ALLEGHENY TECHNOLOGIES INC
Form 10-K
February 26, 2016

UNITED STATES SECURITIES AND EXCHANGE COMMISSION
Washington, D.C. 20549
FORM 10-K
(Mark One)
x Annual report pursuant to Section 13 or 15(d) of the Securities Exchange Act of 1934
For the fiscal year ended December 31, 2015
OR
¨ Transition report pursuant to Section 13 or 15(d) of the Securities Exchange Act of 1934
For the transition period from to
Commission file number 1-12001
ALLEGHENY TECHNOLOGIES INCORPORATED
(Exact name of registrant as specified in its charter)

Delaware	25-1792394
(State or other jurisdiction of incorporation or organization)	(I.R.S. Employer Identification Number)
1000 Six PPG Place, Pittsburgh, Pennsylvania	15222-5479
(Address of principal executive offices)	(Zip Code)

Registrant's telephone number, including area code: (412) 394-2800
Securities registered pursuant to Section 12(b) of the Act:

Title of each class	Name of each exchange on which registered
Common Stock, $0.10 Par Value	New York Stock Exchange

Securities registered pursuant to Section 12(g) of the Act: None
Indicate by check mark whether the Registrant is well known seasoned issuer, as defined in Rule 405 of the Securities Act. Yes x No ¨
Indicate by check mark if the Registrant is not required to file reports pursuant to Section 13 or Section 15(d) of the Act. Yes ¨ No x
Indicate by check mark whether the Registrant (1) has filed all reports required to be filed by Section 13 or 15(d) of the Securities Exchange Act of 1934 during the preceding 12 months, and (2) has been subject to such filing requirements for the past 90 days. Yes x No ¨
Indicate by check mark whether the Registrant has submitted electronically 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 (§ 232.405 of this chapter) during the preceding 12 months (or for such shorter period that the registrant was required to submit and post such files). Yes x No ¨
Indicate by check mark if disclosure of delinquent filers pursuant to Item 405 of Regulation S-K is not contained herein, and will not be contained, to the best of Registrant's knowledge, in definitive proxy or information statements incorporated by reference in Part III of this Form 10-K or any amendment to this Form 10-K. x
Indicate by check mark whether the registrant is a large accelerated filer, an accelerated filer, a non-accelerated filer, or a smaller reporting company. See definitions of "large accelerated filer," "accelerated filer" and "smaller reporting company" in Rule 12b-2 of the Exchange Act. (Check one):

Large accelerated filer	x	Accelerated filer	¨
Non-accelerated filer	¨ (Do not check if a smaller reporting company)	Smaller reporting company	¨

Indicate by check mark whether the Registrant is a shell company (as defined in Rule 12b-2 of the Exchange Act). Yes ¨ No x
On February 12, 2016, the Registrant had outstanding 108,912,564 shares of its Common Stock.

The aggregate market value of the Registrant's voting stock held by non-affiliates at June 30, 2015 was approximately $3.3 billion, based on the closing price per share of Common Stock on June 30, 2015 of $30.20 as reported on the New York Stock Exchange. Shares of Common Stock known by the Registrant to be beneficially owned by directors and officers of the Registrant subject to the reporting and other requirements of Section 16 of the Securities Exchange Act of 1934, as amended (the "Exchange Act"), are not included in the computation. The Registrant, however, has made no determination that such persons are "affiliates" within the meaning of Rule 12b-2 under the Exchange Act.

Documents Incorporated By Reference

Selected portions of the Proxy Statement for the Annual Meeting of Stockholders to be held on May 6, 2016 are incorporated by reference into Part III of this Report.

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PART I

Item 1. Business

The Company

Allegheny Technologies Incorporated is a Delaware corporation with its principal executive offices located at 1000 Six PPG Place, Pittsburgh, Pennsylvania 15222-5479, telephone number (412) 394-2800, Internet website address http://www.atimetals.com. References to "Allegheny Technologies," "ATI," the "Company," the "Registrant," "we," "our" and and similar terms mean Allegheny Technologies Incorporated and its subsidiaries, unless the context otherwise requires.

Our Business

We are one of the largest and most diversified specialty materials and components producers in the world. Our high-value products include titanium and titanium alloys, nickel-based alloys and specialty steels, precision forgings, castings and machined components, zirconium and related alloys, precision and engineered stainless steel strip, and grain-oriented electrical steel. Our standard products include specialty stainless sheet, stainless steel sheet, and stainless steel plate. Our specialty materials are produced in a wide range of alloys and product forms and are selected for use in applications that demand materials having exceptional hardness, toughness, strength, resistance to heat, corrosion or abrasion, or a combination of these characteristics. ATI is a fully integrated supplier from raw material (for titanium sponge) and melt (for other specialty alloy systems) through highly engineered finished components. ATI's strategic vision is to be an aligned and integrated specialty materials and components company. Our strategies target the products and global growth markets that require and value ATI's technical and manufacturing capability leadership. These differentiated products serve key global markets including aerospace and defense, oil & gas/chemical & hydrocarbon processing industry, electrical energy, medical and automotive, and sales to these key global markets represented 79% of total 2015 sales.

We have undertaken a multi-phase program over several years to enhance and expand our capabilities to produce premium specialty materials aimed at these strategic, global markets. We are near the end of this multi-year cycle of capital expenditures on major strategic investments. Since 2004, we have transformed ATI by investing $4.7 billion in capital expenditures and acquisitions. This program has included acquisitions to forward integrate into producing forgings, castings and components, construction and qualification of facilities to backward integrate into producing our own titanium sponge to ensure a stable source of supply, and expanding manufacturing capabilities for producing specialty materials and components that enable ATI to continue to innovate and develop new products to maintain our technological advantage in these differentiated markets. These investments have included expansions of our premium titanium alloy melt and remelt capability; nickel-based alloy and superalloy melt and remelt capability; titanium and specialty alloy plate production capability; and premium titanium and nickel-based superalloy forging capability. Also, we purchased assets that added advanced nickel-based alloy and titanium alloy powders to our product portfolio. In 2014, we acquired precision flowform process technologies to produce thin-walled components in net or near-net shapes across multiple alloy systems, and we acquired capabilities for precision machining parts and components to expand our ability to product finished specialty materials parts and components and reinforce our important aerospace supply chain role.

We made significant progress in 2015 in qualifying and fully integrating several long-term strategic capital projects, including what we believe to be the world's most advanced and powerful Hot-Rolling and Processing Facility (HRPF) in the specialty materials flat-rolled products industry. The HRPF was fully integrated into our manufacturing operations in 2015, and is a critical part of our strategy to transform our flat-rolled products business into a more competitive and consistently profitable business. The HRPF is designed to:

- Significantly expand our product offering capabilities, shorten manufacturing cycle times, reduce inventory requirements, and improve the cost structure of our flat-rolled products business.
- Provide unsurpassed manufacturing capability and versatility in the production of a wide range of flat-rolled specialty metals, including ATI's diversified product mix of nickel-based and specialty alloys, titanium and titanium alloys, zirconium alloys, Precision Rolled Strip® products, and stainless sheet and coiled plate products.
- Process high-strength carbon steel alloys. We expect to partner with, or provide conversion services for, producers of these carbon steel products.

Additionally, the premium-quality (PQ) qualification process for our products used in jet engine rotating parts made with titanium sponge produced by our Rowley, UT facility was completed in the second quarter 2015. This marked the completion

of a journey from the 2009 commencement of operations that fully qualifies Rowley as a PQ titanium sponge producer for all applications.

These strategic capital projects have been multi-year accomplishments that are expected to begin providing a return on our invested capital after extensive construction and qualification phases. We believe these investments strengthen and enhance ATI's leadership position in the production of advanced specialty materials.

Strategic end use markets for our products include:

Aerospace and Defense. We are a world leader in the production of premium titanium alloys, nickel-based and cobalt-based alloys and superalloys, and vacuum-melted specialty alloys used in the manufacture of components for both commercial and military jet engines, as well as replacement parts for those engines. We also produce titanium alloys, vacuum-melted specialty alloys, and high-strength stainless alloys for use in commercial and military airframes, airframe components and missiles.

Titanium and titanium alloys are critical metals in aerospace and defense applications. They possess an extraordinary combination of properties, including superior strength-to-weight ratio, elevated temperature resistance, low coefficient of thermal expansion, and extreme corrosion resistance. These metals are used to produce jet engine components such as blades, vanes, discs, and casings, and airframe components such as structural members, landing gear, hydraulic systems, and fasteners. The latest and next-generation airframes and jet engines use increasing amounts of titanium and titanium alloys in component parts in order to minimize weight and maximize fuel efficiency.

Our nickel-based alloys and superalloys and specialty alloys are also widely used in aerospace and defense applications. Nickel-based alloys and superalloys remain extremely strong at high temperatures and resist degradation under extreme conditions. Typical aerospace applications for nickel-based alloys and superalloys and advanced powder alloys include jet engine shafts, discs, blades, vanes, rings and casings. The next generation and future-generation jet engines use new generations of nickel-based superalloys and advanced powder alloys in large part due to increased fuel efficiency requirements that require hotter-burning engines. Our specialty alloys include vacuum-melted maraging steels used in the manufacture of aircraft landing gear and structural components, as well as jet engine components.

Our titanium alloy, nickel-based alloy, and specialty alloy precision forgings are used for hot-section components for jet engines, structural components for aircraft, helicopters, launch vehicles, and other demanding applications. We are a world leader in isothermal and hot-die forging technologies for advanced aerospace components. We produce highly sophisticated components that have differing mechanical properties in different parts of the same piece for greater resistance to fatigue and temperature effects. ATI provides a full range of post-forging inspection, machining and finishing services with the certified quality needed to meet demanding application requirements. ATI has the technology, equipment and know-how to cast titanium parts in some of the largest sizes and most complex shapes currently being manufactured for aerospace applications. ATI's advanced manufacturing capabilities offer OEMs the freedom to design components with intricate geometries, cored passageways, cast-in features and sculpted surfaces. ATI's powder metal technology delivers extreme alloy compositions and refined microstructures that offer increased performance and longer useful lives in high-temperature aerospace environments. Powder metal technology boosts the efficiency of jet engines. Powder delivers the most uniform grain structure achievable, in near-net shapes, to cut reject rates and costs in highly machined components.

We continuously seek to develop innovative new alloys to better serve the needs of this end use market. For example, ATI's 718Plus® nickel-based superalloy, Rene 65 near-powder superalloy, and our powder alloys have won significant share in the current and next-generation jet engines.

Oil and Gas and Chemical and Hydrocarbon Processing Industry. The environments in which oil and gas can be found in commercial quantities have become more challenging, involving deep offshore wells, high pressure and high temperature conditions in sour wells and unconventional sources, such as shale oil and gas, and oil sands. Challenging offshore environments are in deepwater remote locations that are further off the continental shelf, including arctic and tropical locations, often one mile or more below the water's surface, and up to two miles below the ocean floor. The requirements for equipment that can operate for up to 30 years in these environments are the specialty materials that we produce.

Both of our business segments produce specialty materials that are critical to the oil and gas industry and the chemical and hydrocarbon processing industry. Our specialty materials, including titanium and titanium alloys, nickel-based

alloys, zirconium alloys, stainless and duplex alloys and other specialty alloys have the strength, wear corrosion-resistant properties necessary for difficult environments.

Our Datalloy2® and DatalloyHP™ specialty stainless is used for non-magnetic drill collars that enable the most advanced directional and horizontal drilling techniques to be guided to the exact position desired for the reservoir. We have developed a family of duplex alloys, including ATI 2003® and ATI 2102® lean duplex alloys, for use in subsea and deepwater oil and gas applications. Several of our strip, plate and cast products are NORSOK qualified. The NORSOK standards are developed by the Norwegian petroleum industry and are intended to identify materials used in oil and gas applications that are safe and cost-effective.

Electrical Energy. Our specialty materials are widely used in the global electrical power generation and distribution industry.We believe energy needs and environmental policies and the electrification of developing countries will continue to drive demand for our specialty materials and products for use in this industry.

For electrical power generation, our specialty materials, including corrosion-resistant alloys (CRAs), are used in coal, nuclear, and natural gas applications. In coal-fired plants, our CRAs are used for pipe, tube, and heat exchanger applications in water systems in addition to pollution control scrubbers. Our CRAs are also used in water systems, fuel cladding components, and process equipment for nuclear power plants. For nuclear power plants, we are an industry pioneer in producing reactor-grade zirconium and hafnium alloys used in nuclear fuel cladding and structural components. We have developed Nushield™ products, a new line of borated stainless alloys that begin with our advanced powder metals and are used for spent nuclear fuel applications. We are a technology leader for large diameter nickel-based superalloys used in natural gas land-based turbines for power generation. For renewable energy generation, our alloys are used for solar, fuel cell and geothermal applications.

The electrical power distribution market is served by our grain-oriented electrical steel (GOES) products, which are used in distribution and power transformer applications, where low loss magnetic properties are important. Significant global excess capacity and challenging market conditions, including the increasingly stringent transformer efficiency standards and a market shift to high permeability GOES products, resulted in the announced idling of GOES production in December 2015, which is expected to be completed by April 2016. ATI's future participation in the electrical power distribution market will be dependent on market conditions and our ability to earn an acceptable return on invested capital for these products.

Medical. ATI's advanced specialty materials are used in medical device products that save and enhance the quality of lives.

Our zirconium-niobium, titanium- and cobalt-based alloys are used for knees, hips and other prosthetic devices. These replacement devices offer the potential of lasting much longer than previous implant options.

Our biocompatible nickel-titanium shape memory alloy is used for stents to support collapsed or clogged blood vessels. Reduced in diameter for insertion, these stents expand to the original tube-like shape due to the metal's superelasticity. Our ultra fine diameter (0.002 inch/0.051 mm) titanium wire is used for screens to prevent blood clots from entering critical areas of the body. In addition, our titanium bar and wire are used to make surgical screws for bone repairs.

Manufacturers of magnetic resonance imaging (MRI) devices rely on our niobium superconducting wire to help produce electromagnetic fields that allow physicians to safely scan the body's soft tissue.

Automotive. For automobiles, nickel-based alloys, stainless steel and other ATI specialty materials are the choice for powertrain and structural parts, exhaust system and emission control parts, gaskets, air bag inflator housings, windshield wipers and blades, fuel systems, fasteners, hose clamps, gaskets and other components. Stainless steel is also used on exterior trim for its bright appearance and for internal components for its corrosion resistance.

ATI's advanced nickel-based alloys and specialty alloys in flat-rolled products are used primarily in engine and exhaust applications in the automotive market. Global demand is expected to grow for our high-value precision and engineered strip for automotive applications such as gaskets, hose clamps, and turbo chargers. As automotive engine operating temperatures get hotter as a result of turbochargers, we bring our expertise in aerospace alloys to the automotive market and alloy mix continues to trend favorably. Our HRPF provides the capability to produce these high-value alloys in wider and longer coils.

We also provide a variety of heat-resistant and corrosion-resistant automotive exhaust alloys. Again, in this application we focus on those exhaust applications that are closer to the engine where exhaust temperatures are highest and corrosion resistance is most severe.

