flows result in a value that is less than the carrying value, then the long-lived asset is considered impaired and a loss is recognized based on the amount by which the carrying amount exceeds the estimated fair value. Various factors that the Company uses in determining the impact of these assessments include the expected useful lives of long-lived assets and our ability to realize any undiscounted cash flows in excess of the carrying amounts of such asset groups, and are affected primarily by changes in the expected use of the assets, changes in technology or development of alternative assets, changes in economic conditions, changes in operating performance and changes in expected future cash flows. Because judgment is involved in determining the fair value of property, plant and equipment asset groups, there is risk that the carrying value of these assets may require adjustment in future periods.

Software Development Costs — Research and development expenditures are charged to expense as incurred. The development costs of software to be marketed are charged to expense until technological feasibility is established and capitalized thereafter, subject to assessment of realizability. Amortization of the capitalized amounts is computed using the greater of the sales ratio method or the straight-line method over a life of five years or less. The Company did not capitalize any software development costs during the periods reported.

Internal Use Software — The Company capitalizes certain expenditures for software that is purchased or internally developed for use in the business. During 2012, 2011, and 2010, internally developed software amounts capitalized were \$6.8, \$3.8 and \$5.6, respectively. Amortization of internal use software begins when the software is ready for service and continues on the straight-line method generally over a life of three years.

Goodwill and Other Intangibles — As discussed more fully in Note 6, goodwill is reviewed at the reporting unit level for impairment as of October 1 each year and at other times if events have occurred or circumstances exist that indicate the carrying value of goodwill may no longer be recoverable.

As a result of the adoption of Accounting Standards Update ("ASU") No. 2011-08 "Testing goodwill for impairment," effective January 1, 2012, we first assess a range of qualitative factors including, but not limited to, macroeconomic conditions, industry conditions, the competitive environment, changes in the market for our products and services, regulatory and political developments, entity specific factors such as strategies and financial performance, when evaluating potential for impairment of goodwill. If, after completing such assessment, it is determined more likely than not that the fair value of a reporting unit is less than its carrying value, we proceed to a two-step impairment test.

The first step compares the fair value of a reporting unit with its carrying amount, including the goodwill allocated to each reporting unit (Step 1). If the fair value of the reporting unit is in excess of the carrying value, the related goodwill is considered not to be impaired and no further analysis is necessary. If the carrying amount of the reporting unit exceeds the fair value, there is an indication of potential impairment and a second step of testing is performed to measure the amount of the impairment, if any, for that reporting unit.

When required, the second step compares the implied fair value of the reporting unit goodwill with the carrying amount of the reporting unit goodwill. The implied fair value of goodwill is determined in the same manner as the amount of goodwill recognized in a business combination, which is the excess of the fair value of the reporting unit determined in step one over the fair value of the net assets and identifiable intangibles as if the reporting unit were being acquired. Any excess of the carrying value of the reporting unit goodwill over the implied fair value of the reporting unit goodwill will be recorded as an impairment loss. An impairment charge recognized cannot exceed the amount of goodwill allocated to a reporting unit and cannot be reversed subsequently even if the fair value of the reporting unit recovers.

Fair value of the reporting unit is determined using a combination of the market approach and the income approach. Under the market approach, fair value is based on actual stock prices or transaction prices of comparable companies. The market approach requires significant judgment regarding the selection of comparable companies. Under the income approach, value is dependent on the present value of net cash flows to be derived from the ownership. The income approach requires significant judgment including estimates about future cash flows and discount rates. A combination of methodologies is used and weighted appropriately for reporting units with significant adverse changes in business climate.

Other intangibles, primarily customer relationship assets and trademarks, are amortized over a straight-line basis with lives ranging from four to twelve years and are evaluated periodically if events or circumstances indicate a possible inability to recover their carrying amounts.

Postemployment Benefits — The funded status of the Company's pension and other postretirement benefit plans is recognized in the Consolidated Balance Sheets. The funded status is measured as the difference between the fair value of plan assets and the benefit obligation at December 31, the measurement date. For defined benefit pension plans, the benefit obligation is the projected benefit obligation (PBO) and for the other postretirement benefit plans the benefit obligation is the accumulated postretirement benefit obligation (APBO). The PBO represents the actuarial present value of benefits expected to be paid upon retirement. For active plans, the present value reflects estimated future compensation levels. The APBO represents the actuarial present value of postretirement benefits attributed to employee services already rendered. The fair value of plan assets represents the current market value of assets held by an irrevocable trust fund for the sole benefit of participants. The measurement of the benefit obligation is based on the Company's estimates and actuarial valuations. These valuations reflect the terms of the plans and use participant-specific information such as compensation, age and years of service, as well as certain key assumptions that require significant judgment, including, but not limited to, estimates of discount rates, expected return on plan assets, rate of compensation increases, interest crediting rates and mortality rates. For additional information regarding plan assumptions and the current financial position of the pension and other postretirement plans, see Note 9.

The Company provides severance benefits to certain employees. The Company accrues the benefits when it becomes probable that such benefits will be paid and when sufficient information exists to make reasonable estimates of the amounts to be paid.

Government Grants — From time to time, the Company receives grants from local or state governments as an incentive to locate or retain operations in their jurisdictions. Depending on the arrangement, the grants are either received up-front or at the time the Company achieves the milestones set forth in the grant. The Company's policy is to record the grant funds received as deferred credit and to amortize the deferred credit as a reduction of cost of providing services and products sold or selling, general and administrative expense as the milestones are met over the term of the grant. The terms of the grants range from one to fifteen years.

Derivative Instruments — The Company's risk management strategy includes the use of derivative instruments to reduce the effects on its operating results and cash flows from fluctuations caused by volatility in currency exchange and interest rates. The Company currently uses only cash flow hedges. These instruments are hedges of forecasted transactions or of the variability of cash flows to be received or paid related to a recognized asset or liability. The Company generally enters into forward exchange contracts expiring within 36 months as hedges of anticipated cash flows denominated in foreign currencies. These contracts are entered into to protect against the risk that the eventual cash flows resulting from such transactions will be adversely affected by changes in exchange rates. In using derivative financial instruments to hedge exposures to changes in exchange rates, the Company exposes itself to counterparty credit risk.

All derivatives, including foreign currency exchange contracts, are recognized in the Consolidated Balance Sheets at fair value. Fair values for the Company's derivative financial instruments are based on quoted market prices of comparable instruments or, if none are available, on pricing models or formulas using current assumptions. On the date the derivative contract is entered into, the Company determines whether the derivative contract should be designated as a hedge. For derivatives that are designated as hedges, the Company further designates the hedge as either a fair value or cash flow hedge; all currently existing hedges have been designated as cash flow hedges. Changes in the fair value of derivatives that are highly effective and designated as fair value hedges would be recorded in the Consolidated Statements of Income along with the loss or gain on the hedged asset or liability. Changes in the fair value of derivatives that are highly effective and designated as cash flow hedges are reported as a component of Other Comprehensive Income (Loss) and reclassified into earnings in the same line-item associated with the forecasted transaction and in the same periods during which the hedged transaction impacts earnings. The Company formally documents all relationships between hedging instruments and hedged items, as well as its risk management objective and strategy for undertaking various hedging activities. This process includes linking all derivatives that are designated as fair value or cash flow hedges to specific assets and liabilities on the balance sheet or to forecasted transactions, respectively. The Company also formally assesses, both at the hedge's inception and on an ongoing basis, whether the derivatives that are used in hedging transactions are highly effective in offsetting changes in fair value or cash flows of hedged items. When it is determined that a derivative is not highly effective as a hedge or that it has ceased to be a highly effective hedge, the Company discontinues hedge accounting prospectively.

The Company also periodically enters into forward exchange contracts and options that are not designated as hedges. The purpose of the majority of these derivative instruments is to protect the Company against foreign currency exposure pertaining to receivables, payables and intercompany transactions that are denominated in currencies different from the functional currencies of the Company or the respective subsidiaries. The Company records changes in the fair value of these derivative instruments in the Consolidated Statements of Income within other income (expense), net.

Investments — Management determines the appropriate classification of securities at the time of purchase and re-evaluates such designation as of each balance sheet date. Currently, we classify all investment securities, reported within short-term investments in the Consolidated Balance Sheets, as trading. Trading securities are carried at fair value, with gains and losses, both realized and unrealized, reported in other income (expense), net in the Consolidated Statements of Income. The cost of securities sold is based upon the specific identification method. Interest and dividends on securities classified as trading is included in other income (expense), net.

Fair Value Measurements —The Company applies fair value accounting for all financial assets and liabilities and non-financial assets and liabilities that are recognized or disclosed at fair value in the consolidated financial statements on a recurring basis. The Company defines fair value as the price that would be received from selling an asset or paid to transfer a liability in an orderly transaction between market participants at the measurement date. When determining the fair value measurements for assets and liabilities, the Company considers the principal or most advantageous market in which the Company would transact and the market-based risk measurements or assumptions that market participants would use in pricing the asset or liability, such as inherent risk, transfer restrictions and credit risk.

New Accounting Pronouncements

In July 2012, the FASB issued ASU No. 2012-02 , "Intangibles - Goodwill and Other: Testing indefinite-lived intangible assets for impairment" (ASU 2012-02). The revised standard is intended to reduce the cost and complexity of testing indefinite-lived intangible assets other than goodwill for impairment by providing entities with an option to perform a qualitative assessment to determine whether further impairment testing is necessary. The approach is similar to the guidance in ASU 2011-08 finalized last year for goodwill impairment testing. ASU 2012-02 is effective for annual and interim impairment tests performed for fiscal years beginning after September 15, 2012 and early adoption is permitted. The Company adopted ASU 2012-02 effective January 1, 2013 and does not expect this pronouncement to have a material effect on the consolidated financial statements.

In September 2011, the FASB, issued ASU No. 2011-08, "Intangibles - Goodwill and Other: Testing goodwill for impairment" (ASU 2011-08). This ASU simplifies the goodwill impairment assessment by permitting a company to make a qualitative assessment of whether it is more likely than not that a reporting unit's fair value is less than its carrying amount before applying the two-step goodwill impairment test. If the conclusion is that it is more likely than not that the fair value of a reporting unit is less than its carrying amount, the company would be required to conduct the current two-step goodwill impairment test. Otherwise, it would not need to apply the two-step test. ASU 2011-08 is effective for annual and interim goodwill impairment tests performed for fiscal years beginning after December 15, 2011 and early adoption is permitted. The Company adopted ASU 2011-08 for its goodwill impairment test as of January 1, 2012, which did not have a material affect on the consolidated financial statements.

In May 2011, the FASB issued 2011-04, "Fair Value Measurement (Topic 820): Amendments to Achieve Common Fair Value Measurement and Disclosure Requirements in U.S. GAAP and IFRS" (ASU 2011-04). The adoption of ASU 2011-04 conforms the meaning of fair value between U.S. GAPP and International Financial Reporting Standards (IFRS) and improves consistency of disclosures relating to fair value. This ASU requires a reporting entity to provide quantitative information about the significant unobservable inputs used in the fair value measurements categorized within Level 3 of the fair value hierarchy. The amendments in this update are effective for annual periods beginning after December 31, 2011. The Company adopted ASU 2011-04 effective for the year ended December 31, 2012.

3. Divestitures and Discontinued Operations

Information Management

On May 16, 2012, the Company completed the sale of its Information Management line of business to NEC Corporation for $449.0 in cash. The Company recorded a gain of $99.8 pretax and $16.2 after tax in 2012. The sale of Information Management was a taxable transaction that resulted in $83.6 being recorded for the combined federal, state and foreign income tax obligation. The high effective tax rate is primarily due to a lower basis in net assets, including goodwill, for tax purposes compared to their book basis. The gain on sale included the elimination of $201.7 of goodwill and intangible assets.

The results of Information Management have been classified as discontinued operations for all periods presented. Certain costs previously allocated to the Information Management segment that do not qualify for discontinued operations accounting treatment are now reported as costs from continuing operations. Through the close of this transaction, these costs were $8.8, $23.6 and $28.4 for December 31, 2012, 2011 and 2010, respectively. The Company is taking actions to reduce these costs and expects transition services revenue from services provided to the buyer subsequent to completion of the sale to offset a significant portion of these costs. During 2012, we earned $13.8 in revenue under these transition services agreements. While the transition services agreements vary in duration up to

24 months depending on the type of service provided, our expectation is that we will substantially eliminate the underlying costs as the transition services are completed.

Summarized operating results of the Information Management business are as follows:

	Year Ended December 31,		
	2012	2011	2010
Revenue	$128.8	$328.8	$340.1
Income before tax - Information Management operations [(1)]	23.7	58.2	59.3
Gain on disposition [(2)]	99.8	—	—
Income before income taxes	123.5	58.2	59.3
Income tax expense:			
Expense related to Information Management operations	7.9	12.4	24.2
Expense related to gain on disposition	83.6	—	—
Income from discontinued operations, net of tax	$32.0	$45.8	$35.1

[(1)] Excludes costs previously allocated to Information Management that did not meet the criteria for presentation within discontinued operations of $8.8, $23.6 and $28.4 for December 31, 2012, 2011 and 2010, respectively.

[(2)] Includes $22.8 of transaction costs related to the sale for December 31, 2012.

The major classes of assets and liabilities that were included as part of the Information Management business and presented during these periods as held for sale were as follows:

	December 31,	
	2012	2011
Assets:		
Current assets	$—	$87.3
Property and equipment, net	—	21.5
Other assets	—	298.2
Total assets	$—	$407.0
Liabilities:		
Current liabilities	—	68.3
Other liabilities	—	51.7
Total liabilities	$—	$120.0

Cash flows generated from discontinued operations are presented separately in the Company's Consolidated Statements of Cash Flows.

Finance and Accounting outsourcing line of business (F&A)

In January 2011, the Company completed the sale of F&A for approximately $10.0. The gain on the sale amounted to $7.0 before tax, recorded within Other income (expense), net in the Consolidated Statements of Income, and $4.3 after tax in 2011. The gain on the sale included the elimination of $2.6 of goodwill and other intangible assets. The results of operations of F&A and the sale of F&A are not material to the Company's results of operations or financial condition and, therefore, are not reflected as discontinued operations for the periods presented.