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Business Segments

We operate in the following two business segments, which accounted for the following percentages of total revenues of $3.72 billion, $4.22 billion, and $4.04 billion for the years ended December 31, 2015, 2014, and 2013, respectively.

	2015		2014		2013	
High Performance Materials & Components	53	%	48	%	48	%
Flat Rolled Products	47	%	52	%	52	%

Information with respect to our business segments is presented below and in Note 16 of the notes to the consolidated financial statements.

High Performance Materials & Components Segment

Our High Performance Materials & Components segment produces, converts and distributes a wide range of high performance materials, including titanium and titanium-based alloys, nickel- and cobalt-based alloys and superalloys, zirconium and related alloys including hafnium and niobium, advanced powder alloys and other specialty materials, in long product forms such as ingot, billet, bar, rod, wire, shapes and rectangles, and seamless tubes, plus precision forgings and castings, components and machined parts. These products are designed for the high performance requirements of such major end markets as aerospace and defense (engines and airframes), oil & gas/chemical & hydrocarbon processing industry, electrical energy, and medical. We are integrated from raw materials (titanium sponge) to melt, remelt, finish processing, forging, investment casting, and machining in our titanium and titanium alloys, and zirconium and hafnium alloy products. Most of the products in this segment are sold directly to end-use customers, and a significant portion of our High Performance Materials & Components segment products are sold under multi-year agreements.

Approximately 70% of High Performance Materials & Components segment revenue is derived from the aerospace and defense market. Demand for our products is driven primarily by the commercial aerospace cycle. Large aircraft and aircraft engines are manufactured by a small number of companies, such as The Boeing Company, Airbus S.A.S. (an Airbus Group company), Bombardier Aerospace (a division of Bombardier Inc.), and Embraer (Empresa Brasileira de Aeronáutica S.A.) for airframes, and GE Aviation (a division of General Electric Company), Rolls-Royce plc, Pratt & Whitney (a division of United Technologies Corporation), Snecma (SAFRAN Group), and various joint ventures that manufacture jet engines. These companies and their suppliers form a substantial part of our customer base in this business segment. The loss of one or more of our customers in the aerospace and defense market could have a material adverse effect on ATI’s results of operations and financial condition.

Principal competitors in the High Performance Materials & Components segment include Berkshire Hathaway Inc., for nickel-based alloys and superalloys and specialty steel alloys, titanium and titanium-based alloys, precision forgings and investment castings through its recent acquisition of Precision Castparts Corporation and subsidiaries; Alcoa Inc., for titanium and titanium-based alloys and precision forgings through its recent acquisitions of RTI International Metals, Inc. and Firth Rixson; Carpenter Technology Corporation for nickel-based alloys and superalloys and specialty steel alloys; VSMPO-AVISMA for titanium and titanium-based alloys; and Aubert & Duval for precision forgings.

Flat Rolled Products Segment

Our Flat Rolled Products segment produces, converts and distributes stainless steel, nickel-based alloys, specialty alloys, and titanium and titanium-based alloys, in a variety of product forms including plate, sheet, engineered strip, and Precision Rolled Strip® products, as well as grain-oriented electrical steel. The major end markets for our flat-rolled products are oil & gas/ chemical & hydrocarbon processing industry, electrical energy, automotive, food processing equipment and appliances, construction and mining, electronics, communication equipment and computers, and aerospace and defense. The operations in this segment are ATI Flat Rolled Products and the Chinese joint venture company known as Shanghai STAL Precision Stainless Steel Company Limited (STAL), in which we hold a 60% interest. Segment results also include our 50% interest in the industrial titanium joint venture known as Uniti LLC.

Stainless steel, nickel-based alloys and titanium sheet products are used in a wide variety of industrial and consumer applications. In 2015, approximately 55% by volume of our stainless sheet products were sold to independent service centers, which have slitting, cutting or other processing facilities, with the remainder sold directly to end-use customers.

Engineered strip and very thin Precision Rolled Strip products, which are under 0.015 inches thick, are used by customers to fabricate a variety of products primarily in the automotive, construction, and electronics markets. In 2015, approximately 95% by volume of our engineered strip and Precision Rolled Strip products were sold directly to end-use customers or through our own distribution network, with the remainder sold to independent service centers.

Stainless steel, nickel-based alloy and titanium plate products are primarily used in industrial markets. In 2015, approximately 40% by volume of our plate products were sold to independent service centers, with the remainder sold directly to end-use customers.

Grain-oriented electrical steel (GOES) is used in power transformers where electrical conductivity and magnetic properties are important. Nearly all of our grain-oriented electrical steel products are sold directly to end-use customers.

Competition in the Flat Rolled Products segment includes domestic stainless steel competitors AK Steel Corporation, North American Stainless, and Outokumpu Stainless USA, LLC, as well as imports from numerous Chinese producers, Ta Chen International Corporation of Taiwan, and Aperam, based in Europe. Competitors for nickel-based alloys and superalloys and specialty steel alloys include Haynes International and VDM Metals GmbH. Competitors for GOES include AK Steel Corporation and imports from China, Russia, Japan, Korea, and various European Union countries.

Significant global overcapacity for stainless steel and GOES flat-rolled products has intensified the price competition in this segment over the last several years. Some of our foreign competitors are either directly or indirectly subsidized by governments. In 1999, the United States imposed anti-dumping and countervailing duties on dumped and subsidized imports of stainless steel sheet and strip in coils and stainless steel plate in coils from companies in ten foreign countries. The anti-dumping and countervailing duty orders were reviewed in 2011 by the U.S. Department of Commerce and the U.S. International Trade Commission to determine whether the orders should remain in place for another five years. The agencies decided that eight such orders against five countries will continue in effect. Additionally, on February 12, 2016, ATI and the three domestic stainless steel competitors filed antidumping and countervailing duty petitions concurrently with the U.S. Department of Commerce and the U.S International Trade Commission, charging that unfairly traded imports of stainless steel sheet and strip from the People’s Republic of China are causing material injury to the domestic stainless steel industry. We continue to monitor imports from foreign producers for appropriate action.

In December 2015, we announced rightsizing actions to better align our ATI Flat Rolled Products operations to the challenging market conditions for our commodity products. Such actions included the idling of the standard stainless melt shop and sheet finishing operations at the Midland, PA facility, which was completed in January 2016, and the idling of the GOES operations in Western PA, including the Bagdad, PA facility, which is expected to be completed by April 2016. The future restart of the Midland and GOES operations, respectively, will depend on future business conditions and our ability to earn an acceptable return on invested capital on products manufactured at these operations.

Raw Materials and Supplies

Substantially all raw materials and supplies required in the manufacture of our products are available from more than one supplier and the sources and availability of raw materials essential to our businesses are currently adequate. The principal raw materials we use in the production of our specialty materials are scrap (including iron-, nickel-, chromium-, titanium-, and molybdenum-bearing scrap), nickel, titanium sponge, zirconium sand and sponge, ferrochromium, ferrosilicon, molybdenum and molybdenum alloys, manganese and manganese alloys, cobalt, niobium, vanadium and other alloying materials.

Purchase prices of certain principal raw materials have been volatile. As a result, our operating results may be subject to significant fluctuation. We use raw materials surcharge and index mechanisms to offset the impact of changes in raw material costs; however, competitive factors in the marketplace may limit our ability to institute such mechanisms, and there can be a delay between the change in the price of raw materials and the impact of such mechanisms. For example, in 2015 we used approximately 95 million pounds of nickel; therefore a hypothetical change of a $1.00 per pound increase in nickel prices would result in increased costs of approximately $95 million. We also used approximately 800 million pounds of ferrous scrap in the production of our flat-rolled products; a hypothetical change of a $0.01 per pound increase would result in increased costs of approximately $8 million.

While we have increased our manufacturing capacity to produce titanium sponge, the major raw material for our titanium products, a portion of our needs, together with certain other raw materials, such as nickel, cobalt, and ferrochromium, are available to us and our specialty materials industry competitors primarily from foreign sources. Some of these foreign sources are located in countries that may be subject to unstable political and economic

conditions, which could disrupt supplies or affect the price of these materials.

We purchase our nickel requirements principally from producers in Australia, Canada, Norway, Russia, and the Dominican Republic. Zirconium raw materials are primarily purchased from the United States and China. Cobalt is purchased primarily from producers in Canada. More than 80% of the world's reserves of ferrochromium are located in South Africa, Zimbabwe, Albania, and Kazakhstan. Niobium is purchased primarily from producers in Brazil. We also purchase titanium sponge from sources in Russia, Kazakhstan, and Japan.

Export Sales and Foreign Operations

Direct international sales represented approximately 42% of our total annual sales in 2015, 38% of our total sales in 2014, and 39% of our total sales in 2013. These figures include direct export sales by our U.S.-based operations to customers in foreign countries, which accounted for approximately 33% of our total sales in 2015, 28% of our total sales in 2014, and 29% of our total sales in 2013. Our overseas sales, marketing and distribution efforts are aided by our international marketing and distribution offices, ATI Europe, ATI Europe Distribution, and ATI Asia, or by independent representatives at various locations throughout the world. We believe that at least 50% of ATI's 2015 sales were driven by global markets when we consider exports of our customers. Direct sales by geographic area in 2015, and as a percentage of total sales, were as follows:

(In millions)			
United States	$2,142.6	58	%
Europe	809.2	21	%
Asia	503.9	14	%
Canada	154.5	4	%
South America, Middle East and other	109.4	3	%
Total sales	$3,719.6	100	%

Our High Performance Materials & Components segment has manufacturing capabilities for melting, remelting, forging and finishing nickel-based alloys and specialty alloys in the United Kingdom, and manufacturing capabilities for precision forging and machining in Poland, primarily serving the construction, transportation and aerospace markets. Within our Flat Rolled Products segment, our STAL joint venture in the People's Republic of China produces Precision Rolled Strip products, which enables us to offer these products more effectively to markets in China and other Asian countries. Our Uniti LLC joint venture allows us to offer titanium products to industrial markets more effectively worldwide.

Backlog, Seasonality and Cyclicality

Our backlog of confirmed orders was approximately $1.5 billion at December 31, 2015 and $1.7 billion at December 31, 2014. We expect that approximately 85% of confirmed orders on hand at December 31, 2015 will be filled during the year ending December 31, 2016. Backlog of confirmed orders of our High Performance Materials & Components segment was approximately $1.3 billion at December 31, 2015 and $1.4 billion at December 31, 2014. We expect that approximately 85% of the confirmed orders on hand at December 31, 2015 for this segment will be filled during the year ending December 31, 2016. Backlog of confirmed orders of our Flat Rolled Products segment was approximately $0.2 billion at December 31, 2015 and $0.3 billion at December 31, 2014. We expect that all of the confirmed orders on hand at December 31, 2015 for this segment will be filled during the year ending December 31, 2016.

Generally, our sales and operations are not seasonal. However, demand for our products is cyclical over longer periods because specialty materials customers operate in cyclical industries and are subject to changes in general economic conditions and other factors both external and internal to those industries.

Research, Development and Technical Services

We believe that our research and development capabilities give ATI an advantage in developing new products and manufacturing processes that contribute to the profitable growth potential of our businesses on a long-term basis. We conduct research and development at our various operating locations both for our own account and, on a limited basis, for customers on a contract basis. Research and development expenditures for the years ended December 31, 2015, 2014, and 2013 included the following:

(In millions)	2015	2014	2013
Company-Funded:			
High Performance Materials & Components	$10.0	$12.9	$11.7
Flat Rolled Products	4.0	4.3	4.3
Corporate	0.2	0.2	0.1
	$14.2	$17.4	$16.1
Customer-Funded:			
High Performance Materials & Components	$1.5	$2.7	$2.7
Total Research and Development	$15.7	$20.1	$18.8

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Our research, development and technical service activities are closely interrelated and are directed toward cost reduction and process improvement, process control, quality assurance and control, system development, the development of new manufacturing methods, the improvement of existing manufacturing methods, the improvement of existing products, and the development of new products.

We own hundreds of United States patents, many of which are also filed under the patent laws of other nations. Although these patents, as well as our numerous trademarks, technical information, license agreements, and other intellectual property, have been and are expected to be of value, we believe that the loss of any single such item or technically related group of such items would not materially affect the conduct of our business.

Environmental, Health and Safety Matters

We are subject to various domestic and international environmental laws and regulations that govern the discharge of pollutants, and disposal of wastes, and which may require that we investigate and remediate the effects of the release or disposal of materials at sites associated with past and present operations. We could incur substantial cleanup costs, fines, civil or criminal sanctions, third party property damage or personal injury claims as a result of violations or liabilities under these laws or non-compliance with environmental permits required at our facilities. We are currently involved in the investigation and remediation of a number of our current and former sites as well as third party sites.

We consider environmental compliance to be an integral part of our operations. We have a comprehensive environmental management and reporting program that focuses on compliance with applicable federal, state, regional and local environmental laws and regulations. Each operating company has an environmental management system that includes mechanisms for regularly evaluating environmental compliance and managing changes in business operations while assessing environmental impact.

Our Corporate Guidelines for Business Conduct and Ethics address compliance with environmental laws as well as employment and workplace safety laws, and also describe our commitment to equal opportunity and fair treatment of employees. We continued to focus on safety across ATI's operations during 2015. As a result of our continuing focus on and commitment to safety, in 2015 our OSHA Total Recordable Incident Rate was 1.88 and our Lost Time Case Rate was 0.29, which improved versus 2014 and which we believe to be competitive with world-class performance for our industry.

Employees

We have approximately 9,200 full-time employees, of which approximately 15% are located outside the United States. Approximately 50% of our workforce is covered by various collective bargaining agreements, predominantly with the United Steel, Paper and Forestry, Rubber, Manufacturing, Energy, Allied & Industrial Service Workers International Union, AFL-CIO, CLC ("USW"). The collective bargaining agreements between ATI and the USW at many of our Flat Rolled Products segment facilities, and at two High Performance Materials & Components segment facilities located in Albany, OR and Lockport, NY, expired on June 30, 2015. Due to the lack of progress in ongoing contract negotiations, we issued a lockout notice involving more than 2,000 workers at various facilities which took effect August 15, 2015. We have and will continue to operate the affected facilities and continue serving customer needs with our salaried and non-union employees and temporary professional staffing until the contract negotiations are resolved. On February 22, 2016, we reached a tentative agreement with the bargaining committee of the USW on a new labor contract, which would end the lockout. The contract is subject to ratification by USW members.

Available Information

Our Internet website address is http://www.atimetals.com. Our annual reports on Form 10-K, quarterly reports on Form 10-Q, current reports on Form 8-K and amendments to those reports filed or furnished pursuant to Section 13(a) or 15(d) of the Securities Exchange Act of 1934, as well as proxy and information statements and other information that we file, are available free of charge through our Internet website as soon as reasonably practicable after we electronically file such material with, or furnish such material to, the United States Securities and Exchange Commission ("SEC"). Our Internet website and the content contained therein or connected thereto are not intended to be incorporated into this Annual Report on Form 10-K. You may read and copy materials we file with the SEC at the SEC's Public Reference Room at 100 F Street, NE, Washington, DC 20549. You may obtain information on the operation of the Public Reference Room by calling the SEC at 1-800-SEC-0330. The SEC maintains an Internet website at http://www.sec.gov, which contains reports, proxy and information statements and other information that we file electronically with the SEC.

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Executive Management, Including Executive Officers under Federal Securities Laws

The following are members of the Company's executive management, including executive officers under the federal securities laws, as of February 15, 2016:

Name	Age	Title
Richard J. Harshman	59	Chairman, President and Chief Executive Officer
Patrick J. DeCourcy	53	Senior Vice President, Finance and Chief Financial Officer
Hunter R. Dalton	61	Executive Vice President, Strategic Growth Initiatives
John D. Sims	56	Executive Vice President, High Performance Materials and Components Segment
Robert S. Wetherbee	56	Executive Vice President, ATI Flat Rolled Products Group
Elliot S. Davis	54	Senior Vice President, General Counsel, Chief Compliance Officer and Corporate Secretary
Kevin B. Kramer	56	Senior Vice President, Chief Commercial and Marketing Officer
Elizabeth C. Powers	56	Senior Vice President, Chief Human Resources Officer
Karl D. Schwartz	52	Vice President, Controller and Chief Accounting Officer

All individuals in the above table are subject to the reporting and other requirements of Section 16 of the Securities Exchange Act of 1934, as amended.

Set forth below are descriptions of the business backgrounds for the past five years of the Company's executive officers and management.

Richard J. Harshman became Chairman, President and Chief Executive Officer in May 2011. Mr. Harshman was President and Chief Operating Officer from 2010 to May 2011. Prior to that, he served as Executive Vice President, Finance and Chief Financial Officer from 2003 to 2010.

Patrick J. DeCourcy, has served as Senior Vice President, Finance and Chief Financial Officer since December 2013. He was Interim Chief Financial Officer from July 2013 to December 2013. From 2011 to July 2013, Mr. DeCourcy provided assistance to ATI executive management with business integration and strategic investments and was Senior Director, Strategic Projects and Business Integration, from March 2012 to July 2013. From 2000 to 2010, he served as Vice President, Finance and Administration of ATI Specialty Materials.

Hunter R. Dalton has served as Executive Vice President, Strategic Growth Initiatives since August 2015. He was Executive Vice President, ATI High Performance Specialty Materials Group from May 2011 to August 2015, and was President, ATI Specialty Materials from 2008 to August 2015. Previously, he served as Group President, ATI Long Products from 2008 to May 2011. From 2003 to 2008, Mr. Dalton served as Senior Vice President of Sales and Marketing for ATI Specialty Materials.

John D. Sims has served as Executive Vice President, High Performance Materials and Components Segment since August 2015. He was Executive Vice President, ATI High Performance Components Group from September 2013 to August 2015 and President, ATI Forged Products from September 2013 to April 2014. Previously, he was Executive Vice President, Primary Titanium Operations, and Engineered Alloys and Products beginning in February 2013. Prior to that, Mr. Sims served as Executive Vice President, Primary Metals and Exotic Alloys from May 2011 to February 2013 and President, Specialty Alloys & Components from 2008 to February 2013. Previously, he was Group President, ATI Primary Metals and Exotic Alloys from February 2011 to May 2011.

Robert S. Wetherbee began serving as Executive Vice President, ATI Flat Rolled Products group in January 2015. He served as President, ATI Flat Rolled Products beginning April 1, 2014. Prior to that, Mr. Wetherbee was President and Chief Executive Officer of Minerals Technologies, Inc. from March 2013 until February 2014. Mr. Wetherbee was President of ATI's tungsten materials business from 2010 through 2012. Previously, he was Vice President of Market Strategy of Alcoa Inc. from 2006 through 2009.

Elliot S. Davis became Senior Vice President, General Counsel, Chief Compliance Officer and Corporate Secretary in May 2011. Previously, Mr. Davis was Vice President and General Counsel from 2010 to May 2011. Mr. Davis served as Assistant General Counsel from 2008, when he joined the Company, to 2010. Prior to that, Mr. Davis was a partner

of the law firm K&L Gates LLP, where he practiced for nearly 20 years in its corporate, mergers and acquisitions and securities group.

Kevin B. Kramer was named Senior Vice President, Chief Commercial and Marketing Officer when he joined the Company in February 2014. Prior to joining ATI, Mr. Kramer was President - Stoneridge Wiring Division and Vice President of Stoneridge, Inc., from May 2012 through January 2014. Previously, Mr. Kramer worked for Alcoa, Inc. from 2004 until 2012, where he had served as President - Growth Initiatives and President - Wheel and Transportation Products.

Elizabeth C. Powers joined ATI in November 2014 as Senior Vice President, Chief Human Resources Officer. Ms. Powers served as Vice President, Human Resources and Chief Administrative Officer for Dresser-Rand Group, Inc. from 2010 until 2012 and from 2005 to 2009. She was named Vice President, Human Resources of Dresser-Rand Group in 2004. From 2012 until she joined ATI, Ms. Powers worked in academia. In 2009 and 2010, Ms. Powers worked in the public policy and non-profit sectors.

Karl D. Schwartz is Vice President, Controller and Chief Accounting Officer and has served in that role since January 2016. Previously, he was Controller and Chief Accounting Officer from May 2011 to January 2016, and Controller and Principal Accounting Officer from 2010 to May 2011. Prior to that, Mr. Schwartz was Assistant Controller beginning in 2002, when he joined the Company.

Item 1A. Risk Factors

There are inherent risks and uncertainties associated with our business that could adversely affect our operating performance and financial condition. Set forth below are descriptions of those risks and uncertainties that we currently believe to be material, but the risks and uncertainties described are not the only risks and uncertainties that could affect our business. See the discussion under “Forward-Looking Statements” in Item 7. Management’s Discussion and Analysis of Financial Condition and Results of Operations, in this Annual Report on Form 10-K.

Cyclical Demand for Products. The cyclical nature of the industries in which our customers operate causes demand for our products to be cyclical, creating potential uncertainty regarding future profitability. Various changes in general economic conditions may affect the industries in which our customers operate. These changes could include decreases in the rate of consumption or use of our customers’ products due to economic downturns. Other factors that may cause fluctuation in our customers’ positions are changes in market demand, lower overall pricing due to domestic and international overcapacity, currency fluctuations, lower priced imports and increases in use or decreases in prices of substitute materials. As a result of these factors, our profitability has been and may in the future be subject to significant fluctuation.

Worldwide economic conditions deteriorated significantly in the recent past and could remain weak in the future. These conditions have had, and may continue to have, an adverse effect on demand for our customers’ products and, in turn, on demand for our products. If these conditions persist or worsen, our results of operations and financial condition could be materially adversely affected.

Volatility of Raw Material Costs. Most of our inventory is valued utilizing the LIFO costing methodology. Inventory of our non-U.S. operations is valued using average cost or FIFO methods. Under the LIFO inventory valuation method, changes in the cost of raw materials and production activities are recognized in cost of sales in the current period even though these material and other costs may have been incurred at significantly different values due to the length of time of our production cycle. In a period of rising prices, cost of sales expense recognized under LIFO is generally higher than the cash costs incurred to acquire the inventory sold. Conversely, in a period of declining raw material prices, cost of sales recognized under LIFO is generally lower than cash costs incurred to acquire the inventory sold. Generally, over time based on overall inflationary trends in raw materials, labor and overhead costs, the use of the LIFO inventory valuation method will result in a LIFO inventory valuation reserve, as the higher current period costs are included in cost of sales and the balance sheet carrying value of inventory is reduced.

The prices for many of the raw materials we use have been extremely volatile during the past several years. Since we value most of our inventory utilizing the LIFO inventory costing methodology, a fall in raw material costs results in a benefit to operating results by reducing cost of sales and increasing the inventory carrying value, while conversely, a rise in raw material costs has a negative effect on our operating results by increasing cost of sales while lowering the carrying value of inventory. For example, for the year ended December 31, 2015, the effect of falling raw material costs on our LIFO inventory valuation method resulted in cost of sales that were $131.6 million lower than what would have been recognized under the FIFO costing methodology to value our inventory.

Due primarily to persistent raw material deflation over the last several years, we are in an unusual situation of having a LIFO inventory balance that exceeds replacement cost. In cases where inventory at FIFO cost is lower than the LIFO carrying value, a write-down of the inventory to market may be required, subject to a lower of cost or market evaluation. In applying the lower of cost or market principle, market means current replacement cost, subject to a ceiling (market value shall not exceed net realizable value) and a floor (market shall not be less than net realizable value reduced by an allowance for a normal profit margin). We evaluate product lines on a quarterly basis to identify

inventory values that exceed estimated net realizable value. The calculation of a resulting reserve, if any, is recognized as an expense in the period that the need for the reserve is identified.

Due to the long lead times required to manufacture many of our products, volatility in raw material prices exposes us to cash costs that may not be fully recovered through surcharge and index pricing mechanisms.

Product Pricing. From time-to-time, reduced demand, intense competition and excess manufacturing capacity have resulted in reduced prices, excluding raw material surcharges, for many of our products. These factors have had and may have an adverse impact on our revenues, operating results and financial condition.

Although inflationary trends in recent years have been moderate, during most of the same period certain critical raw material costs, such as nickel, titanium sponge, chromium, and molybdenum and scrap containing iron, nickel, titanium, chromium, and molybdenum have been volatile. While we have been able to mitigate some of the adverse impact of volatile raw material costs through raw material surcharges or indices to customers, rapid changes in raw material costs may adversely affect our results of operations.

We change prices on certain of our products from time-to-time. The ability to implement price increases is dependent on market conditions, economic factors, raw material costs and availability, competitive factors, operating costs and other factors, some of which are beyond our control. The benefits of any price increases may be delayed due to long manufacturing lead times and the terms of existing contracts.

Risks Associated with Commercial Aerospace. A significant portion of the sales of our High Performance Materials & Components segment represents products sold to customers in the commercial aerospace industry. The commercial aerospace industry has historically been cyclical due to factors both external and internal to the airline industry. These factors include general economic conditions, airline profitability, consumer demand for air travel, varying fuel and labor costs, execution of projected build rates, price competition, and international and domestic political conditions such as military conflict and the threat of terrorism. The length and degree of cyclical fluctuation are influenced by these factors and therefore are difficult to predict with certainty. Demand for our products in this segment is subject to these cyclical trends. A downturn in the commercial aerospace industry has had, and may in the future have, an adverse effect on the prices at which we are able to sell these and other products, and our results of operations, business and financial condition could be materially adversely affected.

Risks Associated with Strategic Capital Projects. From time-to-time, we undertake strategic capital projects in order to enhance, expand and/or upgrade our facilities and operational capabilities. For instance, over the last several years we have undertaken major expansions of our titanium and premium-melt nickel-based alloy, superalloy and specialty alloy production capabilities, and finished product commissioning of a new advanced specialty materials hot-rolling and processing facility. Our ability to achieve the anticipated increased revenues or otherwise realize acceptable returns on these investments or other strategic capital projects that we may undertake is subject to a number of risks, many of which are beyond our control, including a variety of market, operational, permitting, and labor-related factors. In addition, the cost to implement any given strategic capital project ultimately may prove to be greater than originally anticipated. If we are not able to achieve the anticipated results from the implementation of any of our strategic capital projects, or if we incur unanticipated implementation costs or delays, our results of operations and financial position may be materially adversely affected.

Dependence on Critical Raw Materials Subject to Price and Availability Fluctuations. We rely to a substantial extent on third parties to supply certain raw materials that are critical to the manufacture of our products. Purchase prices and availability of these critical raw materials are subject to volatility. At any given time we may be unable to obtain an adequate supply of these critical raw materials on a timely basis, on price and other terms acceptable, or at all.

If suppliers increase the price of critical raw materials, we may not have alternative sources of supply. In addition, to the extent that we have quoted prices to customers and accepted customer orders for products prior to purchasing necessary raw materials, or have existing contracts, we may be unable to raise the price of products to cover all or part of the increased cost of the raw materials.

The manufacture of some of our products is a complex process and requires long lead times. As a result, we may experience delays or shortages in the supply of raw materials. If unable to obtain adequate and timely deliveries of required raw materials, we may be unable to timely manufacture sufficient quantities of products. This could cause us to lose sales, incur additional costs, delay new product introductions, or suffer harm to our reputation.

We acquire certain important raw materials that we use to produce specialty materials, including nickel, zirconium, niobium, chromium, cobalt, and titanium sponge, from foreign sources. Some of these sources operate in countries that may be subject to unstable political and economic conditions. These conditions may disrupt supplies or affect the prices of these materials.

Availability of Energy Resources. We rely upon third parties for our supply of energy resources consumed in the manufacture of our products. The prices for and availability of electricity, natural gas, oil and other energy resources are subject to volatile market conditions. These market conditions often are affected by political and economic factors beyond our control. Disruptions in the supply of energy resources could temporarily impair the ability to manufacture products for customers. Further, increases in energy costs, or changes in costs relative to energy costs paid by competitors, has and may continue to

adversely affect our profitability. To the extent that these uncertainties cause suppliers and customers to be more cost sensitive, increased energy prices may have an adverse effect on our results of operations and financial condition.

Risks Associated with Environmental Matters. We are subject to various domestic and international environmental laws and regulations that govern the discharge of pollutants, and disposal of wastes, and which may require that we investigate and remediate the effects of the release or disposal of materials at sites associated with past and present operations. We could incur substantial cleanup costs, fines and civil or criminal sanctions, third party property damage or personal injury claims as a result of violations or liabilities under these laws or non-compliance with environmental permits required at our facilities. We are currently involved in the investigation and remediation of a number of our current and former sites as well as third party sites. We also could be subject to future laws and regulations that govern greenhouse gas emissions and various matters related to climate change, which could increase our operating costs.

With respect to proceedings brought under the federal Superfund laws, or similar state statutes, we have been identified as a potentially responsible party (PRP) at approximately 42 of such sites, excluding those at which we believe we have no future liability. Our involvement is limited or de minimis at approximately 25 of these sites, and the potential loss exposure with respect to 12 individual sites is not considered to be material.

We are a party to various cost-sharing arrangements with other PRPs at most of the sites. The terms of the cost-sharing arrangements are subject to non-disclosure agreements as confidential information. Nevertheless, the cost-sharing arrangements generally require all PRPs to post financial assurance of the performance of the obligations or to pre-pay into an escrow or trust account their share of anticipated site-related costs. In addition, the Federal government, through various agencies, is a party to several such arrangements.

We believe that we operate our businesses in compliance in all material respects with applicable environmental laws and regulations. However, from time-to-time, we are a party to lawsuits and other proceedings involving alleged violations of, or liabilities arising from, environmental laws. When our liability is probable and we can reasonably estimate our costs, we record environmental liabilities in our financial statements. In many cases, we are not able to determine whether we are liable or if liability is probable to reasonably estimate the loss or range of loss. Estimates of our liability remain subject to additional uncertainties, including the nature and extent of site contamination, available remediation alternatives, the extent of corrective actions that may be required, and the participation number and financial condition of other PRPs, as well as the extent of their responsibility for the remediation. We intend to adjust our accruals to reflect new information as appropriate. Future adjustments could have a material adverse effect on our results of operations in a given period, but we cannot reliably predict the amounts of such future adjustments. At December 31, 2015, our reserves for environmental matters totaled approximately $15 million. Based on currently available information, we do not believe that there is a reasonable possibility that a loss exceeding the amount already accrued for any of the sites with which we are currently associated (either individually or in the aggregate) will be an amount that would be material to a decision to buy or sell our securities. Future developments, administrative actions or liabilities relating to environmental matters, however, could have a material adverse effect on our financial condition or results of operations.