HR Management

In June 2010, the Company substantially completed the sale of the HR Management line of business to NorthgateArinso, the Human Resource division of Northgate Information Solutions Limited, for approximately $93.0, net of working capital adjustments. The consideration received at closing consisted of approximately $78.0 in cash and a zero coupon note issued by NorthgateArinso in the principal amount of $15.0. The note is payable in increments of $5.0 on the second anniversary of closing, which the Company received during 2012, and $10.0 on the third anniversary of closing. In connection with and at the time of the completion of the sale in June 2010, the Company made cash payments of $28.2 for certain obligations of the HR Management business, the impact of which is included in cash flows from operating activities of discontinued operations.

The gain on the sale of HR Management recorded in 2010 was $35.2 pretax and $5.6 after tax. The sale of HR Management was a taxable transaction that resulted in $29.6 being recorded for the combined federal, state and foreign income taxes. Subsequently, in 2011, a $6.5 reduction to the tax on the gain on this transaction was recorded and has been reflected in discontinued operations. Also included in discontinued operations are tax benefits associated with changes in reserves for uncertain tax positions related to previously divested businesses. The gain on the sale included the elimination of $67.1 of goodwill and intangible assets.

As a result of the sale of the HR Management business, the operating results related to HR Management have been reflected as discontinued operations. For periods prior to June 2010, certain costs previously allocated to the HR Management segment are now included in continuing operations. These costs were $9.1 for December 31, 2010. Beginning June 1, 2010 the Company began earning transition services revenues for services provided to the buyer under agreements lasting from three to eighteen months. During 2011 and 2010, the Company earned $14.4 and $24.0, respectively, in revenue under these transition services agreements subsequent to the close of the sale. These revenues largely offset the related costs described above incurred subsequent to June 1, 2010.

Summarized operating results of the HR Management business are as follows:

	Year Ended December 31,		
	2012	2011	2010
Revenue	$—	$—	$107.2
Income before tax	—	—	25.3
Gain on disposition	—	—	35.2
Income before income taxes	—	—	60.5
Income tax (benefit) expense:			
(Benefit) expense related to operations and previously divested businesses	(40.4)	—	9.4
Expense (benefit) related to gain (loss) on disposition	—	(6.5)	29.6
Income from discontinued operations, net of tax	$40.4	$6.5	$21.5

4. Earnings (Loss) Per Share and Shareholder’s Equity

Earnings (Loss) per Share

The following is a reconciliation of the numerator and denominator of the basic and diluted earnings per share (EPS) computations:

Shares (in Millions)	Shares	Continuing Operations Net Income (Loss)	Per Share Amount	Discontinued Operations Net Income (Loss)	Per Share Amount	Total Per Share Amount
2012:						
Basic EPS	112.2	$28.2	$0.25	$72.4	$0.65	$0.90
Effect of dilutive securities:						
Stock-based compensation arrangements	2.1	—	—	—	(0.01)	(0.01)
2029 Convertible Debentures	2.8	—	(0.01)	—	(0.02)	(0.03)
Diluted EPS	117.1	$28.2	$0.24	$72.4	$0.62	$0.86
2011:						
Basic EPS	120.2	$282.5	$2.35	$52.3	$0.44	$2.79
Effect of dilutive securities:						
Stock-based compensation arrangements	2.1	—	(0.05)	—	(0.02)	(0.07)
2029 Convertible Debentures	0.6	—	—	—	—	—
Diluted EPS	122.9	$282.5	$2.30	$52.3	$0.42	$2.72
2010:						
Basic EPS	123.1	$(109.8)	$(0.89)	$56.6	$0.46	$(0.43)
Effect of dilutive securities:						
Stock-based compensation arrangements	—	—	—	—	—	—
2029 Convertible Debentures	—	—	—	—	—	—
Diluted EPS	123.1	$(109.8)	$(0.89)	$56.6	$0.46	$(0.43)

The diluted EPS calculation excludes the effect of 1.0, 3.7 and 5.8 of outstanding stock options for the years ended December 31, 2012, 2011 and 2010, respectively, because they are anti-dilutive. The calculation also excludes the effect of 2.2 restricted stock units and 0.2 shares related to the 2029 Convertible Debentures for the year ended December 31, 2010 because they are anti-dilutive. As the Company reported a Net Loss from Continuing Operations for the year ended December 31, 2010, diluted shares outstanding are equivalent to basic shares outstanding.

As described more fully in Note 7, the Company issued approximately $125.0 aggregate principal amount of 5.75% Junior Subordinated Convertible Debentures due 2029 (2029 Convertible Debentures) in 2009. The 2029 Convertible Debentures are convertible, subject to certain conditions, into shares of the Company's common stock at an initial conversion price of approximately $12.07 per share, or eighty-two and eighty-two hundredths shares per one thousand in principal amount of debentures. The conversion rate will be subject to adjustments for certain events outlined in the indenture governing the Debentures (the Indenture), including payment of dividends.

Shareholders’ Equity

The Company repurchased 12.3 shares during the year ended December 31, 2012 at an average price of $15.04 per share for a total of $184.4. Based upon timing of transactions, $3.6 of the shares repurchased had not settled as of December 31, 2012. These shares are excluded from outstanding shares at the end of the year and were settled in cash during the first quarter of 2013. There were 7.7 shares repurchased during the year ended December 31, 2011. Below is a summary of the Company’s share repurchases for the years ended December 31, 2012, 2011 and 2010:

2012	12.3	$184.4
2011	7.7	$96.8
2010	2.4	$24.9

At December 31, 2012, the Company has the authority to repurchase an additional $139.4 of outstanding common shares pursuant to current authorizations. In February 2013, the Company's Board of Directors approved an increase in remaining authorized share repurchases to $250.0 in the aggregate. The timing and terms of any future transactions will depend on a number of considerations including market conditions and our liquidity and limits that may be applicable under the covenants in our credit agreement.

The Company also repurchased 0.8 shares at an average price of $16.51 for aggregate proceeds of $14.0 subsequent to December 31, 2012 through February 21, 2013.

Preferred Shares

The Company is authorized to issue up to 5.0 preferred shares, of which 4.0 would have voting rights. At December 31, 2012 and 2011, there were no preferred shares outstanding.

Dividends

On May 8, 2012, the Company announced that its Board of Directors declared an initial cash dividend of $0.05 per share. The initial cash dividend was paid on July 6, 2012 to all shareholders of record as of June 22, 2012. On July 26, 2012, the Company announced that its Board of Directors declared a cash dividend of $0.05 per share, which was paid on October 5, 2012 to all shareholders of record as of September 21, 2012. On October 23, 2012, the Company announced that its Board of Directors declared a cash dividend of $0.05 per share, which was paid on January 4, 2013 to all shareholders of record as of December 21, 2012. On February 7, 2013, the Company announced that the Board of Directors raised the dividend 20 percent to $0.06 per share. The dividend payment of $0.06 is scheduled to be made on April 5, 2013 to shareholders of record at the close of business on March 22, 2013. The Board expects that future cash dividends will be paid on a quarterly basis. However, any decision to pay future cash dividends will be subject to Board approval, and will depend on the Company's future earnings, cash flow, financial condition, financial covenants and other relevant factors.

5. Investment in Cellular Partnerships

On July 1, 2011, the Company completed the sale of its 33.8% limited partnership interest in the Cincinnati SMSA Limited Partnership and its 45.0% limited partnership interest in the Cincinnati SMSA Tower Holdings LLC (collectively referred to as the Cellular Partnerships) to AT&T. AT&T is the general and a limited partner of both Cincinnati SMSA Limited Partnership and Cincinnati SMSA Tower Holdings LLC with partnership interests prior to Convergys' sale of its interests of approximately 66% and 53%, respectively. The Company received approximately $320.0 in cash proceeds upon closing. The Company's interests in the Cellular Partnerships did not qualify as discontinued operations; therefore, the gain has been reported within income from continuing operations and no reclassification of prior results is required. The gain on sale of its interests in the Cellular Partnerships was $265.0, or $171.8 net of tax. Prior to the sale, the Company accounted for its interest in the Cellular Partnerships under the equity method of accounting.

Since the Cellular Partnerships were organized as limited partnerships, the partners are responsible for income taxes applicable to their share of taxable income generated by the Cellular Partnerships. The net income of the Cincinnati SMSA Limited Partnership reflected in the following table does not include any provision for income taxes incurred by the partners.

	Year Ended December 31,		
	2012	2011	2010
Revenues	$—	$359.8	$653.5
Income from operations	—	61.2	124.1
Net income	—	60.8	120.9

The Company’s equity in earnings of equity method investees for the three years ended December 31, 2012, 2011 and 2010, respectively, is as follows:

	Year Ended December 31,		
	2012	2011	2010
Convergys’ equity in earnings of Cincinnati SMSA Limited Partnership	$—	$20.5	$46.1
	—	0.9	1.1

Convergys' equity in earnings of Cincinnati SMSA Tower Holdings LLC			
Transaction costs related to the sale of Convergys' interests in Cellular Partnerships	—	(1.2)	—
Gain on sale of Convergys' interests in Cellular Partnerships	—	265.0	—
Total earnings and gain from Cellular Partnerships, net	$—	$285.2	$47.2

6. Goodwill and Other Intangible and Long-Lived Assets

Goodwill

The Company tests goodwill for impairment annually as of October 1 and at other times if events have occurred or circumstances exist that indicate the carrying value of goodwill may no longer be recoverable. Goodwill impairment testing is performed at the reporting unit level, one level below the business segment. The Company's reporting units are Customer Management - Live Agents and Customer Management - Customer Interaction Technology (CIT).

Completion of the sale of the Information Management business qualified as a triggering event for an interim assessment of goodwill impairment during the second quarter of 2012 for the Company's Information Management and CIT reporting units. Based upon the purchase price for the Information Management business, the triggering event did not indicate an impairment of the Information Management reporting unit.

The sale of the Information Management business impacted the sale of certain products developed by the CIT reporting unit and co-marketed by CIT and the Information Management business. Due in part to this transition, the fair value of the CIT reporting unit was determined to be less than its carrying value. The conclusion of step two of the impairment analysis resulted in the impairment of the entire $46.0 goodwill balance of this reporting unit. The Company, therefore, recorded a $46.0 ($44.4 net of tax) goodwill impairment charge, included within the asset impairment caption in the accompanying Consolidated Statements of Income for the year ended December 31, 2012. Fair value was determined based on discounted cash flow analysis which contains significant unobservable inputs that fall within Level 3 of the fair value hierarchy under U.S. GAAP.

The most recent annual impairment test performed as of October 1, 2012, indicated that the fair value of the Customer Management - Live Agents reporting unit was substantially in excess of its carrying values. Despite that excess, however, impairment charges could still be required if a divestiture decision were made or other significant economic event were made or occurred with respect to the reporting units. Subsequent to our October 1, 2012 annual impairment test, no indications of an impairment were identified.

Below is a progression of goodwill for 2012 and 2011:

Balance at December 31, 2010	$624.1	
Acquisitions	—	
Impairment	—	
Foreign currency and other	(2.6	)
Balance at December 31, 2011	$621.5	
Acquisitions	—	
Impairment	(46.0	)
Foreign currency and other	2.2	
Balance at December 31, 2012	$577.7	

Accumulated goodwill impairment charges at December 31, 2012 and 2011 were $212.5 and $166.5, respectively.

Other Intangible Assets

The Company’s other intangible assets, primarily acquired through business combinations, are evaluated periodically if events or circumstances indicate a possible inability to recover their carrying amounts. No impairment charges were recognized in any period presented. As of December 31, 2012 and 2011, the Company’s other intangible assets consisted of the following:

2012:	Gross Carrying Amount	Accumulated Amortization		Net
Software (classified with Property, Plant & Equipment)	$41.3	$(26.5	)	$14.8
Trademarks	10.0	(10.0	)	—

Customer relationships and other intangibles	119.5	(100.6	) 18.9
Total	$170.8	$(137.1	) $33.7
2011			
Software (classified with Property, Plant & Equipment)	$41.3	$(21.8	) $19.5
Trademarks	10.0	(8.3	) 1.7
Customer relationships and other intangibles	119.5	(95.9	) 23.6
Total	$170.8	$(126.0	) $44.8

The intangible assets are being amortized using the following amortizable lives: 5 to 8 years for software, 4 years for trademarks and 7 to 12 years for customer relationships and other intangibles. The remaining weighted average depreciation period for software is 3.5 years. The remaining weighted average amortization period for trademarks, customer relationships and other intangibles is 6.3 years. Amortization of software is included within depreciation expense as the underlying assets are classified within property, plant and equipment.

Customer relationships, trademarks and other intangibles amortization expense was $6.3 for the year ended December 31, 2012 and the related estimated expense for the five subsequent fiscal years is as follows:

For the year ended 2013	$5
For the year ended 2014	3
For the year ended 2015	2
For the year ended 2016	2
For the year ended 2017	2
Thereafter	5

Long-Lived Assets

The Company evaluates its property, plant and equipment when events or circumstances indicate a possible inability to recover their carrying amounts. During 2012, the Company committed to a plan to sell its Corporate office facilities in Cincinnati, Ohio. At December 31, 2012, the property met the “Held-for-Sale” criteria set forth in U.S. GAAP, resulting in classification of $34.6 of property, plant and equipment as Held-for-Sale; the book value was adjusted to its fair value less costs to sell, resulting in an impairment charge of $42.6 ($27.0 after tax) recorded within the asset impairments caption in the accompanying Consolidated Statements of Income. Fair value was determined based on discounted cash flow analysis which contains significant unobservable inputs that fall within Level 3 of the fair value hierarchy under U.S. GAAP.

7. Debt

Debt consists of the following:

	At December 31,			
	2012		2011	
Revolving credit facility	$—		$—	
2029 Convertible Debentures	58.4		57.5	
Capital Lease Obligations	2.2		58.7	
Accounts Receivable Securitization	—		—	
Other	—		10.9	
Total debt	60.6		127.1	
Less current maturities	0.7		6.2	
Long-term debt	$59.9		$120.9	
Weighted average effective interest rates:				
Revolving credit facility	—	%	2.9	%
Accounts Receivable Securitization	—	%	2.2	%
2029 Convertible Debentures	6.5	%	6.4	%
Other	3.4	%	3.4	%

On March 11, 2011, the Company entered into a $300 Four-Year Competitive Advance and Revolving Credit Facility Agreement (the 2011 Credit Facility). The 2011 Credit Facility replaced the Company's $400 Five-Year Competitive Advance and Revolving Credit Facility (the Prior Credit Facility), dated as of October 20, 2006 and as amended subsequently, among Convergys and a group of financial institutions. In connection with Convergys' entry into the

New Credit Facility, Convergys terminated the Prior Credit Facility.