Risks Associated with Current or Future Litigation and Claims. A number of lawsuits, claims and proceedings have been or may be asserted against us relating to the conduct of our currently and formerly owned businesses, including those pertaining to product liability, patent infringement, commercial, government contracting, employment, employee and retiree benefits, taxes, environmental, health and safety and occupational disease, and stockholder and corporate governance matters. Due to the uncertainties of litigation, we can give no assurance that we will prevail on all claims made against us in the lawsuits that we currently face or that additional claims will not be made against us in the future. While the outcome of litigation cannot be predicted with certainty, and some of these lawsuits, claims or proceedings may be determined adversely to us, we do not believe that the disposition of any such pending matters is likely to have a material adverse effect on our financial condition or liquidity, although the resolution in any reporting period of one or more of these matters could have a material adverse effect on our results of operations for that period. Also, we can give no assurance that any other matters brought in the future will not have a material effect on our financial condition, liquidity or results of operations.

Labor Matters. We have approximately 9,200 full-time employees, of which approximately 15% are located outside the United States. Approximately 50% of our workforce is covered by various collective bargaining agreements,

predominantly with the USW. At various times, our collective bargaining agreements expire and are subject to renegotiation. The collective bargaining agreements between ATI and the USW at many of our Flat Rolled Products segment facilities, and at two High Performance Materials & Components segment facilities located in Albany, OR and Lockport, NY, expired on June 30, 2015. Due to the lack of progress in ongoing contract negotiations, we issued a lockout notice involving more than 2,000 workers at various facilities which took effect August 15, 2015. On February 22, 2016, we reached a tentative agreement with the bargaining committee of the USW on a new labor contract, which would end the lockout. The contract is subject to ratification by USW members. Generally, collective bargaining agreements that expire may be terminated after notice by the union. After

termination, the union may authorize a strike. A labor dispute, which could lead to a strike, lockout, or other work stoppage by the employees covered by one or more of the collective bargaining agreements, could have a material adverse effect on production at one or more of our facilities and, depending upon the length of such dispute or work stoppage, on our operating results. There can be no assurance that we will succeed in concluding collective bargaining agreements to replace those that expire.

Export Sales. We believe that export sales will continue to account for a significant percentage of our future revenues. Risks associated with export sales include: political and economic instability, including weak conditions in the world's economies; accounts receivable collection; export controls; changes in legal and regulatory requirements; policy changes affecting the markets for our products; changes in tax laws and tariffs; trade duties; and exchange rate fluctuations (which may affect sales to international customers and the value of profits earned on export sales when converted into dollars). Any of these factors could materially adversely affect our results for the period in which they occur.

Risks Associated with Retirement Benefits. At December 31, 2015, our U.S. qualified defined benefit pension plan was approximately 71% funded as calculated in accordance with U.S. generally accepted accounting principles, and we are not required to make any significant contributions to this plan in 2016. However, we may be required to fund the U.S. qualified defined benefit pension plan in the years beyond 2016 depending upon the value of plan investments and obligations in the future and changes in laws or regulations that govern pension plan funding. Depending on the timing and amount, a requirement that we fund our U.S. qualified defined benefit pension plan could have a material adverse effect on our results of operations and financial condition.

Risks Associated with Acquisition and Disposition Strategies. We intend to continue to strategically position our businesses in order to improve our ability to compete. Strategies we employ to accomplish this may include seeking new or expanding existing specialty market niches for our products, expanding our global presence, acquiring businesses complementary to existing strengths, and continually evaluating the performance and strategic fit of our existing business units. From time-to-time, management holds discussions with management of other companies to explore acquisitions, joint ventures, and other business combination opportunities as well as possible business unit dispositions. As a result, the relative makeup of the businesses comprising our Company is subject to change. Acquisitions, joint ventures, and other business combinations involve various inherent risks, such as: assessing accurately the value, strengths, weaknesses, contingent and other liabilities and potential profitability of acquisition or other transaction candidates; the potential loss of key personnel of an acquired business; our ability to achieve identified financial and operating synergies, growth or other benefits anticipated to result from an acquisition or other transaction; and unanticipated changes in business and economic conditions affecting an acquisition or other transaction. International acquisitions and other transactions could be affected by export controls, exchange rate fluctuations, domestic and foreign political conditions, changes in tax laws and a deterioration in domestic and foreign economic conditions.

Risks Associated with Information Technology. Information technology infrastructure is critical to supporting business objectives; failure of our information technology infrastructure to operate effectively could adversely affect our business. We depend heavily on information technology infrastructure to achieve our business objectives. If a problem occurs that impairs this infrastructure, the resulting disruption could impede our ability to record or process orders, manufacture and ship in a timely manner, or otherwise carry on business in the normal course. Any such events could cause us to lose customers or revenue and could require us to incur significant expense to remediate. As we integrate, implement and deploy new information technology processes and information infrastructure across our operations, we could experience disruptions in our business that could have an adverse effect on our business, financial condition, results of operations and cash flow.

Cyber Security Threats. Increased global information technology threats, security requirements, vulnerabilities, and a rise in sophisticated and targeted international computer crime pose a risk to the security of our systems and networks and the confidentiality, availability and integrity of our data. We believe that ATI faces the threat of such cyber attacks due to the markets we serve, the products we manufacture, the locations of our operations, and global interest in our technology. Due to the evolving nature of cyber security threats, the scope and impact of any incident cannot be predicted. We continually work to safeguard our systems and mitigate potential risks. Despite our efforts to protect sensitive information and confidential and personal data, our facilities and systems and those of our third-party service

providers may be vulnerable to security breaches. This could lead to disclosure, modification or destruction of proprietary and other key information, defective products, production downtimes, operational disruptions, and remediation costs, which in turn could adversely affect our reputation, competitiveness and results of operations.

Internal Controls Over Financial Reporting. 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.

Insurance. We have maintained various forms of insurance, including insurance covering claims related to our properties and risks associated with our operations. Our existing property and liability insurance coverages contain exclusions and limitations on coverage. From time-to-time, in connection with renewals of insurance, we have experienced additional exclusions and limitations on coverage, larger self-insured retentions and deductibles, and significantly higher premiums. As a result, in the future our insurance coverage may not cover claims to the extent that it has in the past and the costs that we incur to procure insurance may increase significantly, either of which could have an adverse effect on our results of operations.

Political and Social Turmoil. The war on terrorism as well as political and social turmoil could put pressure on economic conditions in the United States and worldwide. These political, social and economic conditions could make it difficult for us, our suppliers, and our customers to forecast accurately and plan future business activities, and could adversely affect the financial condition of our suppliers and customers and affect customer decisions as to the amount and timing of purchases from us. As a result, our business, financial condition and results of operations could be materially adversely affected.

Risks Associated with Government Contracts. Some of our operating units perform contractual work directly or indirectly for the U.S. Government, which requires compliance with laws and regulations relating to the performance of Government contracts. Various claims (whether based on U.S. Government or Company audits and investigations or otherwise) could be asserted against us related to our U.S. Government contract work. Depending on the circumstances and the outcome, such proceedings could result in fines, penalties, compensatory and treble damages or the cancellation or suspension of payments under one or more U.S. Government contracts. Under government regulations, a company, or one or more of its operating divisions or units, can also be suspended or debarred from government contracts based on the results of investigations.

Item 1B. Unresolved Staff Comments

None.

Item 2. Properties

Our principal domestic facilities for our high performance materials include titanium sponge production, melting operations, and production facilities that include processing and finishing operations. Our titanium sponge production facility is located in Rowley, UT. Domestic melting operations are located in Monroe and Bakers, NC, and Lockport, NY (vacuum induction melting, vacuum arc re-melt, electro-slag re-melt, plasma melting), Richland, WA (electron beam melting), and Albany, OR (vacuum arc re-melt). Production of high performance materials, most of which are in long product form, takes place at our domestic facilities in Monroe and Bakers, NC, Lockport, NY, Richburg, SC, Albany, OR, and Oakdale, PA. Our production of zirconium and related specialty alloys takes place at facilities located in Millersburg, OR, Huntsville, AL, and Frackville, PA. Our production of highly engineered forgings, castings, and machined components takes place at facilities in Cudahy and Coon Valley, WI, East Hartford, CT, Albany, OR, Irvine, CA, Portland, IN, Lebanon, KY, Billerica, MA, and Salem, OR.

Our principal domestic locations for melting stainless steel and other flat-rolled specialty materials are located in Brackenridge, Midland, and Latrobe, PA. Hot-rolling is performed at our domestic facilities in Brackenridge and Washington, PA. Finishing of our flat-rolled products takes place at our domestic facilities located in Brackenridge, Bagdad, Vandergrift, Midland, Washington, Rochester, Monaca, and Zelienople, PA, and in Waterbury, CT, New Bedford, MA, Louisville, OH, and Bridgeview, IL.

Substantially all of our properties are owned, and three of our properties are subject to mortgages or similar encumbrances securing borrowings under certain industrial development authority financings.

We also own or lease facilities in a number of foreign countries, including France, Germany, the United Kingdom, Poland, and the People’s Republic of China. We own and/or lease and operate facilities for melting and re-melting, machining and bar mill operations, laboratories and offices located in Sheffield, England. We own highly engineered forging and machining operations in Stalowa Wola, Poland. Through our STAL joint venture, we operate facilities for finishing Precision Rolled Strip products in the Xin-Zhuang Industrial Zone, Shanghai, China.

Our executive offices, located in PPG Place in Pittsburgh, PA, are leased.
Although our facilities vary in terms of age and condition, we believe that they have been well maintained and are in sufficient condition for us to carry on our activities.

Item 3. Legal Proceedings

From time-to-time, we become involved in various lawsuits, claims and proceedings relating to the conduct of our current and formerly owned businesses, including those pertaining to product liability, patent infringement, commercial, government contracting, employment, employee and retiree benefits, taxes, environmental, health and safety and occupational disease, and stockholder and corporate governance matters. While we cannot predict the outcome of any lawsuit, claim or proceeding, our management believes that the disposition of any pending matters is not likely to have a material adverse effect on our financial condition or liquidity. The resolution in any reporting period of one or more of these matters, including those described above, however, could have a material adverse effect on our results of operations for that period.

On February 11, 2016, the National Labor Relations Board (NLRB) served a complaint on ATI that alleges that the Company violated the National Labor Relations Act in connection with its collective bargaining negotiations with the USW and by locking out its USW-represented employees effective August 15, 2015. On February 22, 2016, the Company and the USW bargaining committee reached a tentative agreement, which would end the lockout and which provides for withdrawal of the complaint by the NLRB. The contract is subject to ratification by USW members.

Information relating to legal proceedings is included in Note 21. Commitments and Contingencies of the Notes to Consolidated Financial Statements and incorporated herein by reference.

Item 4. Mine Safety Disclosures

Not applicable.

PART II

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

Common Stock Prices

Our common stock is traded on the New York Stock Exchange (symbol ATI). At February 4, 2016, there were 3,686 record holders of Allegheny Technologies Incorporated common stock. We paid a quarterly cash dividend of $0.08 per share of common stock outstanding for the fourth quarter of 2015 and $0.18 per share of common stock outstanding for the first three quarters of 2015 and all four quarters of 2014. The payment of dividends and the amount of such dividends depends upon matters deemed relevant by our Board of Directors, such as our results of operations, financial condition, cash requirements, future prospects, any limitations imposed by law, credit agreements or senior securities, and other factors deemed relevant and appropriate. Our Asset Based Lending (“ABL”) Revolving Credit Facility restricts our ability to pay dividends in certain circumstances. For more information on the restrictions under our ABL facility, see Item 7. “Management’s Discussion and Analysis of Financial Condition and Results of Operations - Financial Condition and Liquidity - Dividends.”

The ranges of high and low sales prices for shares of our common stock for the quarterly periods ended on the dates indicated were as follows:

2015	March 31	June 30	September 30	December 31
High	$35.10	$37.76	$31.02	$19.10
Low	$27.12	$29.05	$13.66	$10.15
2014	March 31	June 30	September 30	December 31
High	$38.30	$45.26	$46.32	$36.99
Low	$29.74	$37.56	$36.74	$30.02

Cumulative Total Stockholder Return

The graph set forth below shows the cumulative total stockholder return (i.e., price change plus reinvestment of dividends) on our common stock from December 31, 2010 through December 31, 2015, as compared to (i) the S&P 500 Index, (ii) the S&P MidCap 400 Index and (iii) a Peer Group of companies. In recent years, we included the S&P 500 Index in our stock performance graphs because we were a component company of the S&P 500 and believed that it provided the most meaningful comparison to evaluate our cumulative total stockholder return. We are now including the S&P MidCap 400 Index because it is comprised of issuers currently having a market capitalization similar to ours now that we are a component company of that index. We do not intend to include the S&P 500 Index in our performance graph after this year absent a change in circumstances. We have included the SPDR S&P Metals and Mining Index ETF because our stock price trading and volatility trends with the performance of that index. We

believe that the Peer Group of companies, which is defined below, is representative of companies in our industry that have served similar markets during the applicable periods. The total

stockholder return for the Peer Group is weighted according to the respective issuer's stock market capitalization at the beginning of each period. The graph assumes that $100 was invested on December 31, 2010. The stock performance information included in this graph is based on historical results and is not necessarily indicative of future stock price performance.

Company / Index	Dec 2010	Dec 2011	Dec 2012	Dec 2013	Dec 2014	Dec 2015
ATI	100.00	87.84	57.00	68.52	68.09	22.65
S&P MidCap 400 Index	100.00	98.27	115.83	154.64	169.74	166.05
S&P 500 Index	100.00	102.11	118.45	156.82	178.29	180.75
Peer Group	100.00	84.96	94.75	126.14	121.46	97.64
SPDR S&P Metals & Mining ETF	100.00	71.23	65.62	61.18	44.87	21.74

Source: Standard & Poor's

Peer Group companies for the cumulative five year total return period ended December 31, 2015 were as follows:

AK Steel Holding Corporation	Materion Corp	Steel Dynamics, Inc.
Alcoa Inc.	Nucor Corp.	The Timken Company
Carpenter Technology Corporation	Precision Castparts Corp.	Timken Steel Corporation
Castle (A M) & Co.	Reliance Steel & Aluminum Co.	United States Steel Corporation
Commercial Metals Company	RTI International Metals, Inc.	Universal Stainless & Alloy Products, Inc.
Kennametal Inc.	Schnitzer Steel Industries, Inc.	Worthington Industries, Inc.