Convergys has two borrowing options available under the New Credit Facility: (i) a competitive advance option which will be provided on an uncommitted competitive advance basis through an auction mechanism and (ii) a revolving credit option which will be provided on a committed basis. Under each option, amounts borrowed and repaid may be re-borrowed subject to availability. Borrowings under the New Credit Facility bear interest at the rates described in the New Credit Facility. The New Credit Facility includes certain restrictive covenants including maintenance of interest coverage and debt-to-EBITDA ratios (as defined in the New Credit Facility). The Company's interest coverage ratio cannot be less than 4.00 to 1.00 as determined on a rolling four quarter basis. The Company's debt-to-EBITDA ratio cannot be greater than 3.00 to 1.00 until December 31, 2012 and 2.75 to 1.00 after December 31, 2012. The New Credit Facility also contains customary representations and warranties. In the event of default, the lenders may terminate the commitments and declare the amounts outstanding, and all accrued interest, immediately due and payable. The maturity date of the New Credit Facility is March 11, 2015 except that upon satisfaction of certain conditions, Convergys may extend the maturity date by one year twice during the term. Convergys will pay an annual facility fee regardless of utilization. At December 31, 2012, the facility was undrawn. The Company was in compliance with all covenants at December 31, 2012.

In December 2004, the Company issued $250.0 in 4.875% Unsecured Senior Notes (4.875% Senior Notes) due December 15, 2009. During 2009, the Company announced an exchange offer (Exchange Offer) for up to $122.5 aggregate principal amount of its outstanding 4.875% Senior Notes. Under the terms of the Exchange Offer, the Company offered to exchange one thousand twenty dollars in principal amount of its new 5.75% Junior Subordinated Convertible Debentures due 2029 (2029 Convertible Debentures) for each one thousand dollars in principal amount of its 4.875% Senior Notes. Upon settlement of the Exchange Offer on October 13, 2009, the Company issued a total of $125.0 aggregate principal amount of the 2029 Convertible Debentures in exchange for $122.5 of the 4.875% Senior Notes.

The 2029 Convertible Debentures are convertible, subject to certain conditions, into shares of the Company's common stock at an initial conversion price of approximately $12.07 per share, or eighty-two and eighty-two hundredths shares of the Company's common stock per one thousand dollars in principal amount of debentures. Upon conversion, the Company will pay cash up to the aggregate principal amount of the 2029 Convertible Debentures and settle the remainder of the debentures in cash or stock at the Company's option.

The conversion rate will be subject to adjustment for certain events outlined in the indenture governing the debenture (the Indenture). The conversion rate will increase for a holder who elects to convert the debenture in connection with certain share exchanges, mergers or consolidations involving the Company, as described in the indenture.

The Company may not redeem the 2029 Convertible Debentures prior to September 15, 2019, except if certain U.S. federal tax legislation, regulations or rules are enacted or are issued. On or after September 15, 2019, the Company may redeem for cash all or part of the 2029 Convertible Debentures for the principal amount, plus any accrued and unpaid interest, if the last closing price of the Company's common shares has been at least 150% of the applicable conversion price for at least 20 trading days immediately prior to the date on which the Company provides notice of redemption. Holders may convert their 2029 Convertible Debentures prior to the close of business on the business day immediately preceding September 15, 2028, if certain market conditions related to the trading price of the Company's common shares and 2029 Convertible Debentures occur. On or after September 15, 2028, holders may convert their 2029 Convertible Debentures at the option of the holder regardless of the foregoing circumstances. Holders may also convert if the Company calls any or all of the 2029 Convertible Debentures for redemption prior to the maturity date. The conversion rate will equal 100% of the principal amount of the 2029 Convertible Debentures to be redeemed, plus accrued and unpaid interest and will be subject to adjustment for certain events outlined in the Indenture. If certain events occur in the future, the Indenture provides that each holder of the debentures can, for a pre-defined period of time, require the Company to repurchase the holder's debentures for the principal amount plus any accrued and unpaid interest. The Company concluded that the indentures are not conventional convertible debt instruments and that the embedded stock conversion option qualifies as a derivative. Under the appropriate authoritative guidance, the Company further concluded that the option is indexed to the Company's stock and does not require bifurcation from the host instrument. Therefore, the embedded conversion option is not accounted for separately as a derivative.

The 2029 Convertible Debentures, which pay a fixed rate of interest semi-annually, have a contingent interest component that will require the Company to pay interest based on the trading price of the debentures exceeding a specified threshold at specified times, commencing on September 15, 2019, as outlined in the Indenture. The maximum amount of contingent interest that will accrue is 0.75% per annum of the average trading price of the debentures during the periods specified in the Indenture. The fair value of this embedded derivative was not significant at December 31, 2012 and 2011.

At the date of issuance, the Company recognized the liability component of the 2029 Convertible Debenture at its fair value of $56.3. The liability component was recognized as the fair value of a similar instrument that did not have a conversion feature at issuance. The equity component, which was the value of the conversion feature at issuance, was recognized as the difference between the proceeds from the issuance of the debentures and the fair value of the liability component, after adjusting for the initial deferred tax impact of $32.7. The 2029 Convertible Debentures were issued at a coupon rate of 5.75%, which was below that of a similar instrument that does not have a conversion feature. Therefore, the valuation of the debt component, using the income approach, resulted in a debt discount. The debt discount is being amortized over the life of a similar debt instrument without a conversion feature, which the Company determined to equal the contractual maturity of the 2029 Convertible Debentures. Amortization is based upon the effective interest rate method and is included within the interest expense caption in the accompanying Consolidated Statements of Income.

As of December 31, 2012, the 2029 Convertible Debentures “if-converted” value was $171.5. Based on quoted market prices at December 31, 2012, the fair value of the Company’s 2029 Convertible Debentures is $206.8.

During June 2011, the Company extended the terms of an asset securitization facility collateralized by accounts receivable of certain of the Company's subsidiaries, with a purchase limit to $150.0 expiring in June 2014. The asset securitization program is conducted through Convergys Funding Inc., a wholly-owned bankruptcy remote subsidiary of the Company. As of December 31, 2012 and December 31, 2011, this facility was undrawn.

Prior to the second quarter of 2012, the Company leased an office complex in Orlando, Florida. In the second quarter of 2012, the Company exercised its option to purchase its leased office facility by discharging the related lease financing obligation in the aggregate principal amount of $55.0. Total capital lease obligations subsequent to the purchase were $2.2 at December 31, 2012 compared to $58.7 at December 31, 2011.

Other debt of $10.9 at December 31, 2011 consisted of miscellaneous domestic and international borrowings.

At December 31, 2012, future minimum payments of the Company’s debt and capital lease arrangements are as follows:

2013	$0.7
2014	1.3
2015	0.2
2016	—
2017	—
Thereafter	125.0
Total	$127.2

8. Restructuring

2012 Restructuring

During 2012, the Company recorded restructuring charges of $11.6, consisting of $11.4 of severance-related charges and $0.2 of facility-related charges, as described below. The $11.4 of severance-related charges is expected to impact approximately 100 professional employees and reflects the changes in the Company's executive management team and realignment of Corporate overhead as a result of the sale of the Information Management business. These severance-related charges are expected to be substantially paid in cash by March 31, 2013 pursuant to the Company's severance policies. The total remaining liability under this severance-related restructuring plan, which is included within Payables and other current liabilities on the Company's Consolidated Balance Sheets was $5.2 as of December 31, 2012.

2011 Restructuring

During 2011, the Company initiated operational changes that resulted in severance costs of $1.2 largely to reduce headcount and align resources to future business needs. These severance actions impacted approximately 50 professional employees worldwide and charges were largely paid in cash pursuant to the Company's existing severance policy and employment agreements. These actions were substantially completed by the end of 2011. The liability under this plan was fully settled at December 31, 2012.

2010 Restructuring

During 2010, the Company initiated a restructuring plan and incurred a total charge of $28.7 consisting of $19.4 of severance-related charges and $9.3 of facility-related charges. The $19.4 of severance-related charges were largely to reduce headcount and align resources to business needs and to further simplify operations to reflect the impact of the sale of the HR Management line of business. The severance charge of $19.4 was largely paid in cash pursuant to the Company's existing severance policy and employment agreements. These actions affected approximately 1,000 professional employees and approximately 1,400 non-salaried employees worldwide and were substantially completed by the end of 2011. The facility-related charge of $9.3 relates to lease rent accruals and penalties for properties that have closed as the result of consolidating facilities and shifting capacity. The charge is equal to the future costs associated with the facility, net of proceeds from any probable future sublease agreements. The fair value measurement utilized internal discounted cash flows, which is a Level 3 input. The Company used estimates, based on consultation with the Company's real estate advisors, to determine the proceeds from any future sublease agreements. The Company will continue to evaluate these estimates in recording the facilities abandonment charge. Consequently, there may be additional reversals or charges relating to these facility closures in the future. Therefore, facility-related reserves are maintained on a facility basis rather than a restructuring charge event basis. The severance liability under this plan was fully settled at December 31, 2012.

Facilities Restructuring

During 2012, the Company recognized $0.2 of incremental facility-related restructuring charges due to a change in estimate for a previously closed facility. The Company's facilities restructuring reserves are equal to the estimated future costs associated with the facilities, net of proceeds from any probable future sublease agreements. The Company uses estimates, based on consultation with the Company's real estate advisers, to determine the proceeds from any future sublease agreements. The Company continues to evaluate these estimates in recording the facilities abandonment charge. Restructuring liability for the facilities plans, the balance of which is included in Payables and other current liabilities on the Company's Consolidated Balance Sheets, consisted of the following:

	2012	2011	2010
Balance at January 1	$0.5	$4.9	$1.2
Facility charge	0.2	—	9.3
Facility payment	(0.4)	(4.4)	(5.6)
Balance at December 31	$0.3	$0.5	$4.9

9. Employee Benefit Plans

Pensions

The Company sponsors a frozen defined benefit pension plan, which includes both a qualified and non-qualified portion, for all eligible employees (the cash balance plan) in North America and an unfunded defined benefit plan for certain eligible employees in the Philippines (collectively, the defined benefit plans). The Company also sponsors a non-qualified, unfunded executive deferred compensation plan and a supplemental, non-qualified, unfunded plan for certain senior executives (the executive pension plans). As further described in Note 12, "Financial Instruments," in December 2011, the Company made investments in certain securities which are held in a grantor trust for the benefit of participants of the executive deferred compensation plan. This investment was made in securities reflecting the hypothetical investment balances of plan participants. The pension benefit formula for the cash balance plan is determined by a combination of compensation and age-based credits and annual guaranteed interest credits. Benefits for the executive deferred compensation plan are based on employee deferrals, matching contributions and investment earnings on participant accounts. Benefits for the supplemental plan are based on age, years of service and eligible pay. Funding of the qualified portion of the cash balance plan has been achieved through contributions made to a trust fund. The contributions have been determined using the prescribed methods in accordance with the Pension Protection Act of 2006.

Based on the funded status of the cash balance plan and mandatory legislative requirements under the Pension Protection Act, beginning April 29, 2009, lump sum payments from the cash balance plan have been partially restricted. In December 2012, the Company made contributions to the plan to satisfy funding requirements for 2013.

Subsequently, on January 18, 2013, the Company received an Adjusted Funding Target Attainment Percentage (AFTAP) certification stating that the 2013 AFTAP for the defined benefit plan is 80 percent or higher. Accordingly, limitations on accelerated benefit distributions and benefit accruals no longer apply as of the date of the certification. As a result of this certification, the Company anticipates a high volume of lump sum distributions in 2013, which may result in pension settlement charges. During 2012, the Surface Transportation Extension Act, also referred to as the Moving Ahead for Progress in the 21st Century Act, was signed into law, and included pension funding stabilization provisions. The Company has evaluated the provisions of the new law and expects no material impacts. The Company’s measurement date for all plans is December 31. The projected unit credit cost method is used for determining the unfunded executive pension cost for financial reporting purposes. The plan assumptions are evaluated annually and are updated as necessary.

Components of pension cost and other amounts recognized in other comprehensive income (loss) for the defined benefit plans are as follows:

	Year Ended December 31,		
	2012	2011	2010
Service cost	$3.7	$2.8	$2.6
Interest cost on projected benefit obligation	11.6	12.0	12.1
Expected return on plan assets	(11.6)	(11.4)	(12.3)
Amortization and deferrals—net	17.2	8.7	6.6
Curtailment benefit	(0.2)	—	—
Settlement charge	6.8	—	6.8
Total pension cost	$27.5	$12.1	$15.8
Other comprehensive income (loss)	$(11.8)	$(29.5)	$(1.3)

During the twelve months ended December 31, 2012, the Company recognized a $0.2 curtailment benefit and a $6.8 settlement loss related to the impact of the sale of the Information Management business. The settlement loss of $6.8 in 2010 resulted from the benefit payments exceeding the sum of the service cost and interest cost. Pension cost for the defined benefit plans related to discontinued operations included in the table above for the years ended December 31, 2012, 2011 and 2010 is $1.6, $3.0 and $1.6, respectively.

The reconciliation of the defined benefit plans' projected benefit obligation and the fair value of plan assets for the years ended December 31, 2012 and 2011 are as follows:

	At December 31,	
	2012	2011
Change in benefit obligation:		
Benefit obligation at beginning of year	$252.5	$224.3
Service costs	3.7	2.8
Interest cost	11.6	12.0
Actuarial loss	22.2	28.9
Curtailment (gain) loss	(3.8)	—
Benefits paid	(20.7)	(14.5)
Plan amendment	—	(1.0)
Benefit obligation at end of year	$265.5	$252.5
Change in plan assets:		
Fair value of plan assets at beginning of year	$140.4	$134.1
Actual return on plan assets	18.7	—
Employer contribution	33.3	20.8
Benefits paid	(20.7)	(14.5)
Fair value of plan assets at end of year	$171.7	$140.4
Funded status	$(93.8)	$(112.0)
Amounts recognized in the Consolidated Balance Sheets consisted of:		
Non-current liability	$93.8	$112.0
Accumulated other comprehensive income (loss)	$(102.4)	$(114.1)

Accumulated other comprehensive loss at December 31, 2012 and 2011 includes unrecognized actuarial losses of $102.4 ($63.9 net of tax) and $114.1 ($71.2 net of tax), respectively. The actuarial loss included in accumulated other comprehensive loss that is expected to be recognized in net periodic pension cost during the fiscal year ended December 31, 2013 is $13.0. The accumulated benefit obligation for the defined benefit plans was $265.5 and $252.5 at December 31, 2012 and 2011, respectively.

Estimated future benefit payments from the defined benefit plans are as follows:

2013	$39.0
2014	12.3
2015	13.4
2016	14.3
2017	15.7
2018 - 2022	85.3
Total	$180.0

Components of pension cost and other amounts recognized in other comprehensive income (loss) for the unfunded executive pension plans are as follows:

	Year Ended December 31,		
	2012	2011	2010
Service cost	$—	$0.7	$0.9
Interest cost on projected benefit obligation	1.0	1.3	2.0
Amortization and deferrals—net	(0.2)	(0.1)	(0.1)
Curtailment (benefit) loss, net	0.1	(2.4)	1.8
Settlement (gain) loss	(0.2)	—	1.4
Total pension (benefit) cost	$0.7	$(0.5)	$6.0
Other comprehensive income (loss)	$1.9	$1.3	$(3.1)

In 2012, the Company recognized a settlement gain of $0.2 under the executive pension plan. The settlement gain was partially offset by a $0.1 curtailment loss related to the impact of the sale of the Information Management line of business and subsequent corporate restructuring initiatives. In 2011, the Company froze the executive deferred compensation plan and recognized a $0.9 curtailment benefit. The Company also recognized a $1.5 curtailment benefit during 2011 related to the resignation of a senior executive. The Company recognized a $2.2 curtailment loss during 2010 related to the termination of employment of the President and Chief Executive Officer of the Company. The curtailment loss was partially offset by a $0.4 curtailment benefit related to the termination of employment of a senior executive. The Company also recognized a settlement loss related to the CEO transition of $1.4 upon payment of benefits under the unfunded executive pension plan.

The reconciliation of the unfunded executive pension plans’ projected benefit obligation for the years ended December 31, 2012 and 2011 is as follows:

	At December 31,	
	2012	2011
Change in benefit obligation:		
Benefit obligation at beginning of year	$24.6	$33.2
Service cost	—	0.7
Interest cost	1.0	1.3
Actuarial loss (gain)	1.1	(1.9)
Curtailment loss (benefit)	0.5	(2.5)
Benefits paid	(6.1)	(6.2)
Benefit obligation at end of year	$21.1	$24.6
Funded status	$(21.1)	$(24.6)
Amounts recognized in the Consolidated Balance Sheets consisted of:		
Current liability	$8.8	$6.2
Non-current liability	12.3	18.4

Accumulated other comprehensive income (loss)	$2.3	$4.1

Total benefits paid of $6.1 were made via employer contributions.

Included in accumulated other comprehensive loss at December 31, 2012 are the following amounts that have not yet been recognized in net periodic pension cost: unrecognized actuarial gain of $2.3 ($1.4 net of tax). Included in accumulated other comprehensive loss at December 31, 2011 are the following amounts that have not yet been recognized in net periodic pension cost: unrecognized prior service credits of $0.3 ($0.2 net of tax) and unrecognized actuarial gain $3.8 ($2.4 net of tax). The accumulated benefit obligation for the unfunded executive pension plans was $21.1 and $24.6 at December 31, 2012 and 2011, respectively. The prior service cost expected to be recognized in net periodic pension cost during the year ending December 31, 2013 is $0.3.

Estimated future benefit payments from the unfunded executive plans are as follows:

2013	$8.8
2014	2.0
2015	1.6
2016	1.3
2017	0.6
2018 - 2022	3.2
Total	$17.5

The following weighted-average rates were used in determining the benefit obligations at December 31:

	2012			2011		
Discount rate—projected benefit obligation	3.00%	-	6.20%	4.25%	-	7.80%
Future compensation growth rate	4.00%	-	4.50%	4.00%	-	5.50%
Expected long-term rate of return on plan assets	7.50%	-	8.00%	7.50%	-	8.00%

The following weighted-average rates were used in determining the pension cost for all years ended December 31:

	2012			2011			2010		
Discount rate—projected benefit obligation	4.25%	-	6.20%	5.20%	-	7.80%	5.50%	-	6.00%
Future compensation growth rate	4.00%	-	4.50%	4.00%	-	5.50%	4.00%	-	5.00%
Expected long-term rate of return on plan assets	7.50%	-	8.00%	7.50%		8.00%	8%		

The range of discount rates utilized in determining the pension cost and projected benefit obligation of the Company's defined benefit plans reflects a lower prevalent rate applicable to the frozen cash balance plan for eligible employees in North America and a higher applicable rate for the unfunded defined benefit plan for certain eligible employees in the Philippines.

As of December 31, 2012 and 2011, plan assets for the cash balance plan consisted of Convergys common stock, an equity fund and common/collective trusts (of which approximately 62% are invested in equity backed funds and 38% in funds invested in fixed income instruments, including cash). At December 31, 2012, the Company’s targeted allocation was 67% equity and 33% fixed income. Plan assets for the cash balance plan included $4.7 and $3.7 of the Company’s common shares at December 31, 2012 and 2011, respectively. The investment objectives for the plan assets are to generate returns that will enable the plan to meet its future obligations. The Company’s expected long-term rate of return was determined based on the asset mix of the plan, past performance and other factors. The Company contributed $31.4 and $19.7 in 2012 and 2011, respectively, to fund its cash balance plan in order to satisfy its Employee Retirement Income Security Act of 1974 (ERISA) funding requirements. The current year contribution includes $20.0 contributed in December 2012 to satisfy the 2013 funding requirement. Therefore, the Company currently expects to make an additional $0.2 in contributions in 2013 to fund its cash balance plan. No plan assets are expected to be returned to the Company during 2013.

The following table sets forth by level, within the fair value hierarchy, the cash balance plan's assets at fair value as of December 31, 2012 and 2011:

Investments	December 31, 2012	Quoted Prices In Active Markets for Identical Assets (Level 1)	Significant Other Observable Inputs (Level 2)	Significant Unobservable Inputs (Level 3)
Common/Collective trusts	$162.7	$—	$162.7	$—
Convergys common stock	4.7	4.7	—	—
Equity fund	4.3	—	—	4.3
Total investments	$171.7	$4.7	$162.7	$4.3

Investments	December 31, 2011	Quoted Prices In Active Markets for Identical Assets (Level 1)	Significant Other Observable Inputs (Level 2)	Significant Unobservable Inputs (Level 3)
Common/Collective trusts	$132.8	$—	$132.8	$—
Convergys common stock	3.7	3.7	—	—
Equity fund	3.9	—	—	3.9
Total investments	$140.4	$3.7	$132.8	$3.9

For additional information on the fair value hierarchy, see Note 13.

The Company's pension plan holds level 2 investments in common/collective trust funds that are public investment vehicles valued using a net asset value (NAV) provided by the manager of each fund. The NAV is based on the underlying net assets owned by the fund, divided by the number of shares outstanding. The NAV's unit price is quoted on a private market that may not be active. However, the NAV is based on the fair value of the underlying securities within the fund, which are traded on an active market, and valued at the closing price reported on the active market on which those individual securities are traded. The significant investment strategies of the funds are as described in the financial statements provided by each fund. There are no restrictions on redemptions from these funds.

The Company’s pension plan holds Level 3 investments within equity funds which primarily invests in domestic early stage capital funds. The fair value of these investments is based on the net asset value per share of the fund. The pension plan has approximately $0.2 in future funding requirements associated with this investment. The methods described above may produce a fair value calculation that may not be indicative of net realizable value or reflective of future fair values. Furthermore, while the Company believes its valuation methodologies are appropriate and consistent with other market participants, the use of different methodologies or assumptions to determine the fair value of certain financial instruments could result in a different fair value measurement. The following table provides a reconciliation of the beginning and ending balances for the Level 3 assets:

	Year Ended December 31	
	2012	2011
Balance, beginning of year	3.9	3.4
Unrealized gains relating to instruments still held at the reporting date	0.4	0.4
Purchases	—	0.1
Balance, end of year	$4.3	$3.9

Savings Plans

The Company sponsors a defined contribution plan covering substantially all U.S. employees. The Company’s contributions to the plan are based on matching a portion of the employee contributions. In 2011, the Company's matching contribution changed from 100% of the first 5% to 100% of the first 3% of eligible employee contributions. As a result, total Company contributions to the defined contribution plan were $6.7 in 2012 compared to $9.5 and $15.1 for 2011 and 2010, respectively. Plan assets for these plans included 1.5 ($25.3) and 2.0 ($26.0) of Company's common shares at December 31, 2012 and 2011, respectively.

Employee Postretirement Benefits Other Than Pensions

The Company sponsors postretirement health and life insurance plans for certain eligible employees. The plan provides eligible employees and retirees with the opportunity to direct an amount of their compensation or pension benefits to cover medical, dental and life insurance programs of their choice for their benefit and the benefit of their dependents. The plan covers both active and retired eligible employees of the Company and its subsidiaries. Employees' eligibility to participate in the plan is based upon their date of hire. During the second quarter of 2011, the Company amended certain components of the postretirement health and life insurance plans to reduce certain benefits. The plan amendments constitute negative amendments. As a result of the plan amendments, the accumulated postretirement benefit obligation decreased approximately $20 from December 31, 2010, the impact of which will be recognized as a reduction to net periodic benefit cost over the remaining future service years of the active participants over a weighted-average period of approximately 3 years. During 2012, the Company recognized a $3.8 curtailment benefit related to these plans as a result of the sale of the Information Management business.

The Company funds life insurance benefits of certain retirees through a Voluntary Employee Benefit Association (VEBA) trust. Contributions to the plan consist of (1) compensation or pension benefit deductions that the participant directs the Company, which is also the Plan Sponsor, to deposit into the plan on their behalf based on the coverage the participant has elected under the plan, and (2) amounts the Company pays to the plan that are in excess of the participant-directed deductions. Contributions to the VEBA are subject to IRS limitations developed using the aggregate cost method. At December 31, 2006, the Company eliminated the postretirement life insurance plan benefits for non-retirement eligible employees. The Company's postretirement benefit plan (benefit) cost was $(9.5), $(3.4), and $0.5 for 2012, 2011 and 2010, respectively. The amounts included within accumulated other comprehensive loss related to these benefits were $6.6 and $14.9 at December 31, 2012 and 2011, respectively.

Components of other post-employment benefit plan cost and other amounts recognized in other comprehensive income (loss) for the postretirement health and life insurance plans are as follows:

	2012		2011		2010	
Service cost	$—		$0.2		$0.4	
Interest cost on projected benefit obligation	0.3		0.9		1.4	
Expected return on plan assets	(0.5	)	(0.5	)	(0.6	)
Amortization and deferrals—net	(5.5	)	(4.0	)	(0.7	)
Curtailment benefit	(3.8	)	—		—	
Total other post-employment benefit plan (benefit) cost	$(9.5	)	$(3.4	)	$0.5	
Other comprehensive income (loss)	$(8.3	)	$14.1		$(2.0	)

The reconciliation of the postretirement health and life insurance plan's projected benefit obligation and the fair value of plan assets for the years ended December 31, 2012 and 2011 are as follows:

	At December 31,	
	2012	2011
Change in benefit obligation:		
Benefit obligation at beginning of year	$8.6	$27.1
Service cost	—	0.2
Interest cost	0.3	0.9
Plan amendment	—	(16.8)
Actuarial (gain) loss	(0.8)	(1.8)
Curtailment	(0.6)	—
Part D subsidy	—	0.1
Benefits paid	(0.6)	(1.1)
Benefit obligation at end of year	$6.9	$8.6
Change in plan assets:		
Fair value of plan assets at beginning of year	$7.0	$7.2
Actual return on plan assets	0.1	0.2
Employer contribution	(0.5)	0.7
Benefits paid	(0.6)	(1.1)
Fair value of plan assets at end of year	$6.0	$7.0
Funded status	$(0.9)	$(1.6)
Amounts recognized in the Consolidated Balance Sheets consisted of:		
Non-current assets	$1.8	$3.3
Current liability	0.3	0.5
Non-current liability	2.4	4.4
Accumulated other comprehensive income (loss)	$(6.6)	$14.9

Estimated future benefit payments from the postretirement health and life plan are as follows:

2013	$0.5
2014	0.4
2015	0.5
2016	0.5
2017	0.5
2018 - 2022	2.5
Total	$4.9

Plan assets for the postretirement health and life plan of $6.0 and $7.0 at December 31, 2012 and 2011, respectively, are comprised of money market accounts, a Level 1 asset. The Company expects to make $0.3 in contributions in 2013 to fund its post retirement health and life plan. No plan assets are expected to be returned to the Company during 2013.

Assumed health care cost trend rates were capped for all participants following the plan amendments during the second quarter of 2011.

10. Stock-Based Compensation Plans

At December 31, 2012, the Company had 38.0 common shares that were authorized for issuance under the Convergys Corporation 1998 Long-Term Incentive Plan (Convergys LTIP), as amended on January 28, 2011. The Company granted stock options in 2012 and 2011 with exercise prices that are no less than market value of the stock at the grant date and have a ten-year term and vesting terms of two to three years. Stock options granted in 2010 were fully vested at the time they were granted. The Company also grants certain employees and Directors restricted stock units. The restricted stock units do not possess dividend or voting rights and consist of both time-related and performance-related units. The restrictions for the time-related restricted stock units generally lapse two to three years after the grant date. The performance-related units vest upon the Company's satisfaction of certain financial targets. Performance-related units that have not vested by the end of two years from the grant date (i.e., the performance conditions for vesting of those units have not been met within that period) are forfeited.