RTI International Metals Inc. was included in the total shareholder return Peer Group through July 22, 2015 when it was acquired by Alcoa Inc. Effective in 2014, The Timken Company spun off its steel business into a new public company, TimkenSteel Corporation, which was included in the total shareholder return Peer Group starting on June 19, 2014 when it began trading.

Item 6. Selected Financial Data

(In millions)

For the Years Ended December 31,	2015	2014	2013	2012	2011
Revenue by Market:					
Aerospace & Defense	$1,514.0	$1,446.3	$1,394.5	$1,584.5	$1,441.6
Oil & Gas/Chemical & Hydrocarbon Processing Industry	538.0	752.3	706.8	837.6	996.0
Electrical Energy	368.1	430.2	459.4	571.5	741.8
Automotive	293.8	414.4	348.3	363.7	356.2
Medical	220.7	211.0	207.7	211.5	243.6
Subtotal - Key Markets	2,934.6	3,254.2	3,116.7	3,568.8	3,779.2
Construction/Mining	226.3	295.6	287.5	364.2	305.3
Food Equipment & Appliances	217.3	248.8	251.7	215.4	236.8
Transportation	129.5	172.1	136.3	196.1	209.0
Electronics/Communication/Computers	126.4	154.6	153.1	170.0	161.1
Conversion Services and Other	85.5	98.1	98.2	152.4	120.9
Total	$3,719.6	$4,223.4	$4,043.5	$4,666.9	$4,812.3

(In millions, except per share amounts)

For the Years Ended December 31,	2015	2014	2013	2012	2011
Sales:					
High Performance Materials & Components	$1,985.9	$2,006.8	$1,944.8	$2,314.0	$2,081.0
Flat Rolled Products	1,733.7	2,216.6	2,098.7	2,352.9	2,731.3
Total Sales	$3,719.6	$4,223.4	$4,043.5	$4,666.9	$4,812.3
Segment operating profit (loss):					
High Performance Materials & Components (a)	$157.1	$234.8	$159.6	$315.7	$367.7
Flat Rolled Products (a)	(241.9)	(47.0)	(147.8)	19.7	136.0
Total segment operating profit (loss) (a)	$(84.8)	$187.8	$11.8	$335.4	$503.7
Income (loss) from continuing operations before income taxes	$(478.0)	$1.5	$(154.8)	$232.3	$322.1
Income tax provision (benefit)	(112.1)	(8.7)	(63.6)	72.4	110.4
Income (loss) from continuing operations	(365.9)	10.2	(91.2)	159.9	211.7
Income (loss) from discontinued operations, net of tax	—	(0.6)	252.8	7.9	11.4
Net income (loss)	(365.9)	9.6	161.6	167.8	223.1
Less: Net income attributable to noncontrolling interests	12.0	12.2	7.6	9.4	8.8
Net income (loss) attributable to ATI	$(377.9)	$(2.6)	$154.0	$158.4	$214.3
Basic net income (loss) per common share					
Continuing operations attributable to ATI per common share	$(3.53)	$(0.02)	$(0.93)	$1.42	$1.98
Discontinued operations attributable to ATI per common share	—	(0.01)	2.37	0.07	0.11
Basic net income (loss) attributable to ATI per common share	$(3.53)	$(0.03)	$1.44	$1.49	$2.09
Diluted net income (loss) per common share					
Continuing operations attributable to ATI per common share	$(3.53)	$(0.02)	$(0.93)	$1.36	$1.87
Discontinued operations attributable to ATI per common share	—	(0.01)	2.37	0.07	0.10
	$(3.53)	$(0.03)	$1.44	$1.43	$1.97

Diluted net income (loss) attributable to ATI per common share

(In millions, except per share amounts and ratios)					
As of and for the Years Ended December 31,	2015	2014	2013	2012	2011
Dividends declared per common share	$0.62	$0.72	$0.72	$0.72	$0.72
Ratio of earnings to fixed charges	—	—	—	2.8x	3.6x
Working capital (b)	$1,181.1	$1,584.4	$1,743.3	$1,663.1	$1,731.2
Total assets (c)	5,751.7	6,571.7	6,885.0	6,234.6	6,030.5
Long-term debt (c)	1,491.8	1,498.2	1,513.9	1,449.8	1,465.6
Total debt (c)	1,495.7	1,516.0	1,933.8	1,466.9	1,492.9
Cash and cash equivalents	149.8	269.5	1,026.8	304.6	380.6
Total ATI Stockholders' equity	2,082.8	2,598.4	2,894.2	2,479.6	2,475.3
Noncontrolling interests	101.6	110.9	100.5	107.5	96.3
Total Stockholders' equity	2,184.4	2,709.3	2,994.7	2,587.1	2,571.6

(a) Prior periods have been restated to reflect the Company's change in its method of determining business unit performance as internally reported to its senior management, CEO, and Board of Directors in the third quarter of 2015. Segment operating results are now reported excluding all effects of LIFO inventory accounting and any related changes in net realizable value (NRV) inventory reserves which offset the Company's aggregate net debit LIFO valuation balance. Additionally, segment operating results are now measured including all retirement benefit expense attributable to the business unit, for both current and former employees. See Note 16 of the notes to the consolidated financial statements for further explanation.

(b) Prior periods have been restated to reflect the adoption on a retrospective basis in the fourth quarter of fiscal year 2015 of new accounting guidance on the balance sheet classification of deferred taxes. This new guidance requires that deferred tax liabilities and assets be classified as noncurrent rather than separating deferred income tax liabilities and assets into current and noncurrent amounts in the consolidated balance sheet.

(c) Prior periods have been restated to reflect the adoption on a retrospective basis in the fourth quarter of fiscal year 2015 of new accounting guidance on the presentation of debt issuance costs. This guidance requires that debt issuance costs related to a recognized debt liability be presented in the consolidated balance sheet as a direct deduction from the carrying amount of that debt liability.

The information presented in Selected Financial Data should be read in conjunction with the information provided in Item 7. Management's Discussion and Analysis of Financial Condition and Results of Operations, and in Item 8. Financial Statements and Supplementary Data.

2015 results include the following:

- A $131.5 million pre-tax ($85.1 million, net of tax) non-cash charge for NRV inventory reserves, which are required to offset ATI's aggregate net debit LIFO inventory balance that exceeds current inventory replacement cost. See Note 4 of the notes to the consolidated financial statements for further explanation.
- A $68.4 million tax valuation allowance on a portion of ATI's deferred tax assets as a result of a three year cumulative loss from U.S. operations. See Note 15 of the notes to the consolidated financial statements for further explanation.
- A non-cash goodwill impairment charge in the Flat Rolled Products segment of $126.6 million pre-tax ($81.9 million, net of tax). See Note 6 of the notes to the consolidated financial statements for further explanation.
- Restructuring charges of $64.3 million ($41.6 million after-tax). These pre-tax charges were comprised of $54.5 million in long-lived asset impairment charges, $3.5 million in facility idling costs, and $6.3 million in employee severance charges. See Note 17 of the notes to the consolidated financial statements for further explanation.
- A $25.4 million pre-tax ($16.4 million after-tax) charge to revalue non-PQ grades of titanium sponge inventory based on current market prices. See Note 4 of the notes to the consolidated financial statements for further explanation.

2014 results from continuing operations include postretirement benefit curtailment and settlement gains of $25.5 million pre-tax ($18.4 million, net of tax). See Note 12 of the notes to the consolidated financial statements for further explanation.

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In 2014, we acquired two businesses for $92.9 million to expand our value-added capabilities to provide components and near-net shape parts. ATI Flowform Products added precision flowforming process technologies to the Company's capabilities and ATI Cast Products Salem Operations added precision machining capabilities. Both of these businesses have been integrated into the High Performance Materials & Components business segment. See Note 2 of the notes to the consolidated financial statements for further explanation.

In June 2014, we repaid the remaining $397.5 million outstanding of the 4.25% Convertible Senior Notes. See Note 9 of the notes to the consolidated financial statements for further explanation.

In 2013, we completed the sale of our tungsten materials business and after a strategic review, determined that we would exit our iron castings and fabricated components businesses. These three businesses are classified as discontinued operations for all periods presented above. We received cash proceeds, net of transaction costs, of $600.9 million for the sale of the tungsten materials business, and recognized a $428.3 million pretax ($261.4 million after tax) gain which is reported in discontinued operations. In addition, results of discontinued operations for 2013 include $19.5 million pre-tax ($11.9 million after-tax) of charges associated with the iron castings and fabricated components operations. See Note 3 of the notes to the consolidated financial statements for further explanation.

For the year ended December 31, 2013, we recorded pre-tax restructuring charges in continuing operations of $67.5 million($41.2 million after-tax or $0.39 per share) which are not included in segment results. These pre-tax charges were comprised of $55.1 million in non-cash long-lived asset impairment charges, $4.2 million in facility closure costs and $8.2 million in employee severance and termination benefit charges. See Note 17 of the notes to the consolidated financial statements for further explanation.

In July 2013, we issued $500 million of 5.875% Senior Notes due in 2023, the net proceeds of which were used for general corporate purposes. As of December 31, 2015, these notes bear an interest rate of 7.625% resulting from negative changes in the Company's credit ratings by both Moody's or Standard & Poor's. See Note 9 of the notes to the consolidated financial statements for further explanation.

In May 2011, we acquired Ladish Co., Inc. (Ladish) for $897.6 million, comprised of the issuance of 7.3 million shares of ATI common stock, which increased stockholders' equity by $513.6 million, and the payment of $384 million in cash. Results are included in the High Performance Materials & Components segment from the date of the acquisition.

In January 2011, we issued $500 million of 5.95% Senior Notes due in 2021. A portion of the proceeds from this transaction was used to fund the cash portion of the Ladish acquisition. Additionally in 2011, we retired the remaining $117 million of our outstanding 8.375% Notes due in December 2011.

Total ATI stockholders' equity for 2015 and 2013 included a net increase of $69.6 million and $241.0 million, respectively, primarily due to the use of higher discount rate to measure the benefit obligations. Total ATI stockholders' equity for 2014, 2012 and 2011 included a net decrease of $266.5 million, $164.1 million and $320.0 million, respectively, for the year-end remeasurements of pensions and other postretirement benefits, primarily due to the use of a lower discount rate to measure the benefit obligations.

For purposes of determining the ratio of earnings to fixed charges, earnings include pre-tax income (loss) from continuing operations plus fixed charges (excluding capitalized interest). Fixed charges consist of interest on all indebtedness (including capitalized interest) plus that portion of operating lease rentals representative of the interest factor (deemed to be one-third of operating lease rentals). For the years ended December 31, 2015, 2014 and 2013, fixed charges exceeded earnings by $492.1 million, $7.1 million and $192.8 million, respectively.

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

Certain statements contained in this Management's Discussion and Analysis of Financial Condition and Results of Operations are forward-looking statements. Actual results or performance could differ materially from those encompassed within such forward-looking statements as a result of various factors, including those described below. Net income and net income per share amounts referenced below are attributable to Allegheny Technologies Incorporated and Subsidiaries.

ATI Overview

We are one of the largest and most diversified specialty materials and components producers in the world. We use innovative technologies to offer global markets a wide range of specialty materials solutions. Our high-value products include titanium and titanium alloys, nickel-based alloys and specialty steels, zirconium and related alloys, advanced powder alloys, precision and engineered stainless steel strip, and precision forgings, castings, components and machining capabilities. Our standard products include specialty stainless sheet, stainless steel sheet, and stainless steel plate. Our specialty materials are produced in a wide range of alloys and product forms and are selected for use in applications that demand materials having exceptional hardness, toughness, strength, resistance to heat, corrosion or abrasion, or a combination of these characteristics. We are a fully integrated supplier, from alloy development, to raw materials (for titanium sponge) to melting and hot-working (for other specialty alloy systems), through highly engineered finished components.

Our strategic vision is to be an aligned and integrated specialty materials and components company. We operate in two business segments: High Performance Materials & Components, and Flat Rolled Products. Our High Performance Materials & Components segment produces, converts and distributes a wide range of high performance materials, including titanium and titanium-based alloys, nickel- and cobalt-based alloys and superalloys, zirconium and related alloys including hafnium and niobium, advanced powder alloys and other specialty materials, in long product forms such as ingot, billet, bar, rod, wire, shapes and rectangles, and seamless tubes, plus precision forgings, castings, components and machined parts. These products are designed for the high performance requirements of major end markets such as aerospace and defense, oil and gas, chemical and hydrocarbon processing industry, electrical energy, and medical. Our Flat Rolled Products segment produces, converts and distributes stainless steel, nickel-based alloys, specialty alloys, and titanium and titanium-based alloys, in a variety of product forms including plate, sheet, engineered strip, and Precision Rolled Strip products, as well as grain-oriented electrical steel. The major end markets for our flat-rolled products are oil and gas, chemical and hydrocarbon processing industry, electrical energy, automotive, food processing equipment and appliances, construction and mining, electronics, communication equipment and computers, and aerospace and defense.

Effective with the third quarter 2015, we changed our method of determining business unit performance as internally reported to our senior management, CEO, and Board of Directors. Segment operating results are now reported excluding all effects of LIFO inventory accounting and any related changes in net realizable value inventory (NRV) reserves which offset the aggregate net debit LIFO valuation balance. Additionally, segment operating results are now measured including all retirement benefit expense attributable to the business unit, for both current and former employees. Previously, we excluded defined benefit pension expense and all defined benefit and defined contribution postretirement medical and life insurance expense from segment operating profit. This change better aligns comparative operating performance following the 2014 U.S. defined benefit pension freeze for all non-represented employees and the change in 2015 to a company-wide defined contribution retirement plan structure. Under our previous reporting methodology, defined contribution retirement plan expense remained in segment operating results whereas defined benefit plan costs were excluded. Operating results for business segments, corporate and closed company and other expenses now include all applicable retirement benefit plan costs for pension and other postretirement benefits. We consider these changes to be a more useful method of measuring business unit financial performance based on changes to retirement benefit plans and the impact of the aggregate net debit LIFO position. The segment results below reflect these changes for all periods presented.

Overview of 2015 Financial Performance

Sales in 2015 decreased 12% to $3.7 billion, while cost of sales decreased only 5%, compared to 2014. This compression in our gross profit margin was impacted by lower operating rates due to an extended drop in demand from the oil & gas/chemical & hydrocarbon processing markets, which is our second largest end market, continued

weakness in the global construction and mining market and the effects of low-priced commodity stainless sheet imports on flat-rolled products' markets. Results in 2015 were also adversely impacted by falling raw materials prices, as pricing mechanisms that are designed to recover changes in raw material costs through indexes and surcharges fell faster than the length of the manufacturing cycle, and by inventory valuation reserves.

Total sales to our key end markets of aerospace and defense, oil and gas, chemical and hydrocarbon processing industry, electrical energy, medical, and automotive represented 79% of ATI's 2015 sales. Sales to our largest end market, aerospace and defense increased 8% over 2014 and represented 41% of our sales. We continued our strategic focus on key high-value specialty products, including titanium and titanium alloys, precision castings and forgings, nickel-based alloys and specialty alloys, zirconium and related alloys, and grain-oriented electrical steel, with 2015 sales of these key high-value products representing 83% of our total sales. Direct international sales were $1.6 billion in 2015 and represented 42% of total sales.