The following table shows certain information as of December 31, 2012, with respect to compensation plans under which common shares are authorized for issuance:

	Number of Common Shares to be Issued Upon Exercise	Weighted Average Exercise Price	Common Shares Available for Future Issuance
Equity compensation plans approved by shareholders			
Stock options	1.2	$12.91	—
Restricted stock units	2.5	—	—
	3.7	$12.91	10.2

The Company's operating results reflect long-term incentive plan expense of $21.0, $17.0 and $14.8 for the years ended December 31, 2012, 2011 and 2010, respectively. Long-term incentive plan expense related to discontinued operations for these periods was $1.4, $2.6, and $3.2, respectively. Long-term incentive plan expenses include: (a) incentive plan expense that is paid in cash based on relative shareholder return, and (b) stock compensation expense. Stock compensation expense for the years ended December 31, 2012, 2011 and 2010 was $21.6, $17.4 and $15.3, respectively.

Stock Options

Presented below is a summary of Company stock option activity:

Shares (in Millions)	Shares	Weighted Average Exercise Price
Options outstanding at January 1, 2010	7.8	$32.21
Options exercisable at January 1, 2010	7.8	32.21
Granted	0.3	10.88
Exercised	—	11.74
Forfeited	(2.4)	31.14
Options outstanding at December 31, 2010	5.7	$31.66
Options exercisable at December 31, 2010	5.7	$31.66
Granted	0.7	13.79
Exercised	(0.2)	11.68
Forfeited	(2.3)	41.50
Options outstanding at December 31, 2011	3.9	$23.90
Options exercisable at December 31, 2011	3.2	$25.97
Granted	0.7	12.79
Exercised	(1.0)	11.62
Forfeited	(2.4)	31.33
Options outstanding at December 31, 2012	1.2	$12.91
Options exercisable at December 31, 2012	0.3	$11.86

Approximately one-half of the stock options granted during 2012 and 2011 vest in two years and the remaining vest in three years. The Company uses the Black-Scholes option pricing model to calculate the fair value of stock options granted. For the 2012 grants, the weighted average fair value at grant date of $3.43 per option granted included assumptions of a strike price of $12.79, a 30.74% implied volatility, an expected term of 4.5 years, a risk-free rate of 0.76%, and a dividend yield of 0.00%. These 2012 option grants resulted in stock compensation expense of $0.7 in 2012. For the 2011 grants, the weighted average fair value at grant date of $4.06 per option granted included assumptions of a strike price of $13.79, a 31.11% implied volatility, an expected term of 4.5 years, a risk-free rate of 2.12%, and a dividend yield of 0.00%. These 2011 option grants resulted in stock compensation expense of $0.3 in 2012 and $1.0 in 2011. Stock options were granted during 2010 that were fully vested at the time they were granted, resulting in compensation cost of approximately $1.1. Expected volatility is based on the unbiased standard deviation of the Company's common stock over the option term. The expected life of the options represents the period of time that the Company expects the options granted to be outstanding. The risk-free rate is based on the U.S. Treasury yield curve in effect at the time of the grant of the option for the expected term of the instrument. The dividend yield reflects an estimate of dividend payouts over the term of the award.

The weighted average grant date fair value per share for the outstanding and exercisable options at December 31, 2012 was $4.73 and $3.99, respectively.

The following table summarizes the status of the Company stock options outstanding and exercisable at December 31, 2012:

Shares (in Millions)	Options Outstanding			Options Exercisable		
Range of Exercise Prices	Shares	Weighted Average Remaining Contractual Life (in years)	Weighted Average Exercise Price	Shares	Weighted Average Remaining Contractual Life (in years)	Weighted Average Exercise Price
$0.0 to $11.55	0.2	1.2	$11.20	0.2	1.2	$11.20
$11.56 to $21.81	1.0	7.7	13.25	0.1	0.1	13.12
Total	1.2	6.6	$12.91	0.3	0.8	$11.86

The aggregate intrinsic value of stock options exercised was $3.3 in 2012, $0.7 in 2011 and $0.1 in 2010. The actual tax benefit realized from the exercised stock options was $0.7 in 2012, $0.1 in 2011 and less than $0.1 in 2010. The total grant date fair value of stock options that vested during 2010 was $1.1. No stock options vested during 2012 or 2011. As of December 31, 2012, the aggregate intrinsic value was $4.0 for both stock options outstanding and exercisable. Intrinsic value represents the Company's closing price on the last trading day of the year in excess of the weighted average exercise price for those tranches of options with a weighted average exercise price less than the closing price multiplied by the number of options outstanding or exercisable.

Restricted Stock Units

During 2012, 2011 and 2010, the Company granted 1.6, 1.5 and 2.3 shares, respectively, of restricted stock units. The weighted average fair values of these grants were $13.11, $13.67 and $11.45, respectively. Included in the total grants were 0.6, 0.5 and 1.0 of performance-related restricted stock units for 2012, 2011 and 2010, respectively.

The 2012 and 2011 performance-related grants provide for payout based upon the extent to which the Company achieves certain EBITDA targets, as determined by the Compensation and Benefits Committee of the Board of Directors for this award, over a two-year period. Payout levels range from 50% to 200% of award shares earned. No payout can be earned if performance is below the minimum threshold level. Compensation cost related to these 2012 and 2011 grants will be adjusted based upon expected performance as compared to defined targets.

The 2010 performance-related grants provide for payout depending on the Company's relative total shareholder return in each respective year as compared to companies in the S&P 500 Index. The Company used a Monte Carlo simulation model to determine the fair value for performance-based restricted stock units granted during 2010. The assumptions used in this model are set forth in the table below. Expected volatilities for the 2010 performance awards were based on historical volatility and daily returns for the three-year period ended January 1, 2010 of the Company’s stock and S&P 500 companies. For the 2010 performance awards, the total stock return for the Company over the performance period is based on comparing Convergys’ average closing price from the fourth quarter of 2009 with the average expected closing price for the fourth quarter of 2012. For these awards, the total stock return of the S&P 500 companies is computed by comparing the average closing price of the S&P 500 companies from the fourth quarter of 2009 with the average expected closing price for the fourth quarter of 2012. The risk-free interest rate for the expected term of the award granted is based on the U.S. Treasury yield curve in effect at the time of grant.

	2010	
Expected volatility	56.0	%
Expected term (in years)	3.0	
Risk-free interest rate	1.4	%

The total compensation cost related to non-vested restricted stock and restricted stock units not yet recognized as of December 31, 2012 was approximately $14.7 based on current estimates of the performance metrics, which is expected to be recognized over a weighted average of 0.8 years. Changes to non-vested restricted stock and restricted stock units for the years ended December 31, 2012 and 2011 were as follows:

Shares (in millions)	Number of Shares	Weighted Average Fair Value at Date of Grant
Non-vested at December 31, 2010	4.2	$10.64
Granted	1.5	13.67
Vested	(0.6)	11.70
Forfeited	(1.2)	11.22
Non-vested at December 31, 2011	3.9	11.08
Granted	1.6	13.11
Vested	(2.2)	10.17
Forfeited	(0.8)	11.96
Non-vested at December 31, 2012	2.5	$12.91

The aggregate intrinsic value of non-vested restricted stock units was $41.7 at December 31, 2012.

11. Commitments and Contingencies

Commitments

The Company leases certain facilities and equipment used in its operations. Total rent expense was $66.0, $61.1 and $61.6 in 2012, 2011 and 2010, respectively.

At December 31, 2012, the total minimum rental commitments under non-cancelable operating leases are as follows:

2013	$66.2
2014	51.7
2015	46.1
2016	35.9
2017	33.5
Thereafter	27.9
Total	$261.3

At December 31, 2012, the Company had outstanding letters of credit of $27.9 related to performance and payment guarantees, of which $12.6 is set to expire by the end of 2012, $4.7 is set to expire within one to three years and $10.6 is set to expire after three years. The Company also had other bond obligations of $1.5 related to performance and payment guarantees.

At December 31, 2012, the Company had outstanding performance bond obligations of $30.0 related to performance and payment guarantees for the Company’s former HR Management line of business. As part of the gain on disposition the Company recognized a liability equal to the present value of probability weighted cash flows of potential outcomes, a Level 3 fair value measurement. Although NorthgateArinso is obligated to indemnify the Company for any and all losses, costs, liabilities and expenses incurred related to these performance bonds, as of December 31, 2012 the Company maintains a liability of $1.0 for these obligations.

The Company also has purchase commitments with telecommunication providers of $17.3 in 2013.

Contingencies

The Company from time to time is involved in various loss contingencies, including legal contingencies that arise in the ordinary course of business. The Company accrues for a loss contingency when it is probable that a liability has been incurred and the amount of such loss can be reasonably estimated. At this time, the Company believes that the results of any such contingencies, either individually or in the aggregate, will not have a materially adverse effect on the Company’s results of operations or financial condition. However, the outcome of any litigation cannot be predicted with certainty. An unfavorable resolution of one or more pending matters could have a materially adverse impact on the Company’s results of operations or financial condition in the future.

In November 2011, one of the Company's call center clients tendered a contractual indemnity claim to Convergys

Customer Management Group, Inc., a subsidiary of the Company, relating to a putative class action captioned Brandon Wheelock, individually and on behalf of a class and subclass of similarly situated individuals, v. Hyundai Motor America, Orange County Superior Court, California, Case No. 30-2011-00522293-CU-BT-CJC. The lawsuit alleges that Hyundai Motor America violated California's telephone recording laws by recording telephone calls with customer service representatives without providing a disclosure that the calls might be recorded. Plaintiff is seeking, among other things, an order certifying the suit as a California class action, statutory damages, payment of attorneys' fees and pre- and post judgment interest. Convergys Customer Management Group, Inc. is not named as a defendant in the lawsuit and has not agreed to indemnify Hyundai. On March 5, 2012, the court sustained a demurrer filed by Hyundai to one of Plaintiff's causes of action, but overruled the demurrer as to the Plaintiff's other cause of action. On March 15, 2012, Plaintiff filed an amended complaint. Hyundai answered the amended complaint on April 16, 2012, by generally denying the allegations and asserting certain affirmative defenses. On May 7, 2012, Hyundai filed a motion for summary judgment based on Hyundai's claim that an exemption under the California recording laws were intended to exempt the type of recording done by Hyundai's call centers. On January 10, 2013, the court heard arguments on Hyundai's motion for summary judgment. On February 5, 2013, the court denied the motion. We anticipate the parties will discuss, among other things, a schedule for discovery at a status hearing scheduled for February 27, 2013.

Given the early stage of this matter, the fact that Convergys Customer Management Group, Inc. is not named as a defendant in the lawsuit, and the fact that there has been no determination as to whether Convergys Customer Management Group, Inc. will be required to indemnify Hyundai, the likelihood of losses that may become payable under such claims, the amount of reasonably possible losses associated with such claims, and whether such losses may be material cannot be determined or estimated at this time. The Company has, therefore, not established as reserve with respect to this matter. The Company believes Convergys Customer Management Group, Inc., has meritorious defenses to Hyundai's demand for indemnification and also believes there are meritorious defenses to Plaintiff's claims in the lawsuit.

12. Financial Instruments

Derivative Instruments
The Company is exposed to a variety of market risks, including the effects of changes in foreign currency exchange rates and interest rates. Market risk is the potential loss arising from adverse changes in market rates and prices. The Company’s risk management strategy includes the use of derivative instruments to reduce the effects on its operating results and cash flows from fluctuations caused by volatility in currency exchange and interest rates.

The Company serves many of its U.S.-based clients using contact center capacity in the Philippines, India and Colombia. Although the contracts with these clients are typically priced in U.S. dollars, a substantial portion of the costs incurred to render services under these contracts are denominated in Philippine pesos (PHP), Indian rupees (INR) or Colombian pesos (COP), which represents a foreign exchange exposure. Beginning in 2011, the Company entered into a contract with a client priced in Australian dollars (AUD). The Company has hedged a portion of its exposure related to the anticipated cash flow requirements denominated in these foreign currencies by entering into forward exchange contracts and options with several financial institutions to acquire a total of PHP 15,360.0 at a fixed price of $349.6 at various dates through December 2015, INR 9,792.5 at a fixed price of $176.6 at various dates through December 2015 and COP 35,700.0 at a fixed price of $18.4 at various dates through December 2014, and to sell a total of AUD 44.7 at a fixed price of $45.7 at various dates through December 2013. These instruments mature within the next 36 months and had a notional value of $590.4 at December 31, 2012 and $619.8 at December 31, 2011. The derivative instruments discussed above are designated and are effective as cash flow hedges. The following table reflects the fair values of these derivative instruments:

December 31,

	2012	2011
Forward exchange contracts and options designated as hedging instruments		
Included within other current assets	$16.4	$13.0
Included within other non-current assets	11.6	3.9
Included within other current liabilities	6.0	11.2
Included within other long-term liabilities	3.5	8.1

The Company recorded a deferred tax liability of $7.1 and deferred tax benefit of $1.0 related to these derivatives at December 31, 2012 and 2011, respectively. A total of $11.4 of deferred gains and $1.5 of deferred losses, net of tax, related to these cash flow hedges at December 31, 2012 and 2011, respectively, were included in accumulated other comprehensive loss (OCL). As of December 31, 2012, deferred gains of $10.4 ($6.5 net of tax), on derivative instruments included in accumulated OCL are expected to be reclassified into earnings during the next 12 months. The following tables provide the effect of these derivative instruments on the Company's Consolidated Financial Statements for the year ended December 31, 2012 and 2011, respectively:

2012:

Derivatives in Cash Flow Hedging Relationships	Gain (Loss) Recognized in OCL on Derivative (Effective Portion)	Gain (Loss) Reclassified from Accumulated OCL into Income (Effective Portion)	Location of Gain (Loss) Reclassified from Accumulated OCL into Income (Effective Portion)
Foreign exchange contracts	$35.8	$ 14.8	Cost of providing services and products sold and Selling, general and administrative

2011:

Derivatives in Cash Flow Hedging Relationships	Gain (Loss) Recognized in OCL on Derivative (Effective Portion)	Gain (Loss) Reclassified from Accumulated OCL into Income (Effective Portion)	Location of Gain (Loss) Reclassified from Accumulated OCL into Income (Effective Portion)
Foreign exchange contracts	$(21.6)	$ 11.6	Cost of providing services and products sold and Selling, general and administrative

The gain recognized related to the ineffective portion of the derivative instruments was immaterial for the years ended December 31, 2012 and 2011.

During 2012, 2011 and 2010, the Company recorded net gains of $14.8 and $11.6 and a net loss of $0.5, respectively, related to the settlement of forward contracts and options which were designated as cash flow hedges.

The Company also enters into derivative instruments (forwards) to economically hedge the foreign currency impact of assets and liabilities denominated in nonfunctional currencies. During the year ended December 31, 2012, a loss of $0.4 was recognized related to changes in fair value of these derivative instruments not designated as hedges, compared to a loss of $0.2 in the same period in 2011. The gains and losses largely offset the currency gains and losses that resulted from changes in the assets and liabilities denominated in nonfunctional currencies. These gains and losses are classified within other income, net in the accompanying Consolidated Statements of Income. The fair value of these derivative instruments not designated as hedges at December 31, 2012, was immaterial to the Company's Consolidated Financial Statements.

A few of the Company's counterparty agreements related to derivative instruments contain provisions that require that the Company maintain collateral on derivative instruments in net liability positions. The aggregate fair value of all derivative instruments in liability position at December 31, 2012 was $9.5 for which the Company has no posted collateral. Future downgrades in the Company's credit ratings and/or changes in the foreign currency markets could result in collateral to counterparties.

Short term Investments

In December 2011, the Company made investments in certain securities, included within short-term investments in the Consolidated Balance Sheets, which are held in a grantor trust for the benefit of participants of the executive deferred compensation plan, which was frozen during the fourth quarter of 2011. This investment was made in securities reflecting the hypothetical investment balances of plan participants. As of December 31, 2012, the Company maintained investment securities with a fair value of $19.5 classified as trading securities. The investment securities include exchange-traded mutual funds, common stock of the Company and money market accounts. These securities are carried at fair value, with gains and losses, both realized and unrealized, reported in other income (expense), net in the Consolidated Statements of Income. The cost of securities sold is based upon the specific identification method.

Interest and dividends on securities classified as trading are included in other income (expense), net.

Additionally, during 2012, the Company made investments in time deposits with maturities greater than 90 days and less than 180 days, included within short-term investments in the Consolidated Balance Sheets. As of December 31, 2012, the Company maintained short-term time deposits with a fair value of $64.3.

13. Fair Value Disclosures
U.S. GAAP defines a hierarchy which prioritizes the inputs in measuring fair value. The three levels of the fair value hierarchy are as follows: Level 1 inputs are quoted prices (unadjusted) in active markets for identical assets or liabilities; Level 2 inputs are quoted prices for similar assets and liabilities in active markets or inputs that are observable for the asset or liability, either directly or indirectly through market corroboration, for substantially the full term of the financial instrument; and Level 3 inputs are unobservable inputs based on the Company's assumptions used to measure assets and liabilities at fair value. A financial asset's or liability's classification within the hierarchy is determined based on the lowest level input that is significant to the fair value measurement.

At December 31, 2012 and 2011, the Company had foreign currency forward contracts measured at fair value. The fair values of these instruments were measured using valuations based upon quoted prices for similar assets and liabilities in active markets (Level 2) and are valued by reference to similar financial instruments, adjusted for terms specific to the contracts. The derivative assets and liabilities measured at fair value on a recurring basis as of December 31, 2012 and 2011 were as follows:

	December 31, 2012	Quoted Prices In Active Markets for Identical Assets (Level 1)	Significant Other Observable Inputs (Level 2)	Significant Unobservable Inputs (Level 3)
Derivatives:				
Foreign currency forward contracts (asset position)	$28.0	$—	$28.0	$—
Foreign currency forward contracts (liability position)	$9.6	$—	$9.6	$—

	December 31, 2011	Quoted Prices In Active Markets for Identical Assets (Level 1)	Significant Other Observable Inputs (Level 2)	Significant Unobservable Inputs (Level 3)
Derivatives:				
Foreign currency forward contracts (asset position)	$16.9	$—	$16.9	$—
Foreign currency forward contracts (liability position)	$19.3	$—	$19.3	$—

The Company also had investment securities held in a grantor trust for the benefit of participants of the executive deferred compensation plan measured at fair value at December 31, 2012 and December 31, 2011. The fair value of these instruments was measured using the quoted prices in active markets for identical assets (Level 1). The assets measured at fair value on a recurring basis as of December 31, 2012 and December 31, 2011 were as follows:

	December 31, 2012	Quoted Prices In Active	Significant Other	Significant Unobservable

		Markets for Identical Assets (Level 1)	Observable Inputs (Level 2)	Inputs (Level 3)
Investment securities:				
Mutual funds	$13.3	$13.3	$—	$—
Convergys common stock	4.9	4.9	—	—
Money market accounts	1.3	1.3	—	—
Total	$19.5	$19.5	$—	$—

	December 31, 2011	Quoted Prices In Active Markets for Identical Assets (Level 1)	Significant Other Observable Inputs (Level 2)	Significant Unobservable Inputs (Level 3)
Investment securities:				
Mutual funds	$15.9	$15.9	$—	$—
Convergys common stock	5.1	5.1	—	—
Money market accounts	1.7	1.7	—	—
Total	$22.7	$22.7	$—	$—

The valuation technique used to measure the fair value of cash time deposits was based on quoted market prices or model driven valuations using significant inputs derived from or corroborated by observable market data. The assets measured at fair value on a recurring basis as of December 31, 2012 were as follows:

	December 31, 2012	Quoted Prices In Active Markets for Identical Assets (Level 1)	Significant Other Observable Inputs (Level 2)	Significant Unobservable Inputs (Level 3)
Short-term Investments:				
Cash time deposits	$64.3	$—	$64.3	$—
Total	$64.3	$—	$64.3	$—

Fair values of cash equivalents and current accounts receivable and payable approximate the carrying amounts because of their short-term nature. The fair value of short-term debt approximates its recorded value because of its short-term nature.

14. Income Taxes

The Company’s provision (benefit) for income taxes from continuing operations consists of the following:

	Year Ended December 31,		
	2012	2011	2010
Current:			
United States federal	$(0.9)	$79.7	$(10.0)
Foreign	8.0	11.0	5.2
State and local	(1.8)	0.3	(2.8)
Total current	5.3	91.0	(7.6)
Deferred:			
United States federal	(4.7)	13.3	(5.3)
Foreign	(0.8)	(4.7)	(6.0)
State and local	1.3	6.9	11.4
Total deferred	(4.2)	15.5	0.1
Total	$1.1	$106.5	$(7.5)

The Company’s combined pre-tax earnings from continuing operations relating to foreign subsidiaries or branches were $77.1, $52.0 and $63.4 during 2012, 2011 and 2010, respectively.

The following is a reconciliation of the statutory federal income tax rate with the effective tax rate from continuing operations for the tax expense in 2012, 2011 and 2010:

	Year Ended December 31,		
	2012	2011	2010
U.S. federal statutory rate	35.0 %	35.0 %	35.0 %
Permanent differences	12.4	1.6	3.1
State and local income taxes, net of federal income tax	(3.4)	0.9	(4.7)
International rate differential, including tax holidays	(54.2)	(3.3)	17.0
Foreign valuation allowances	(4.9)	1.3	(0.1)
Impairments	46.5	—	(44.6)
Adjustments for uncertain tax positions	(1.8)	4.7	(1.4)
Restructuring	(9.2)	(10.6)	—
Tax credits and other	(16.5)	(2.2)	2.1
Effective rate	3.9 %	27.4 %	6.4 %

The 23.5% decrease in the income tax rate in 2012 is primarily due to a shift in the geographical mix of worldwide income which was partially offset by the non-deductibility of goodwill impairments and the impact of internal restructurings. The Company's foreign taxes for 2012, 2011 and 2010 included \$3.5, \$2.5 and \$9.6, respectively, of benefit derived from tax holidays in the Philippines, India and Costa Rica. This resulted in a (11.6)%, (0.7)% and 8.3% impact to the effective tax rate in 2012, 2011 and 2010, respectively. The Company's foreign taxes for 2012, 2011 and 2010 include \$0.0, \$0.9 and \$7.5, respectively, related to a tax holiday in India which expired March 2011. The tax holidays in the Philippines were scheduled to expire by December 2012. The Company has applied for one- or two-year extensions of the Philippine tax holidays in accordance with local law.

The components of deferred tax assets and liabilities are as follows:

	At December 31,	
	2012	2011
Deferred tax assets:		
Loss and credit carryforwards	$54.1	$93.2
Pension and employee benefits	50.9	76.4
Restructuring charges	2.4	0.9
Deferred revenue	3.9	3.2
Foreign currency hedge	(7.2)	0.7
Other	43.1	43.0
Valuation allowances	(19.7)	(21.3)
Total deferred tax assets	127.5	196.1
Deferred tax liabilities:		
Depreciation and amortization	163.2	155.2
Deferred implementation costs	1.4	0.4
Contingent debt and accrued interest	50.4	44.0
Foreign currency hedge	—	—
Other	22.9	28.5
Total deferred tax liabilities	237.9	228.1
Net deferred tax (liabilities) / assets	$(110.4)	$(32.0)

Deferred tax assets and liabilities in the preceding table, after netting by taxing jurisdiction, are in the following captions in the Consolidated Balance Sheets at December 31, 2012 and 2011.

	At December 31,	
	2012	2011
Current deferred tax asset	$8.9	$44.8

Non-current deferred tax asset	19.2	26.1
Current deferred tax liability	2.0	1.9
Non-current deferred tax liability	136.5	101.0
Total deferred tax (liability)/asset	(110.4)	(32.0)

As of December 31, 2012 and 2011, $0.3 and $14.3, respectively, of the valuation allowances relate to the Company's foreign operations. Of these amounts, $12.9 related to discontinued operations in 2011.

As of December 31, 2012, the Company has federal, state, and foreign operating loss carryforwards of $49.5, $1,056.7 and $33.1, respectively. The federal operating loss carryforwards and state operating loss carryforwards expire between 2017 and 2027. The foreign operating loss carryforwards include $26.8 with no expiration date; the remainder will expire between 2013 and 2027. The federal and state operating loss carryforwards include losses of $49.5 and $107.6, respectively, that were acquired in connection with business combinations. Utilization of the acquired federal and state tax loss carryforwards may be limited pursuant to Section 382 of the Internal Revenue Code of 1986. At December 31, 2012, the Company also had $0.9 in state tax credits that expire at December 31, 2013.

The Company has not provided for U.S. federal income taxes or foreign withholding taxes on $443.4 of undistributed earnings of its foreign subsidiaries at December 31, 2012, because such earnings are intended to be reinvested indefinitely. It is not practicable to determine the amount of applicable taxes that would be due if such were distributed.

As of December 31, 2012 and 2011, the liability for unrecognized tax benefits was $54.0 and $112.3, respectively, including $19.1 and $23.5 of accrued interest and penalties, and is recorded within the other long-term liabilities in the accompanying Consolidated Balance Sheets. The total amount of net unrecognized tax benefits that would affect income tax expense, if ever recognized in the Consolidated Financial Statements, is $45.5. This amount includes net interest and penalties of $17.3. The Company's policy is to recognize interest and penalties accrued on unrecognized tax benefits as part of income tax expense. During the year ended December 31, 2012, the Company recognized a benefit of $2.9 related to the reversal of prior period accruals, net of current year interest and penalties, and $3.0 in interest and penalties for the year ended December 31, 2011.

A reconciliation of the beginning and ending total amounts of unrecognized tax benefits (exclusive of interest and penalties) is as follows:

	2012	2011
Balance at January 1	$88.8	$63.9
Additions based on tax positions related to the current year	0.5	26.7
Additions for tax positions of prior years	2.8	—
Reductions for tax positions of prior years	(15.8)	(1.5)
Settlements	(40.0)	2.4
Lapse of statutes	(1.4)	(2.7)
Balance at December 31	$34.9	$88.8

The liability for unrecognized tax benefits related to discontinued operations at December 31, 2012 and 2011 was $11.8 and $62.7, respectively.

The decrease in the liability for unrecognized tax benefits was largely due to resolution of tax audits and the lapsing of the statue of limitations in federal, state and foreign jurisdictions. The Company is currently attempting to resolve income tax audits relating to prior years in various jurisdictions. The Company has received assessments from these jurisdictions related to transfer pricing and deductibility of expenses. The Company believes that it is appropriately reserved with regard to these assessments as of December 31, 2012. Furthermore, the Company believes that it is reasonably possible that the total amounts of unrecognized tax benefits will decrease between $3.0 and $10.0 prior to December 31, 2013, based upon resolution of audits; however, actual developments could differ from those currently expected.

The Company files income tax returns in the U.S. federal jurisdiction, and various states and foreign jurisdictions. With a few exceptions, the Company is no longer subject to examinations by tax authorities for years before 2002.

15. Additional Financial Information

	At December 31,	
	2012	2011
Property and equipment, net:		
Land	$12.7	$18.4
Buildings	107.7	221.8
Leasehold improvements	180.6	160.2
Equipment	524.1	478.1
Software	305.5	276.4
Construction in progress and other	33.4	27.5
	1,164.0	1,182.4
Less: Accumulated depreciation	(884.8)	(838.5)
	$279.2	$343.9
Payables and other current liabilities:		
Accounts payable	$50.6	$41.9
Accrued taxes	21.2	42.0
Accrued payroll and related expenses	85.6	87.1
Derivative liabilities	6.1	11.2
Accrued expenses, other	85.7	67.4
Restructuring and exit costs	5.5	1.8
Deferred revenue and government grants	31.1	46.3
	$285.8	$297.7
Accumulated other comprehensive (loss) income:		
Foreign currency translation adjustments	$36.4	$14.1
Pension liability, net of tax benefit of $35.1 and $35.7	(58.3)	(59.3)
Unrealized gain (loss) on hedging activities, net of tax (expense) benefit ($7.1) and $1.0	11.4	(1.5)
	$(10.5)	$(46.7)

16. Industry Segment and Geographic Operations

Industry Segment Information

As a result of the change in classification of the Information Management business to discontinued operations, the change in our Chief Executive Officer in the fourth quarter, and in order to reflect the internal financial reporting structure and operating focus of our new management team and chief operating decision maker, we will report operating results and assets and liabilities as a single segment on a consolidated basis. Segment information for previous periods has been reclassified to conform to the current reporting structure.