Selling and administrative expenses declined $34 million, or 12% compared to 2014 due primarily to net gains on ineffective cash flow hedges, lower retirement benefit expenses and lower costs of closed operations. Our 2015 results include $216 million of pre-tax charges for goodwill and long-lived asset impairments in our Flat Rolled Products business, charges to revalue non-PQ grades of titanium sponge inventory, and costs of severance and facility idling actions. Business segment operating results, which exclude these charges, were a loss of $85 million in 2015. We also recorded a $68 million income tax valuation allowance in 2015, and reported a loss attributable to ATI of $378 million, or $(3.53) per share.

A summary of our results from continuing operations is as follows:

(In millions, except per share amounts)	2015	2014	2013
Sales	$3,719.6	$4,223.4	$4,043.5
Gross profit	$60.3	$378.6	$252.6
Segment operating profit (loss)	$(84.8)	$187.8	$11.8
Goodwill impairment, restructuring and other charges	$(216.3)	$—	$(67.5)
Income (loss) from continuing operations before income taxes	$(478.0)	$1.5	$(154.8)
Income (loss) from continuing operations	$(365.9)	$10.2	$(91.2)
Amounts attributable to ATI common stockholders:			
Loss from continuing operations	$(377.9)	$(2.0)	$(98.8)
Per Diluted Share:			
Continuing operations	$(3.53)	$(0.02)	$(0.93)

We made significant operational progress in 2015 in qualifying and fully integrating several long-term strategic capital projects that position ATI to grow our high-value products. The Hot-Rolling and Processing Facility (HRPF) and the Rowley titanium sponge facility have been multi-year accomplishments that are expected to begin providing a return on our invested capital after extensive construction and qualification phases.

A few of our major strategic accomplishments during 2015 include:

- Fully integrating our Flat Rolled Products segment HRPF into all production processes. The HRPF enables ATI to grow our high-value product lines, such as nickel-based and specialty alloys, and titanium and titanium alloys, across both business segments. These differentiated products serve key global markets including Aerospace & Defense, Oil & Gas/Chemical & Hydrocarbon Processing Industry and Electrical Energy. The HRPF also enabled the decommissioning of two higher-cost, legacy hot-rolling operations.
- The premium-quality (PQ) qualification process for our products used in jet engine rotating parts made with titanium sponge produced by our Rowley, UT facility was completed in the second quarter 2015. This marked the completion of a journey from the 2009 commencement of operations that fully qualifies Rowley as a PQ titanium sponge producer for all applications.
- We continued to pace capital expansions in the High Performance Materials & Components segment for nickel alloy powder, titanium investment castings, and forgings to support the anticipated market demand increases, and grow new part introductions (NPIs) for the aerospace market.
- We maintained a solid liquidity position with $150 million in cash and implemented a $400 million asset-based domestic lending (ABL) facility with our bank group, which was undrawn at year-end 2015. The ABL facility contains no leverage or interest coverage ratios and is collateralized by the accounts receivable and inventory of ATI's domestic operations. We repaid $24 million of debt including all remaining debt assumed in the 2011 Ladish acquisition. Total debt to total capital was 42.0% at December 31, 2015, compared to 37.0% at the end of 2014.
- We continued to implement our strategy of operating as an integrated and aligned business, with more consistent health, welfare and retirement benefit programs across our operations, including the ongoing integration of multiple

business units within the High Performance Materials & Components segment. Fourth quarter 2015 results include $6 million of charges for workforce reductions in the High Performance Materials & Components segment and at ATI's headquarters, which are expected to benefit 2016 results by approximately $23 million.

- In the fourth quarter 2015, after a strategic review, we announced rightsizing actions that are intended to return the Flat Rolled Products business to profitability as quickly as possible and execute our strategy for sustainable long-term profitable growth. These actions included:
  - Idling of the Midland, PA standard stainless melt shop and sheet finishing operations, which was completed in early 2016.
  - Idling of grain-oriented electrical steel (GOES) operations, including the Bagdad, PA facility, which is expected to be completed by April 2016.
  - Streamlining operations to better focus on the products and global markets that value ATI's technical and manufacturing capability leadership that is enabled by the HRPF, such as nickel-based and specialty alloys, titanium and titanium alloys, Precision Rolled Strip and engineered strip.
- Capital expenditures in 2015, almost half of which related to the HRPF, were $145 million. This amount was significantly lower than our beginning of year estimate of $290 million as we re-evaluated certain anticipated capital projects based on market conditions. Additionally, some HRPF payments shifted to early 2016. We are near the end of a multi-year cycle of capital expenditures on major strategic investments.
- Our safety focus continued across all of ATI's operations. Our 2015 OSHA Total Recordable Incident Rate was 1.88 and our Lost Time Case Rate was 0.29 per 200,000 hours worked, which we believe to be competitive with world class performance for our industry.

ATI's results in 2016 will reflect two differently situated businesses. Our High Performance Materials & Components segment is positioned to begin a multi-year period of sustained profitable growth, supported by long-term agreements that provide significant growth for ATI on legacy and next-generation airplanes and the jet engines that power them. Volume from these agreements is expected to provide improved capacity utilization and product mix in our mill products, forgings, and titanium investment casting facilities, beginning in the first quarter 2016. We expect to increase the pace throughout our High Performance Materials & Components operations as we progress through 2016, driven primarily by the commercial aerospace market, with segment operating profit as a percentage of sales returning to double-digit levels by the second half of the year. This represents significant and continuing improvement toward our goals of long-term profitable growth and consistently earning a premium to our cost of capital.

In our Flat Rolled Products segment, our first half 2016 results will reflect the ongoing rightsizing and restructuring activities, including idling the Midland facility and our GOES operations, during a period of continuing low raw material prices and uncertain end market demand. As we continue to reposition this business to a higher value product mix, we expect shipments of our specialty coil and plate products to improve throughout 2016 and benefit from the HRPF capabilities, particularly for our 48"-wide nickel-based alloy sheet. As a result of these initiatives we expect the Flat Rolled Products segment to be modestly profitable by the second half of 2016.

Cash generation from operations will be a key focus throughout 2016. We do not expect to pay any U.S. federal taxes in 2016 due to net operating loss carryforwards, and we intend to carefully balance our working capital and other cash needs with the pace of our capital expenditure requirements. We currently expect 2016 capital expenditures to be approximately $240 million, including our nickel alloy powder expansion ($45 million), final payments on the HRPF ($70 million), completion of the expansion of our titanium investment castings capacity ($10 million), and the expansion of manufacturing capabilities at our STAL joint venture in China ($35 million), which is consolidated within ATI's financial results. The STAL capital expansion will be fully funded by STAL's operations. Depreciation and amortization expense in 2016 is forecast to be approximately $180 million.

Results of Operations

Sales from continuing operations were $3.72 billion in 2015, $4.22 billion in 2014, and $4.04 billion in 2013. The 12% sales decrease in 2015 is primarily the result of lower shipment volumes of most flat-rolled products, and weak selling prices for standard stainless flat-rolled products due to global competition, particularly imports from China, and declining raw material costs which affect transaction prices. Results of discontinued operations, which include the former tungsten materials business which was sold in November 2013, and now-closed iron castings and fabricated components businesses, are excluded from business segment results discussed below.

Segment operating results were a loss of $84.8 million, or (2.3)% of sales, in 2015, compared to segment operating profit of $187.8 million, or 4.4% of sales, in 2014, and $11.8 million, or 0.3% of sales, in 2013. Our measure of segment operating profit, which we use to analyze the performance and results of our business segments, excludes income taxes, corporate expenses, net interest expense, closed company expenses, the effects of LIFO inventory accounting and any related changes in net realizable value (NRV) inventory reserves, goodwill impairment charges and restructuring costs, if any. Total revenues and segment operating profit (loss) of our two business segments were as follows (in millions):

	2015		2014		2013	
	Revenue	Operating Profit (Loss)	Revenue	Operating Profit (Loss)	Revenue	Operating Profit (Loss)
High Performance Materials & Components	$1,985.9	$157.1	$2,006.8	$234.8	$1,944.8	$159.6
Flat Rolled Products	1,733.7	(241.9)	2,216.6	(47.0)	2,098.7	(147.8)
Total ATI	$3,719.6	$(84.8)	$4,223.4	$187.8	$4,043.5	$11.8

Business segment results in 2015 exclude $347.8 million in pre-tax charges, which included a $126.6 million charge for goodwill impairment, $54.5 million of long-lived asset impairment charges, $131.5 million of NRV inventory reserve charges, a $25.4 million charge to revalue non-PQ titanium sponge inventory based on current market prices, and $9.8 million of charges for severance actions and idling costs. Additionally, ATI recorded a $68.4 million income tax valuation allowance due to cumulative losses from U.S. operations.

The 2015 loss from continuing operations attributable to ATI was $377.9 million, or $(3.53) per share, compared to a 2014 loss from continuing operations attributable to ATI of $2.0 million, or $(0.02) per share, and a loss from continuing operations attributable to ATI of $98.8 million, or $(0.93) per share in 2013. 2014 results include $25.5 million of pre-tax curtailment and settlement gains relating to postretirement benefit plan changes, primarily included in Flat Rolled Products segment results, and $63.1 million pre-tax HRPF commissioning and Rowley PQ qualification costs. Results for 2013 include a $67.5 million pre-tax restructuring charge for long-lived asset impairments and other costs associated with facility closures, including termination benefits for pension and other postretirement benefit plans, and other severance charges.

Results of discontinued operations were immaterial in 2015 and are not separately reported. Results of discontinued operations was also immaterial in 2014. Income from discontinued operations was $252.8 million in 2013, which includes the $261.4 million net of tax, or $2.45 per share, gain on sale of the tungsten materials business.

Comparative information for our overall revenues (in millions) by end market and their respective percentages of total revenues is as follows:

Market	2015		2014		2013	
Aerospace & Defense	$1,514.0	41 %	$1,446.3	34 %	$1,394.5	35 %
Oil & Gas/Chemical & Hydrocarbon Processing Industry	538.0	14 %	752.3	18 %	706.8	17 %
Electrical Energy	368.1	10 %	430.2	10 %	459.4	11 %
Automotive	293.8	8 %	414.4	10 %	348.3	9 %
Medical	220.7	6 %	211.0	5 %	207.7	5 %
Subtotal - Key Markets	2,934.6	79 %	3,254.2	77 %	3,116.7	77 %
Construction/Mining	226.3	6 %	295.6	7 %	287.5	7 %
Food Equipment & Appliances	217.3	6 %	248.8	6 %	251.7	6 %
Transportation	129.5	4 %	172.1	4 %	136.3	3 %
Electronics/Computers/Communication	126.4	3 %	154.6	4 %	153.1	4 %
Conversion Services and Other	85.5	2 %	98.1	2 %	98.2	3 %
Total	$3,719.6	100 %	$4,223.4	100 %	$4,043.5	100 %

Comparative information for our major high-value and standard products based on their percentages of our total revenues is as follows:

For the Years Ended December 31,	2015	2014	2013
High-Value Products			
Nickel-based alloys and specialty alloys	28 %	26 %	25 %
Titanium and titanium alloys	17 %	15 %	16 %
Precision forgings, castings and components	14 %	13 %	13 %
Precision and engineered strip	13 %	13 %	13 %
Zirconium and related alloys	7 %	6 %	6 %
Grain-oriented electrical steel	4 %	4 %	5 %
Total High-Value Products	83 %	77 %	78 %
Standard Products			
Stainless steel sheet	8 %	9 %	9 %
Specialty stainless sheet	6 %	10 %	10 %
Stainless steel plate and other	3 %	4 %	3 %
Total Standard Products	17 %	23 %	22 %
Grand Total	100 %	100 %	100 %

Information with respect to our business segments is presented below.

High Performance Materials & Components

(In millions)	2015	% Change	2014	% Change	2013
Sales to external customers	$1,985.9	(1)%	$2,006.8	3 %	$1,944.8
Segment operating profit	157.1	(33)%	234.8	47 %	159.6
Segment operating profit as a percentage of sales	7.9 %		11.7 %		8.2 %
Direct international sales as a percentage of sales	43.1 %		41.2 %		43.3 %

Our High Performance Materials & Components segment produces, converts and distributes a wide range of high performance materials, including titanium and titanium-based alloys, nickel- and cobalt-based alloys and superalloys, zirconium and related alloys including hafnium and niobium, advanced powder alloys and other specialty materials, in long product forms such as ingot, billet, bar, rod, wire, shapes and rectangles, and seamless tubes, plus precision forgings, castings, components, and machined parts. These products are designed for the high performance requirements of such major end markets as aerospace and defense, oil and gas, chemical and hydrocarbon processing industry, electrical energy, and medical.

2015 Compared to 2014

Sales for the High Performance Materials & Components segment in 2015 decreased 1%, to $1.99 billion, with sales to the aerospace market up 4%, driven by a 12% increase in commercial jet engine sales. Sales to the oil & gas/chemical & hydrocarbon processing industry market declined 43%, as the impact of the significant decline in oil prices led to falling demand for products to this market throughout the year.

Comparative information for our High Performance Materials & Components segment revenues (in millions) by market, the respective percentages of overall segment revenues for the years ended 2015 and 2014, and the percentage change in revenues by market for 2015 is as follows:

Market	2015		2014		Change	
Aerospace:						
Jet Engines	$709.6	36 %	$632.9	32 %	$76.7	12 %
Airframes	379.5	19 %	376.1	19 %	3.4	1 %
Government	155.9	8 %	182.4	9 %	(26.5)	(15)%
Total Aerospace	1,245.0	63 %	1,191.4	60 %	53.6	4 %
Medical	208.1	10 %	187.6	9 %	20.5	11 %
Electrical Energy	135.8	7 %	124.0	6 %	11.8	10 %
Defense	120.9	6 %	102.6	5 %	18.3	18 %
Oil & Gas/Chemical & Hydrocarbon Processing Industry	108.6	5 %	189.1	9 %	(80.5)	(43)%
Transportation	46.9	3 %	47.8	3 %	(0.9)	(2)%
Construction/Mining	46.7	2 %	64.3	3 %	(17.6)	(27)%
Other	73.9	4 %	100.0	5 %	(26.1)	(26)%
Total	$1,985.9	100 %	$2,006.8	100 %	$(20.9)	(1)%

In 2015 and 2014, the aerospace market represented 63% and 60%, respectively, of the revenues of the segment with the majority of the sales to the jet engine market. Aerospace has historically represented a significant market for our High Performance Materials & Components segment, especially for premium quality specialty materials used in the manufacture of jet engines for the original equipment and spare parts markets. ATI is a fully integrated supplier, from raw material (for titanium sponge) and melt through highly engineered technically complex parts, creating a more stable and sustainable supply chain for aerospace, defense and industrial markets. In addition, we have become a larger supplier of specialty materials used in airframe construction. In both 2015 and 2014, sales of our material into the airframe market represented approximately 30% of our aerospace market sales.

Over the past several years, we have entered into long-term agreements (LTAs) with our customers for our specialty materials, in the form of mill products and components, to reduce their supply uncertainty. In 2014 and early 2015, we reached agreement on several LTAs with aerospace market OEMs that total over $4 billion in expected revenue. These LTAs are for ATI's specialty materials mill products, forgings and investment castings required for both next-generation and legacy aircraft platforms. Our LTAs include a titanium products supply agreement for aircraft airframes and structural components with The Boeing Company, which extends into the next decade. This long-term agreement covers value-added titanium mill products and provides opportunity for greater use of ATI's next generation and advanced titanium alloys in both long product and flat-rolled product forms, including highly engineered titanium cast and forged products. The agreement includes both long-product forms that are manufactured within the High Performance Materials & Components segment, and a significant amount of plate products that are manufactured utilizing assets of both the High Performance Materials & Components and Flat Rolled Products segments. Revenues and profits associated with these titanium products covered by the Boeing long-term agreement are included primarily in the results for the High Performance Materials & Components segment. We also have LTAs with Rolls-Royce plc for the supply of nickel-based superalloy disc-quality products and precision forgings and castings for commercial jet engine applications. In addition, we have LTAs with GE Aviation for the supply of premium titanium alloys, nickel-based alloys, and vacuum-melted specialty alloys products for commercial and military jet engine applications and with Snecma (Safran) for the supply of premium titanium alloys, nickel-based alloys, vacuum melted specialty alloys, and titanium investment castings for commercial and military jet engine applications.

The commercial aerospace market's use of titanium alloys is expected to increase significantly as new aircraft airframe designs use a larger percentage of titanium alloys. Given the significant current backlogs of Boeing and Airbus, as well as the backlogs of the engine manufacturers, this increasing demand for titanium alloys mill products is expected to last for at least the next several years. Additionally, new entrants to the commercial jet aircraft market for single aisle and regional jets are expected to increase demand for these alloys over the next few years. Both Boeing and Airbus have implemented production increases, and announced production increases over the next several years for

legacy and next generation aircraft, which is expected to positively impact the demand for titanium alloys and nickel-based superalloys for both jet engine and airframe applications. Due to manufacturing cycle times, demand for our specialty materials leads the deliveries of new aircraft by between 6 to 12 months. In addition, as our specialty materials are used in rotating components of jet engines, demand for our products for

spare parts is impacted by aircraft flight activity and engine refurbishment requirements of U.S. and foreign aviation regulatory authorities. As the number of aircrafts in service increases, the need for our materials associated with engine refurbishment is expected to increase.

Projections of aircraft deliveries generally show a decline near the end of the decade due to the phase out of current generation single aisle airframe production, but with overall production still at historically high levels, supported by a large order backlog. New commercial aircraft engine builds are also forecasted to follow the same pattern. The projected growth increase of large twin aisle and next generation single aisle aircraft builds is significant, as the next generation of both types of aircrafts utilize significantly more of the high-value types of materials we produce in both the airframe and in the jet engines. Our current shipset revenues for certain next-generation airframes and their engines are estimated as follows:

- Boeing 737MAX, $1.1 million
- Boeing 787, $2.8 million
- Airbus 350, $1.5 million

Other key end markets for materials produced by the High Performance Materials & Components segment are the oil & gas/chemical & hydrocarbon processing industry, medical and electrical energy. The significant decline in oil prices which started in late 2014 had a significant impact in 2015 on segment results, affecting long products used in directional and horizontal drilling, and completion applications. Medical and electrical energy market sales both increased compared to 2014 due to higher demand for these products.

Sales of titanium mill products were 7% higher in 2015. Sales of nickel-based alloys and specialty alloys mill products decreased 6% compared to 2014, reflecting increased shipment volumes partially offset by slightly lower average selling prices. Comparative information for the segment's major product categories, based on their percentages of 2015 and 2014 segment revenues is as follows:

For the Years Ended December 31,	2015		2014	
High-Value Products				
Nickel-based alloys and specialty alloys	31	%	32	%
Titanium and titanium alloys	30	%	28	%
Precision forgings, castings and components	26	%	27	%
Zirconium and related alloys	13	%	13	%
Total High-Value Products	100	%	100	%

High Performance Materials & Components segment operating profit for 2015 decreased 33% compared to 2014, to $157.1 million, or 7.9% of sales, due primarily to more competitive pricing and the mismatch of falling raw material prices included in index pricing mechanisms compared to the manufacturing cycle time of higher-cost materials, and lower operating levels primarily due to reduced demand from the oil & gas/chemical & hydrocarbon processing industry and construction and mining markets, which unfavorably impacted productivity costs. Results in both periods were also negatively impacted by the strategic decision to use ATI-produced sponge rather than lower cost titanium scrap to manufacture certain standard quality titanium products.

Competition continues to be very strong across most key end markets, particularly within the aerospace, oil & gas, and medical market supply chains. We expect the High Performance Materials & Components segment to begin a multi-year period of sustained profitable growth primarily from commercial aerospace market demand based on long-term agreements with jet engine and airframe manufacturers. We expect to increase the pace of operations in this segment, with segment operating profit as a percentage of sales returning to double-digit levels by the second half of 2016. We expect demand from the medical and electrical energy markets to remain good, while demand from the oil & gas/chemical & hydrocarbon industry market remains at lower levels throughout 2016.

2014 Compared to 2013

Sales for the High Performance Materials & Components segment in 2014 increased 3%, to $2.01 billion, compared to 2013 with sales to the aerospace market up 3%, driven by jet engine demand, and sales to the oil & gas/chemical & hydrocarbon processing industry market up 9% on 24% higher oil & gas sales.

Comparative information for our High Performance Materials & Components segment revenues (in millions) by market, the respective percentages of overall segment revenues for the years ended 2014 and 2013, and the percentage change in revenues by market for 2014 is as follows:

Market	2014		2013		Change	
Aerospace:						
Jet Engines	$632.9	32 %	$591.4	30 %	$41.5	7 %
Airframes	376.1	19 %	370.5	19 %	5.6	2 %
Government	182.4	9 %	195.5	10 %	(13.1)	(7)%
Total Aerospace	1,191.4	60 %	1,157.4	59 %	34.0	3 %
Oil & Gas/Chemical & Hydrocarbon Processing Industry	189.1	9 %	172.8	9 %	16.3	9 %
Medical	187.6	9 %	183.5	9 %	4.1	2 %
Electrical Energy	124.0	6 %	133.1	7 %	(9.1)	(7)%
Defense	102.6	5 %	95.6	5 %	7.0	7 %
Construction/Mining	64.3	3 %	61.4	3 %	2.9	5 %
Transportation	47.8	3 %	49.7	3 %	(1.9)	(4)%
Other	100.0	5 %	91.3	5 %	8.7	10 %
Total	$2,006.8	100 %	$1,944.8	100 %	$62.0	3 %

Sales of nickel-based alloys and specialty alloys mill products increased 11% compared to 2013, reflecting increased shipment volumes partially offset by slightly lower average selling prices. Sales of titanium mill products were 2% higher in 2014. Comparative information for the segment's major product categories, based on their percentages of 2014 and 2013 segment revenues is as follows:

For the Years Ended December 31,	2014	2013
High-Value Products		
Nickel-based alloys and specialty alloys	32 %	30 %
Titanium and titanium alloys	28 %	28 %
Precision forgings, castings and components	27 %	29 %
Zirconium and related alloys	13 %	13 %
Total High-Value Products	100 %	100 %

In 2014 and 2013, the aerospace market represented 60% and 59%, respectively, of the revenues of the segment with the majority of the sales to the jet engine market. In both 2014 and 2013, sales of our material into the airframe market represented approximately 32% of our aerospace market sales.

High Performance Materials & Components segment operating profit for 2014 increased 47% compared to 2013, to $234.8 million, or 11.7% of sales, due primarily to higher mill product shipment volumes for nickel-based and specialty steel alloys and titanium and titanium alloys mill products, which was partially offset by a slightly weaker product mix for nickel-based alloys and generally lower selling prices. Results benefited from lower retirement benefit expenses in 2014, and both periods were also negatively impacted by the strategic decision to use ATI-produced sponge rather than lower cost titanium scrap to manufacture certain standard quality titanium products.

Flat Rolled Products

(In millions)	2015	% Change	2014	% Change	2013
Sales to external customers	$1,733.7	(22)%	$2,216.6	6 %	$2,098.7
Segment operating loss	(241.9)	(415)%	(47.0)	68 %	(147.8)
Segment operating loss as a percentage of sales	(14.0)%		(2.1)%		(7.0)%
Direct international sales as a percentage of sales	41.5 %		35.2 %		35.4 %

Our Flat Rolled Products segment produces, converts and distributes stainless steel, nickel-based alloys, specialty alloys, and titanium and titanium-based alloys, in a variety of product forms including plate, sheet, engineered strip, and Precision Rolled Strip products, as well as grain-oriented electrical steel sheet. The major end markets for our flat-rolled products are electrical

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energy, oil and gas, chemical and hydrocarbon processing industry, automotive, food processing equipment and appliances, construction and mining, electronics, communication equipment and computers, and aerospace and defense.

2015 Compared to 2014

Sales for the Flat Rolled Products segment for 2015 decreased 22%, to $1.74 billion. Sales were significantly lower across nearly all major end markets, due to both lower selling prices attributable to falling raw material surcharges included in transaction prices, and lower shipment volumes in many end markets. Sales to the oil & gas/chemical & hydrocarbon processing industry market, which is the segment's largest end market, remained good in the first half of 2015 as we completed a large nickel plate project, but then declined significantly in the second half of the year. Market conditions for standard stainless sheet products deteriorated throughout 2015, due in part to a surge of imports into the U.S market in the first half of the year, and excess North American and global capacities. Sales of standard stainless sheet products were nearly 20% lower than 2014 due to both lower shipment volumes and lower selling prices.

Segment results were also impacted by a work stoppage affecting the domestic operations of ATI Flat Rolled Products. Following the expiration of the labor agreement on June 30, 2015, due to a lack of progress in contract negotiations with the USW, ATI Flat Rolled Products issued a lockout notice, effective August 15, 2015 to more than 2,000 USW-represented employees. Other than the Midland, PA standard stainless melt shop, which had been idled in mid-2015 due to market conditions, affected facilities resumed operations using salaried employees and temporary workers. After an initial drop in asset utilization during the work stoppage, production rates improved and resumed operations, meeting and in some cases exceeding output and quality expectations. On February 22, 2016, we reached a tentative agreement with the bargaining committee of the USW on a new labor contract, which would end the lockout. The contract is subject to ratification by USW members.

Comparative information for our Flat Rolled Products segment revenues (in millions) by market, the respective percentages of overall segment revenues for the years ended 2015 and 2014, and the percentage change in revenues by market for 2015 is as follows:

Market	2015		2014		Change	
Oil & Gas/Chemical & Hydrocarbon Processing Industry	$429.4	25 %	$563.1	25 %	$(133.7)	(24)%
Automotive	288.1	17 %	395.7	18 %	(107.6)	(27)%
Electrical Energy	232.3	13 %	306.2	14 %	(73.9)	(24)%
Food Equipment & Appliances	214.4	12 %	245.7	11 %	(31.3)	(13)%
Construction/Mining	179.6	10 %	231.3	10 %	(51.7)	(22)%
Aerospace & Defense	148.1	9 %	152.4	7 %	(4.3)	(3)%
Electronics/Computers/Communication	121.9	7 %	151.4	7 %	(29.5)	(19)%
Transportation	82.6	5 %	124.3	6 %	(41.7)	(34)%
Medical	12.6	1 %	23.4	1 %	(10.8)	(46)%
Other	24.7	1 %	23.1	1 %	1.6	7 %
Total	$1,733.7	100 %	$2,216.6	100 %	$(482.9)	(22)%

Comparative information for the Flat Rolled Products segment's major product categories, based on their percentages of 2015 and 2014 segment revenues is as follows:

For the Years Ended December 31,	2015		2014	
High-Value Products				
Precision and engineered strip	29	%	26	%
Nickel-based alloys and specialty alloys	25	%	21	%
Grain-oriented electrical steel	8	%	8	%
Titanium and titanium alloys	3	%	4	%
Total High-Value Products	65	%	59	%
Standard Products				
Stainless steel sheet	18	%	17	%
Specialty stainless sheet	13	%	19	%
Stainless steel plate	4	%	5	%
Total Standard Products	35	%	41	%
Grand Total	100	%	100	%

Very weak market conditions for standard products reduced the overall sales mix of these products for the Flat Rolled Products segment. However, demand for our titanium products from the chemical and hydrocarbon processing industry also remained at lower levels, with shipments of titanium and ATI-produced Uniti titanium products decreasing 40% compared to 2014, to 5.9 million pounds, which followed a 21% decline in 2014.

Comparative shipment volume and average selling price information on the segment's products for the years ended December 31, 2015 and 2014 is provided in the following table:

	2015	2014	% change	
Volume (000's pounds):				
High-Value	449,461	508,753	(12	)%
Standard	514,035	678,022	(24	)%
Total	963,496	1,186,775	(19	)%
Average prices (per lb.):				
High-Value	$2.51	$2.53	(1	)%
Standard	$1.16	$1.35	(14	)%
Combined Average	$1.79	$1.86	(4	)%

The majority of our flat-rolled products are sold at prices that include surcharges for raw materials, including purchased scrap, that are required to manufacture our products. These raw materials include nickel, iron, chromium, and molybdenum. Nickel, which comprises a significant percentage of our materials costs, and where price is influenced by commodity exchange trading, continued to be volatile during 2015. The cost of nickel decreased 46% during 2015 to an LME average monthly cost of $3.94 per pound in December 2015. The cost of our other major raw materials decreased significantly during the year, with molybdenum costs down 46%, and iron scrap costs declining 56%. Volatility in raw material surcharges affects customer purchasing trends, and during periods of significant declines in the costs of these raw materials, the transaction price declines more quickly than the cost of materials produced due to the length of the manufacturing cycle.

05	06	07	08	09	10	11	12	13	14	15
6.09	15.68	11.79	4.39	7.74	10.94	8.05	7.82	6.22	7.37	3.94

Source: London Metals Exchange

05	06	07	08	09	10	11	12	13	14	15
280	235	325	235	345	430	510	395	452	371	162

Source: American Metals Market

05	06	07	08	09	10	11	12	13	14	15
0.54	0.66	1.71	1.03	0.89	1.33	1.11	0.97	1.02	1.14	1.01

Source: Platts Metals Week

05	06	07	08	09	10	11	12	13	14	15
25.95	24.78	32.38	9.60	11.38	16.19	13.45	11.20	9.67	9.01	4.89

Source: Platts Metals Week

Segment operating results in 2015 were a loss of $241.9 million, or (14.0)% of sales, compared to segment operating loss of $47.0 million, or (2.1)% of sales in 2014. Base prices for the most common standard grade stainless sheet product fell 25% to approximately $0.45 per pound in December 2015, which represents a historic low, from a $0.60 per pound level in effect for most of 2014. These base price declines for standard products, combined with falling raw material price surcharges which did not align with manufacturing costs, negatively affected segment operating results. Additionally, in anticipation of a possible strike action related to USW labor negotiations, inventory with higher cost raw materials produced in the first half of 2015 was sold in the second half of 2015 at lower transaction prices due to falling raw material surcharges. Segment operating results in 2015 also included approximately $15 million of higher retirement benefit expense. Based on continued weak demand for industrial titanium products from global markets, we recorded lower of cost or market inventory charges of $24.5 million in 2015 and $23.2 million in 2014 in the segment to reduce the carrying value of these product inventories to current market levels. Segment operating results also include ATI's share of Uniti's results, which were losses of $0.1 million in 2015 and $8.9 million in 2014. Results in both periods were also negatively impacted by the strategic decision to use ATI-produced sponge rather than lower cost titanium scrap to manufacture certain standard quality titanium products.