Geographic Operations

The following table presents certain geographic information regarding the Company’s operations:

	Year Ended December 31,		
	2012	2011	2010
Revenues:			
North America	$1,836.4	$1,790.1	$1,716.3
Rest of World	168.6	143.1	147.0
	$2,005.0	$1,933.2	$1,863.3

	At December 31,	
	2012	2011

Long-lived Assets:		
North America	$849.3	$957.4
Rest of World	88.0	102.6
Held for Sale	—	319.7
	$937.3	$1,379.7

Concentrations

The Company derives significant revenues from AT&T. Revenues from AT&T were 23.1%, 23.4% and 23.0% of the Company's consolidated revenues from continuing operations for 2012, 2011 and 2010, respectively. Related accounts receivable from AT&T totaled $73.0 and $82.0 at December 31, 2012 and 2011, respectively. The Company also derives significant revenues from DIRECTV and Comcast. Revenues for DIRECTV were 12.3%, 11.8% and 8.6% of the Company's consolidated revenues from continuing operations for 2012, 2011 and 2010, respectively. Revenues for Comcast were 12.4%, 12.0% and 10.5% of the Company's consolidated revenues from continuing operations for 2012, 2011 and 2010, respectively.

17. Quarterly Financial Information (Unaudited)

	1st Quarter	2nd Quarter	3rd Quarter	4th Quarter	Total
2012:					
Revenues	$497.5	$491.1	$507.6	$508.8	$2,005.0
Operating income (loss)	29.0	(60.5) [(a)]	39.1	31.0	38.6
Net income (loss) from continuing operations	21.4	(53.7) [(a)]	30.3	30.2	28.2
Net income (loss) from discontinued operations	4.7	68.3	(2.4)	1.8	72.4
Net income	26.1	14.6	27.9	32.0	100.6
Basic earnings (loss) per share:					
Continuing operations	$0.19	$(0.47)	$0.27	$0.28	$0.25
Discontinued operations	0.04	0.60	(0.02)	0.02	0.65
Net basic earnings per common share	$0.23	$0.13	$0.25	$0.30	$0.90
Diluted earnings (loss) per share					
Continuing operations	$0.18	$(0.47)	$0.26	$0.27	$0.24
Discontinued operations	0.04	0.60	(0.02)	0.02	0.62
Net basic earnings per common share	$0.22	$0.13	$0.24	$0.29	$0.86

	1st Quarter	2nd Quarter	3rd Quarter	4th Quarter	Total
2011:					
Revenues	$464.8	$474.6	$493.3	$500.5	$1,933.2
Operating income	24.7	26.4	28.1	30.9	110.1
Net income from continuing operations	27.9	24.0	191.3	39.3	282.5
Net income from discontinued operations	7.0	7.7	22.4	15.2	52.3
Net income	34.9	31.7	213.7	54.5	334.8
Basic earnings per share:					
Continuing operations	$0.23	$0.20	$1.59	$0.33	$2.35
Discontinued operations	0.06	0.06	0.19	0.13	0.44
Net basic earnings per common share	$0.29	$0.26	$1.78	$0.46	$2.79
Diluted earnings per share					
Continuing operations	$0.22	$0.19	$1.57	$0.33	$2.30
Discontinued operations	0.06	0.07	0.18	0.12	0.42
Net basic earnings per common share	$0.28	$0.26	$1.75	$0.45	$2.72

(a) Includes asset impairment charge of $88.6.

The sum of the quarterly earnings (loss) per common share may not equal the annual amounts reported because per share amounts are computed independently for each quarter and for full year based on respective weighted-average common shares outstanding and other dilutive potential common shares.

Item 9. and 9A.

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

No disagreements with accountants on any accounting or financial disclosure or auditing scope or procedure occurred during 2012.

Item 9A. Controls and Procedures

Evaluation of Disclosure Controls and Procedures

The Company's Chief Executive Officer and Chief Financial Officer evaluated, together with General Counsel, the Chief Accounting Officer and other key members of management, the effectiveness of design and operation of the Company's "disclosure controls and procedures" (as defined in Rules 13a-15(e) and 15d-15(e) under the Securities Exchange Act of 1934, as amended (the Act)) as of the year ended December 31, 2012 (Evaluation Date). Based on this evaluation, the Company's Chief Executive Officer and Chief Financial Officer have concluded that the Company's disclosure controls and procedures were effective as of the Evaluation Date such that the information required to be disclosed by the Company in the reports that it files or submits under the Act is accumulated and communicated to the Company's management, including its Chief Executive Officer and Chief Financial Officer, as appropriate, to allow timely decisions regarding required disclosure, and are effective to ensure that such information is recorded, processed, summarized and reported within the time periods specified in the Securities and Exchange Commission's rules and forms.

Changes in Internal Control

There have been no changes in the Company's internal control over financial reporting that occurred during the fourth quarter ended December 31, 2012 that have materially affected, or are reasonably likely to materially affect, the Company's internal control over financial reporting.

Report of Management

Attestation Report on Internal Control Over Financial Reporting

Management's Responsibilities for and Audit Committee Oversight of the Financial Reporting Process
The management of Convergys Corporation is responsible for the preparation, integrity and fair presentation of the Consolidated Financial Statements and all related information appearing in this Annual Report. The Consolidated Financial Statements and notes have been prepared in conformity with accounting principles generally accepted in the United States and include certain amounts, which are estimates based upon currently available information, and management's judgment of current conditions and circumstances.

The Audit Committee, consisting entirely of independent directors, meets regularly with management, the compliance officer, internal auditors and the independent registered public accounting firm, and reviews audit plans and results, as well as management's actions taken in discharging responsibilities for accounting, financial reporting and internal control. Ernst & Young LLP, independent registered public accounting firm, and the internal auditors have direct and confidential access to the Audit Committee at all times to discuss the results of their examinations.

Management's Report on Internal Control over Financial Reporting
Convergys' management is also responsible for establishing and maintaining adequate internal control over financial reporting that is designed to produce reliable Financial Statements in conformity with accounting principles generally accepted in the United States. The system of internal control over financial reporting is evaluated for effectiveness by management and tested for reliability through a program of internal audits. Actions are taken to correct potential deficiencies as they are identified. Any internal control system, no matter how well designed, has inherent limitations, including the possibility that a control can be circumvented or overridden and misstatements due to error or fraud may occur and may not be detected. Also, because of changes in conditions, internal control effectiveness may vary over time. Accordingly, even an effective system of internal control will provide only reasonable assurance with respect to Financial Statement preparation and presentation.

Convergys' management assessed the effectiveness of the Company's internal control over financial reporting as of December 31, 2012. In making this assessment, it used the criteria set forth by the Committee of Sponsoring Organizations of the Treadway Commission (COSO) in Internal Control—Integrated Framework. Based on its assessment, management has concluded that, as of December 31, 2012, the Company's internal control over financial reporting is effective based on those criteria.

Convergys engaged Ernst & Young LLP in 2012 to perform an integrated audit of the Consolidated Financial Statements in accordance with auditing standards of the Public Company Accounting Oversight Board (United States). Their report appears on page 40. Additionally, Ernst & Young LLP has issued an audit report on the Company's internal control over financial reporting. That report appears on page 81.

/s/ Andrea J. Ayers
Andrea J. Ayers
Chief Executive Officer

/s/ Andre S. Valentine
Andre S. Valentine
Chief Financial Officer

February 21, 2013

Report of Independent Registered Public Accounting Firm

The Board of Directors and Shareholders of Convergys Corporation

We have audited Convergys Corporation's internal control over financial reporting as of December 31, 2012, based on criteria established in Internal Control—Integrated Framework issued by the Committee of Sponsoring Organizations of the Treadway Commission (the COSO criteria). Convergys Corporation's management is responsible for maintaining effective internal control over financial reporting, and for its assessment of the effectiveness of internal control over financial reporting included in the accompanying "Report of Management." Our responsibility is to express an opinion on the company's internal control over financial reporting based on our audit.

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

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

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

In our opinion, Convergys Corporation maintained, in all material respects, effective internal control over financial reporting as of December 31, 2012, based on the COSO criteria.

We also have audited, in accordance with the standards of the Public Company Accounting Oversight Board (United States), the consolidated balance sheets of Convergys Corporation as of December 31, 2012 and 2011, and the related consolidated statements of income, comprehensive income (loss), shareholders' equity, and cash flows for each of the three years in the period ended December 31, 2012 and our report dated February 21, 2013, expressed an unqualified opinion thereon.

/s/ Ernst & Young LLP
Ernst & Young LLP
Cincinnati, Ohio
February 21, 2013

Item 9B.

Item 9B. Other Information

None.

PART III

Part III, Item 10. through 14.

Item 10. Directors, Executive Officers and Corporate Governance

The information required by Item 10 with respect to directors, the Audit Committee of the Board of Directors, Audit Committee financial experts, Financial Code of Ethics and Section 16 compliance is incorporated herein by reference to the Company's proxy statement relating to its annual meeting of shareholders to be held on April 26, 2013. See "Corporate Governance," "Board of Directors and Committees," "Election of Directors" and "Share Ownership" sections in the Company's proxy statement.

Certain information concerning the executive officers of the Company is contained on page 14 of this Form 10-K.

Item 11. Executive Compensation

The information required by Item 11 is incorporated herein by reference to the Company's proxy statement relating to its annual meeting of shareholders to be held on April 26, 2013. See "Compensation and Benefits Committee Report," "Compensation Discussion and Analysis," "Summary Compensation Table," "Grants of Plan-Based Awards," "Outstanding Equity Awards at Fiscal Year End," "Option Exercises and Stock Vested," "Pension Benefits," Non-Qualified Deferred Compensation," "Payments Upon Termination or In Connection With Change of Control," and "Director Compensation" sections of the Company's proxy statement. See also "Compensation and Benefits Committee Interlocks and Insider Participation" under the "Corporate Governance" section in the proxy statement.

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

The share ownership of certain beneficial owners, directors and officers is incorporated herein by reference to the Company's proxy statement relating to its annual meeting of shareholders to be held on April 26, 2013. See "Share Ownership" section of the Company's proxy statement.

The remaining information called for by this Item relating to "securities authorized for issuance under equity compensation plans" is incorporated by reference to Note 10 of the Notes to Consolidated Financial Statements.

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

Relationships and related transactions section, and director independence is incorporated herein by reference to the Company's proxy statement relating to its annual meeting of shareholders to be held on April 26, 2013. See "Related Party Transactions" under the "Corporate Governance" section and "Director Independence" under the "Board of Directors and Committees" section of the Company's proxy statement.

Item 14. Principal Accounting Fees and Services

The information required by Item 14 is incorporated by reference to the Company's proxy statement relating to its annual meeting of shareholders to be held on April 26, 2013. See "Audit Fees" section of the Company's proxy statement.

Part IV, Items 15., 15(a)(1) and (2)

PART IV

Item 15. Exhibits, Financial Statement Schedule

Item 15(a)(1) and (2). List of Financial Statements and Financial Statement Schedule

The following consolidated financial statements of Convergys are included in Item 8:

Financial statement schedules other than that listed above have been omitted because the required information is not required or applicable.

CONVERGYS CORPORATION
SCHEDULE II — VALUATION AND QUALIFYING ACCOUNTS
(Millions of Dollars)

COL. A	COL. B	COL. C Additions		COL. D	COL. E
Description	Balance at Beginning of Period	(1) Charged to Expense	(2) Charged to Other Accounts	Deductions	Balance at End of Period
Year 2012					
Allowance for Doubtful Accounts	$9.3	$11.9	$—	$15.3 [a]	$5.9
Deferred Tax Asset Valuation Allowance	$21.3	$4.2 [b]	$—	$5.8 [c]	$19.7
Year 2011					
Allowance for Doubtful Accounts	$8.4	$13.4	$(0.2)	$12.3 [a]	$9.3
Deferred Tax Asset Valuation Allowance	$20.7	$2.6 [b]	$—	$2.0 [d]	$21.3
Year 2010					
Allowance for Doubtful Accounts	$10.5	$10.1	$—	$12.2 [a]	$8.4
	$20.8	$3.7 [b]	$—	$3.8 [e]	$20.7

Deferred Tax Asset Valuation
Allowance

[a] Primarily includes amounts written-off as uncollectible.
[b] Amounts relate to valuation allowances recorded for state operating loss carryforwards, foreign operating loss carryforwards and capital loss carryforwards.
[c] Primarily includes the release of foreign valuation allowances related to the utilization of foreign net operating losses in the current year and adjustment of valuation related to state tax credits.
[d] Primarily includes the release of state valuation allowances related to the utilization of state net operating losses in the current year and adjustment of valuation related to state tax credits.
[e] Primarily includes the release of state valuation allowances related to the utilization of state net operating losses in the current year,

adjustment of valuation related to state tax credits and capital loss carryforwards.

(3) Exhibits:
Exhibits identified in parenthesis below, on file with the Securities and Exchange Commission (SEC), are incorporated herein by reference as exhibits hereto.

Exhibit Number	
3.1	Amended Articles of Incorporation of the Company. (Incorporated by reference from Exhibit 3.1 to Form 10-Q filed on May 5, 2010.)
3.2	Amended and Restated Code of Regulations of Convergys Corporation. (Incorporated by reference from Exhibit 3.1 to Form 8-K filed on May 2, 2011.)
4.1	Indenture, dated October 13, 2009, by and between Convergys Corporation and U.S. Bank National Association, as trustee, relating to Convergys Corporation’s 5.75% Junior Subordinated Convertible Debentures due 2029. (Incorporated by reference from Exhibit 4.1 to Form 8-K filed October 13, 2009.)
4.2	Form of 5.75% Junior Subordinated Convertible Debenture due 2029. (Incorporated by reference from Exhibit 4.1 to Form 8-K filed October 13, 2009.)
4.3	Convergys Corporation Retirement and Savings Plan as amended and restated dated January 28, 2008. (Incorporated by reference from Exhibit 10.17 to Form 10-K filed on February 27, 2009.) *
4.4	Amendment to Convergys Corporation Retirement and Savings Plan dated March 31, 2008. (Incorporated by reference from Exhibit 10.18 to Form 10-K filed on February 27, 2009.) *
4.5	Amendment to Convergys Corporation Retirement and Savings Plan dated December 23, 2008. (Incorporated by reference from Exhibit 10.19 to Form 10-K filed on February 27, 2009.) *
10.1	Termination of a Material Definitive Agreement, dated May 31, 2012, in connection with the Company's purchase of its leased office facility in Orlando, Florida, and discharge of the related capital lease. (Incorporated by reference from Form 8-K filed on June 1, 2012.)
10.2	Stock and Asset Purchase Agreement, dated March 22, 2012, among the Company, NEC Corporation and NetCracker Technology Corporation. (Incorporated by reference from Exhibit 2.1 to Form 8-K, filed on March 27, 2012.)
10.3	$300,000,000 Four-Year Competitive Advance and Revolving Credit Facility Agreement dated as of March 11, 2011 among Convergys Corporation, The Lenders Party Hereto, JPMorgan Chase Bank, N.A., as Administrative Agent, Citibank, N.A., as Syndication Agent and BNP Paribas, The Bank of Nova Scotia, PNC Bank, National Association, and Wells Fargo Bank, N.A., as Co-Documentation Agents. (Incorporated by reference from Exhibit 10.1 to Form 8-K filed on March 16, 2011.)
10.4	Guarantee and Contribution Agreement dated as of March 11, 2011, among Convergys Corporation and JPMorgan Chase Bank, N.A., as administrative agent for the Lenders party to the $300,000,000 Four-Year Competitive Advance and Revolving Credit Facility Agreement dated as of March 11, 2011. (Incorporated by reference from Exhibit 10.2 to Form 8-K filed on March 16, 2011.)
10.5	Amendment No. 1 to Certain Operative Agreements, dated as of April 21, 2011, by and among Convergys Corporation, the Guarantors, Wachovia Development Corporation, the various banks and other lending institutions party thereto as lenders, and Wells Fargo Bank, National Association. (Incorporated by reference from exhibit 10.1 to Form 8-K filed on April 27, 2011.)
10.6	Form of Joinder Agreement, dated as of April 21, 2011, by and among Asset Ohio Fourth Street LLC, Brite Voice Systems, Inc., Convergys Cellular Systems Company, Convergys Customer Management Group Canada Holding Inc., Convergys Customer Management International Inc., and Convergys Finance Corp. as Subsidiary Guarantors, Convergys Corporation as Lessee, and Wells Fargo Bank, National Association, as Agent. Each of the Subsidiary Guarantors executed a Joinder Agreement identical in all material respects to the copy filed herewith except as to the Subsidiary Guarantor party thereto. (Incorporated by reference from exhibit 10.2 to Form 8-K filed on April 27, 2011.)
10.7	Purchase Agreement, dated June 2, 2011, among Convergys Cellular Systems Company, New Cingular Wireless PCS, LLC and SBC Tower Holdings LLC. (Incorporated by reference from Exhibit 2.1 to Form 8-K filed on June 3, 2011.)

10.8	Amendment No. 3 to Receivables Purchase Agreement, dated as of June 24, 2011, among Convergys Corporation, as initial Servicer and Performance Guarantor, Convergys Funding Inc., as Seller, Liberty Street Funding LLC, The Bank of Nova Scotia, as Purchaser and Scotiabank Group Agent, and Wells Fargo Bank, N.A., successor by merger to Wachovia Bank, National Association, as Purchaser and Administrative Agent. (Incorporated by reference from Exhibit 10.1 to Form 8-K filed on June 29, 2011.)
10.9	Convergys Corporation Deferred Compensation and Long-Term Incentive Plan Award Deferral Plan for Non-Employee Directors as amended and restated effective February 24, 2004. (Incorporated by reference from Exhibit 10.24 to Form 10-Q filed on August 9, 2004.) *

10.10	Convergys Corporation Deferred Compensation Plan for Non-Employee Directors dated August 26, 2008. (Incorporated by reference from Exhibit 10.2 to Form 10-Q filed on November 5, 2008.) *
10.11	Convergys Corporation Long-Term Incentive Plan as amended and restated effective as of April 22, 2008. (Incorporated by reference from Exhibit 10.4 to Form 10-Q filed on May 7, 2008.) *
10.12	Amendment to Convergys Corporation Long-Term Incentive Plan dated as of January 28, 2011. (Incorporated by reference to Exhibit 10.52 to Form 10-K filed on February 23, 2012.) *
10.13	Convergys Corporation Supplemental Executive Retirement Plan amended effective February 20, 2007. (Incorporated by reference from Exhibit 10.1 to Form 10-Q filed on August 7, 2007.) *
10.14	Convergys Corporation Supplemental Executive Retirement Plan as amended dated August 26, 2008. (Incorporated by reference from Exhibit 10.3 to Form 10-Q filed on November 5, 2008.) *
10.15	Amendment to Convergys Corporation Supplemental Executive Retirement Plan dated December 22, 2011. (Incorporated by reference from Exhibit 10.12 to Form 10-K filed on February 23, 2012.) *
10.16	Convergys Corporation Executive Deferred Compensation Plan as amended October 29, 2001. (Incorporated by reference from Exhibit 10.9 to Form 10-K filed on February 28, 2008.) *
10.17	Convergys Corporation Executive Deferred Compensation Plan as amended effective February 24, 2004. (Incorporated by reference from Exhibit 10.25 to Form 10-Q filed on August 9, 2004.) *
10.18	Convergys Corporation Executive Deferred Compensation Plan as amended dated December 21, 2005. (Incorporated by reference from Exhibit 10.14 to Form 10-K filed on February 27, 2009.) *
10.19	Convergys Corporation Executive Deferred Compensation Plan as amended dated October 21, 2008. (Incorporated by reference from Exhibit 10.15 to Form 10-K filed on February 27, 2009.) *
10.20	Amendment to Convergys Corporation Executive Deferred Compensation Plan dated April 1, 2011. (Incorporated by reference to Exhibit 10.50 to Form 10-K filed on February 23, 2012.) *
10.21	Amendment to Convergys Corporation Executive Deferred Compensation Plan dated December 22, 2011. (Incorporated by reference from Exhibit 10.17 to Form 10-K filed on February 23, 2012.) *
10.22	Convergys Corporation Employee Stock Purchase Plan. (Incorporated by reference from Appendix IV of Convergys Corporation's Definitive Schedule 14A filed on March 12, 2004.) *
10.23	Convergys Corporation Canadian Employee Share Plan. (Incorporated by reference from Exhibit 4.2.1 to Form S-8 Registration Statement (File No. 333-86137) filed on December 29, 1999.) *
10.24	Convergys Corporation Annual Executive Incentive Plan, as Amended and Restated, Effective on February 2, 2012. (Incorporated by reference from Exhibit 10.2 to Form 10-Q filed on May 8, 2012.)
10.25	Convergys Corporation Qualified and Non-Qualified Pension Plan as amended and restated dated January 28, 2008. (Incorporated by reference from Exhibit 10.22 to Form 10-K filed on February 27, 2009.) *
10.26	Amended Convergys Corporation Qualified and Non-Qualified Pension Plan dated March 31, 2008. (Incorporated by reference from Exhibit 10.23 to Form 10-K filed on February 27, 2009.) *
10.27	Amended Convergys Corporation Qualified and Non-Qualified Pension Plan dated December 17, 2008. (Incorporated by reference from Exhibit 10.24 to Form 10-K filed on February 27, 2009.) *
10.28	Amendment to Convergys Corporation Qualified and Non-Qualified Pension Plan dated June 29, 2011. (Incorporated by reference to Exhibit 10.51 to Form 10-K filed on February 23, 2012.) *
10.29	2012 Form of Executive Officer Severance Agreement. (Incorporated by reference from Exhibit 10.4 to Form 10-Q filed on July 31, 2012.) *
10.30	2012 Convergys Corporation Senior Executive Severance Pay Plan (Incorporated by reference from Exhibit 10.1 to Form 8-K filed on October 25, 2012.) *
10.31	2009 Form of Time-Based Restricted Stock Unit Award Agreement for Employees. (Incorporated by reference from exhibit (10.45) to Form 10-K filed on February 26, 2010.)*
10.32	2009 Form of Performance-Based Stock Unit Award Agreement. (Incorporated by reference from exhibit (10.46) to Form 10-K filed on February 26, 2010.)*
10.33	2009 Form of Performance-Based Restricted Stock Unit Award Agreement. (Incorporated by reference from exhibit (10.47) to Form 10-K filed on February 26, 2010.)*
10.34	

	2011 Form of Time-Based Restricted Stock Unit Award Agreement for Employees (Incorporated by reference from Exhibit 10.41 to Form 10-K filed on February 25, 2011).*
10.35	2011 Form of Performance-Based Restricted Stock Unit Award Agreement for Employees (Incorporated by reference from Exhibit 10.42 to Form 10-K filed on February 25, 2011).*
10.36	2011 Form of Stock Option Award Agreement for Employees (Incorporated by reference from Exhibit 10.43 to Form 10-K filed on February 25, 2011).*

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10.37	Trust Agreement, dated as of December 23, 2011, between Convergys Corporate and Fidelity Management Trust Company for the Convergys Corporation Executive Deferred Compensation Plan and Convergys Corporate Deferred Compensation Plan for Non-Employee Directors Trust. (Incorporated by reference from Exhibit 10.42 to Form 10-K file on February 23, 2012.) *
10.38	Amended and Restated Participation Agreement, dated as of June 30, 2010, between Convergys Corporation, Various Guarantors, Wachovia Development Corporation, as the Borrower and Lessor, Various Credit Lenders, Various Mortgage Lenders and Wells Fargo Bank, National Association, as Agent. (Incorporated by reference from Exhibit 10.2 to Form 10-Q filed on August 9, 2010.)
10.39	Second Amended and Restated Lease Agreement, dated as of June 30, 2010, between Wachovia Development Corporation and Convergys Corporation. (Incorporated by reference from Exhibit 10.3 to Form 10-Q filed on August 9, 2010.)
10.40	Amended and Restated Security Agreement, dated as of June 30, 2010, between Wachovia Development Corporation and Wells Fargo Bank, National Association and accepted and agreed to by Convergys Corporation. (Incorporated by reference from Exhibit 10.4 to Form 10-Q filed on August 9, 2010.)
10.41	Assignment and Recharacterization Agreement, dated as of June 30, 2010, between Convergys Corporation, Existing Guarantors, Wachovia Development Corporation, Existing Credit Note Purchasers, Existing Debt Providers, Wells Fargo Bank, National Association, Wachovia Development Corporation and the Lenders. (Incorporated by reference from Exhibit 10.5 to Form 10-Q filed on August 9, 2010.)
10.42	Amended and Restated Letter Agreement, dated October 30, 2012, between the Company and Jeffrey H. Fox.
10.43	Receivables Sales Agreement, dated as of June 30, 2009, between Convergys Corporation, as Originator, and Convergys Funding Inc., as Buyer. (Incorporated by reference from Exhibit 10.1 to Form 10-Q filed on August 4, 2009.)
10.44	Receivables Purchase Agreement, dated as of June 30, 2009, among Convergys Funding Inc. as Seller, Convergys Corporation as Services, Wachovia Bank, National Association, Liberty Street Funding LLC, the Bank of Nova Scotia, The Bank of Nova Scotia as Scotiabank Group Agent, and Wachovia Bank, National Association as Administrative Agent. (Incorporated by reference from Exhibit 10.2 to Form 10-Q filed on August 4, 2009.)
12	Computation of Ratio of Earnings to Combined Fixed Charges and Preferred Dividends.
21	Subsidiaries of Convergys Corporation.
23	Consent of Ernst & Young LLP, Independent Registered Public accounting for the Company.
24	Powers of Attorney.
31.1	Rule 13a - 14(a) Certification by Chief Executive Officer.
31.2	Rule 13a - 14(a) Certification by Chief Financial Officer.
32.1	Certification by Chief Executive Officer of Periodic Financial Reports Pursuant to Section 906 of the Sarbanes-Oxley Act of 2002.
32.2	Certification by Chief Financial Officer of Periodic Financial Reports Pursuant to Section 906 of the Sarbanes-Oxley Act of 2002.
101	The following financial statements from the Company's Annual Report on Form 10-K for the year ended December 31, 2012, filed on February 21, 2013, formatted in XBRL: (i) Consolidated Statements of Operations and Comprehensive Income (Loss), (ii) Consolidated Balance Sheets, (iii) Consolidated Statements of Cash Flows, (iv) the Notes to Condensed Consolidated Financial Statements, tagged as blocks of text.
*	Management contract or compensatory plan or arrangement.

Item 15(b) and (c). Exhibits and Financial Statement Schedule

The responses to these portions of Item 15 are submitted as a separate section of this report.

Signatures

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

	CONVERGYS CORPORATION
February 21, 2013	By /s/ Andre S. Valentine
	Andre S. Valentine
	Chief Financial Officer

Pursuant to the requirements of the Securities Exchange Act of 1934, this report has been signed below by the following persons on behalf of the registrant and in the capacities and on the date indicated.

Signature	Title	Date
/s/ ANDREA J. AYERS Andrea J. Ayers	Principal Executive Officer; Chief Executive Officer and Director	February 21, 2013
/s/ ANDRE S. VALENTINE Andre S. Valentine	Principal Financial Officer; Chief Financial Officer	February 21, 2013
/s/ TAYLOR C. GREENWALD Taylor C. Greenwald	Chief Accounting Officer; Vice President and Controller	February 21, 2013
JOHN F. BARRETT* John F. Barrett	Director	
RICHARD R. DEVENUTI* Richard R. Devenuti	Director	
JEFFREY H. FOX* Jeffrey H. Fox	Executive Chairman	
JOSEPH E. GIBBS* Joseph E. Gibbs	Director	
JOAN E. HERMAN* Joan E. Herman	Director	
THOMAS L. MONAHAN III* Thomas L. Monahan III	Director	
RONALD L. NELSON* Ronald L. Nelson	Director	
PHILIP A. ODEEN* Philip A. Odeen	Director	
RICHARD F. WALLMAN* Richard F. Wallman	Director	

*By: /s/ Andre S. Valentine February 21, 2013
Andre S. Valentine
as attorney-in-fact