In the fourth quarter 2015, due to the challenging business conditions for standard stainless products and grain-oriented electrical steel (GOES), we announced rightsizing actions to return the Flat Rolled Products business to profitability. These actions included the 2016 idling of the standard stainless melt shop (which had not been restarted since the lockout) and the sheet finishing operations at the Midland, PA facility, and the idling of GOES operations, including the Bagdad, PA facility. $54.5 million of long-lived asset impairment charges associated with these actions were excluded from segment results and are discussed separately. The restart of these operations will depend on future business conditions and our ability to earn an acceptable return on invested capital on products produced at these operations.

We expect that our 2016 results for this business will continue to be impacted by low raw material prices and uncertain end market demand. Trailing effects of out-of-phase surcharges and ongoing rightsizing and restructuring costs are expected to continue our operating losses in this segment through the first half of 2016. However, as a result of these initiatives we expect the Flat Rolled Products segment to be modestly profitable by the second half of 2016. Additionally, stable raw material prices, even at these levels, are expected to benefit our operating results compared to 2015 as our raw material production costs would be better matched with selling prices.

2014 Compared to 2013

Sales for the Flat Rolled Products segment for 2014 increased 6%, to $2.22 billion compared to 2013. Sales to the oil & gas/chemical & hydrocarbon processing industry market were up 5% on improved project-based activity, sales to the automotive market increased 18% as vehicle build rates remained strong, and sales to the transportation market increased 44% on higher commercial freight equipment demand. Electrical energy market demand remained at lower levels based on overall weak demand growth related to increased energy efficiencies in developed markets and weak new U.S. housing starts, as well as continued global supply/demand imbalances. Comparative information for our Flat Rolled Products segment revenues (in millions) by market, the respective percentages of overall segment revenues for the years ended 2014 and 2013, and the percentage change in revenues by market for 2014 is as follows:

Market	2014		2013		Change	
Oil & Gas/Chemical & Hydrocarbon Processing Industry	$563.1	25 %	$534.0	25 %	$29.1	5 %
Automotive	395.7	18 %	335.3	16 %	60.4	18 %
Electrical Energy	306.2	14 %	326.3	16 %	(20.1)	(6)%
Food Equipment & Appliances	245.7	11 %	249.7	12 %	(4.0)	(2)%
Construction/Mining	231.3	10 %	226.1	11 %	5.2	2 %
Aerospace & Defense	152.4	7 %	141.4	7 %	11.0	8 %
Electronics/Computers/Communication	151.4	7 %	149.0	7 %	2.4	2 %
Transportation	124.3	6 %	86.6	4 %	37.7	44 %
Medical	23.4	1 %	24.2	1 %	(0.8)	(3)%
Other	23.1	1 %	26.1	1 %	(3.0)	(11)%
Total	$2,216.6	100 %	$2,098.7	100 %	$117.9	6 %

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Shipment volumes improved for standard products and most high-value products, and base selling prices improved for standard products as two base-price increases were successfully implemented. Comparative information for the Flat Rolled Products segment's major product categories, based on their percentages of 2014 and 2013 segment revenues is as follows:

For the Years Ended December 31,	2014		2013	
High-Value Products				
Precision and engineered strip	26	%	26	%
Nickel-based alloys and specialty alloys	21	%	20	%
Grain-oriented electrical steel	8	%	8	%
Titanium and titanium alloys	4	%	5	%
Total High-Value Products	59	%	59	%
Standard Products				
Specialty stainless sheet	19	%	19	%
Stainless steel sheet	17	%	18	%
Stainless steel plate	5	%	4	%
Total Standard Products	41	%	41	%
Grand Total	100	%	100	%

Sales of our Flat Rolled Products segment high-value products, which include engineered strip, Precision Rolled Strip, nickel-based alloys and specialty steels, titanium and titanium alloys, and grain-oriented electrical steel products, increased 4% in 2014 compared to 2013 primarily due to higher shipment volumes for most high-value products. However, demand for our titanium products from the chemical and hydrocarbon processing industry was weaker as project-based activity remained at lower levels, with shipments of titanium and ATI-produced Uniti titanium products decreasing 21% compared to 2013, to 9.7 million pounds.

Sales of our standard products, which primarily include stainless steel sheet, strip, and plate, increased 7% compared to 2013. Shipment volumes of standard products increased slightly in 2014, and average transaction selling prices increased 5% as base-selling prices improved off of historically low levels. Comparative shipment volume and average selling price information on the segment's products for the years ended December 31, 2014 and 2013 is provided in the following table:

	2014	2013	% change	
Volume (000's pounds):				
High-Value	508,753	468,551	9	%
Standard	678,022	665,977	2	%
Total	1,186,775	1,134,528	5	%
Average prices (per lb.):				
High-Value	$2.53	$2.63	(4	)%
Standard	$1.35	$1.28	5	%
Combined Average	$1.86	$1.84	1	%

Segment operating results in 2014 were a loss of $47.0 million, or (2.1)% of sales, compared to segment operating loss of $147.8 million, or (7.0)% of sales in 2013. Higher shipment volumes and an improved product mix reduced the segment operating loss in 2014. Segment operating results in 2014 also benefited from approximately $30 million of lower retirement benefit expense, primarily due to curtailment gains from the elimination of company-provided salaried retiree life insurance. Based on continued weak demand for industrial titanium products from global markets, we recorded lower of cost or market inventory charges of $23.2 million in 2014 and $20.5 million in 2013 in the segment to reduce the carrying value of these product inventories to current market levels. Segment operating results also include ATI's share of Uniti's results, which were losses of $8.9 million in 2014 and $7.1 million in 2013. Results in both periods were also negatively impacted by the strategic decision to use ATI-produced sponge rather than lower cost titanium scrap to manufacture certain standard quality titanium products.

LIFO and Net Realizable Value Reserves

The net effect of changes in LIFO and net realizable value (NRV) inventory reserves for 2015 was $0.1 million of a benefit, compared to $0.3 million of a benefit in 2014 and $45.9 million of a benefit in 2013. Rapidly falling raw material prices, primarily for nickel, resulted in a $131.6 million pretax LIFO inventory valuation reserve benefit in 2015, which was offset by a $131.5 million pretax non-cash charge for NRV inventory reserves that are required to offset the Company's aggregate net debit LIFO inventory balance that exceeds current inventory replacement cost. Rising raw material prices resulted in a $24.7 million LIFO inventory valuation reserve charge in 2014 which was offset by a $25.0 million benefit for NRV inventory reserves. In 2013, falling raw material prices resulted in an $80.9 million LIFO inventory valuation reserve benefit which was offset by a $35.0 million charge for NRV inventory reserves.

Corporate Expenses

Corporate expenses, which are included in selling and administrative expenses in the statement of operations, were $44.7 million in 2015 compared to $49.6 million in 2014, and $48.9 million in 2013. The decrease in corporate expenses in 2015 compared to 2014 was due primarily from reduced annual performance-based compensation expenses. Corporate expenses in 2013 included the favorable effects of a litigation settlement.

Closed Company and Other Expenses

Closed company and other expenses, which were $22.1 million in 2015, $28.3 million in 2014, and $30.9 million in 2013, include charges incurred in connection with closed operations, pre-tax gains and losses on the sale of surplus real estate, non-strategic investments and other assets, and other non-operating income or expense. Lower costs in 2015 compared to prior years primarily related to lower retirement benefit and environmental expenses of closed operations. Closed company and other expenses are presented primarily in selling and administrative expenses in the consolidated statements of operations, and mostly relate to legal, environmental, retirement benefit and insurance obligations associated with closed operations.

Goodwill Impairment, Restructuring and Other Charges

2015

Business segment results exclude $216.3 million of goodwill impairment, restructuring and other charges in 2015. We recorded a $126.6 million pre-tax impairment charge to write-off all the goodwill in the Flat Rolled Products segment. We perform our annual goodwill impairment evaluations in the fourth quarter of each year. As a result of our assessment in 2015, we determined that the fair value of the Flat Rolled Products business was below carrying value, including goodwill. This was due to challenging market conditions in 2015 in this business, primarily impacting commodity stainless flat-rolled products. Fourth quarter 2015 market conditions continued to deteriorate in this business due in large part to a surge of imports into the U.S. market, and excess North American and global capacities for commodity stainless steel sheet. Base-selling prices for commodity stainless steel sheet products fell throughout 2015 and reached historic lows in December. In addition, weakness continued in the oil & gas/chemical & hydrocarbon processing industry market, which has been the largest end market for the Flat Rolled Products business. Restructuring actions were initiated in December 2015 in the Flat Rolled Products business in response to these market conditions and outlook, including announced idling of various operations. This goodwill impairment charge was excluded from the Flat Rolled Products business segment results.

In 2015, we recorded $89.7 million in restructuring and other charges, including $54.5 million in long-lived asset impairment charges, $3.5 million in facility idling costs, a $25.4 million charge to revalue inventory, and $6.3 million in employee severance charges.

In December 2015, we announced rightsizing actions to better align our Flat Rolled Products operations to the challenging market conditions for commodity products. Such actions included the idling of our standard stainless melt shop and sheet finishing operations at the Midland, PA facility, which is expected to be completed in January 2016, and the idling of our grain-oriented electrical steel (GOES) operations in Western PA, including the Bagdad, PA facility, which is expected to be completed by April 2016. As a result, 2015 operating results include a $54.5 million asset impairment charge to reduce the carrying values of these facilities and $3.5 million of charges for future idling costs at these facilities. The future restart of the Midland and GOES operations, respectively, will depend on future business conditions and the Company's ability to earn an acceptable return on invested capital on products produced at

these operations.

In December 2015, based on current market prices for non-PQ titanium sponge, we recorded a $25.4 million charge to revalue this inventory. The charge includes revised assessments of the non-PQ titanium market conditions and expected utilization of this inventory.

As announced in October 2015, in the fourth quarter 2015, we implemented a salaried workforce reduction of approximately 100 employees, in response to business conditions, in both the High Performance Materials & Components segment and at ATI's headquarters. Severance charges of $6.3 million were recorded in the fourth quarter for this action and these cash costs will be paid over a period of up to 12 months.

2013

In 2013, we recorded $67.5 million in restructuring charges in continuing operations, including $59.3 million of long-lived asset impairment charges and costs associated with facility closures, and $8.2 million in termination benefits for pension and other postretirement benefit plans, and other severance charges. The strategic investments in manufacturing capabilities and process technologies we have made in the last several years enabled the closure in 2013 of older, higher-cost operations, and the streamlining of our manufacturing processes by reducing our manufacturing footprint.

We permanently closed the Albany, OR titanium sponge production facility, which resulted in a $38.1 million long-lived asset impairment charge and $3.5 million of asset retirement obligations in 2013. Additionally, less efficient flat-rolled finishing facilities in New Castle, IN and Wallingford, CT were permanently closed. The New Castle facility, which was idled in 2011, was permanently closed in 2013, resulting in a $6.3 million long-lived asset impairment charge. In December 2013, we announced the closure of the Wallingford facility, which was completed in the third quarter 2014. Restructuring charges of $9.1 million were recorded in 2013 for this action, including $2.7 million of long-lived asset impairment charges, $5.0 million of termination benefits for pension and other postretirement benefit plans, and $1.4 million of severance and other closure costs.

Restructuring charges in 2013 also included $8.0 million in other long-lived asset impairments in the High Performance Materials & Components segment, and $2.2 million of severance charges for workforce reductions across ATI's operations.

Interest Expense, Net

Interest expense, net of interest income and interest capitalization, was $110.2 million in 2015, $108.7 million in 2014, and $65.2 million in 2013. The increase in interest expense in 2015 compared to 2014 was primarily due to a higher interest rate on the Company's 5.875% Senior Notes due 2023 (the "2023 Notes") resulting from credit rating downgrades (see Note 9 for further explanation) and $3 million of lower interest capitalization on capital projects, partially offset by the impact from the payment of 4.25% Convertible Senior Notes in June 2014. For 2014, interest expense increased compared to 2013 primarily due to $40 million of lower interest capitalization on capital projects, which more than offset higher interest costs incurred from the July 2013 issuance of the 2023 Notes. Interest expense is presented net of interest income of $1.2 million in 2015, $1.1 million in 2014, and $0.8 million in 2013. Interest expense in 2015, 2014, and 2013 was reduced by $2.2 million, $5.3 million, and $45.7 million, respectively, related to interest capitalization on major strategic capital projects.

Income Taxes

The 2015 income tax benefit from continuing operations was $112.1 million, or 23.5% of the pre-tax loss, for U.S. Federal, foreign and state income taxes, and includes a $68.4 million valuation allowance on a portion of the Company's deferred tax assets with future expiration dates as a result of a three year cumulative loss from U.S. operations. The three year cumulative loss limits the ability to consider other positive subjective evidence, such as projections of future results, to assess the realizability of deferred tax assets. This non-cash charge was comprised of a $49.3 million valuation allowance for certain state and federal tax benefits recognized in prior years, and a $19.1 million valuation allowance recorded as part of the current year's effective tax rate, representing approximately a 4% current year tax rate impact. The 2014 and 2013 tax benefit from continuing operations was $8.7 million and $63.6 million, respectively. Results for 2013 included an income tax provision of $161.4 million in discontinued operations, or 39.0% of pre-tax income from discontinued operations, which includes the effects of the gain on sale of the tungsten materials business, for total 2013 income tax expense of $97.8 million. Income taxes in 2015, 2014 and 2013 include the absence of the benefits of the U.S. Federal manufacturing deduction due to operating losses in all three years.

Deferred taxes result from temporary differences in the recognition of income and expense for financial and income tax reporting purposes, and differences between the fair value of assets acquired in business combinations accounted for as a purchase for financial reporting purposes and their corresponding tax bases. Deferred income taxes represent future tax benefits or costs to be recognized when those temporary differences reverse. At December 31, 2015, we had a net deferred tax liability of $75.6 million.

Financial Condition and Liquidity

On September 23, 2015, we entered into a $400 million Asset Based Lending ("ABL") Revolving Credit Facility, which includes a letter of credit sub-facility of up to $200 million. The ABL facility replaced a $400 million revolving credit facility originally entered into on July 31, 2007 (as amended, the "Prior Credit Facility"). Costs associated with entering into the ABL facility were $1.5 million, and are being amortized to interest expense over the 5-year term of the facility. The ABL facility matures in September 2020 and is collateralized by the accounts receivable and inventory of our domestic operations. The applicable interest rate for borrowings under the ABL facility includes interest rate spreads based on available borrowing capacity that range between 1.25% and 1.75% for LIBOR-based borrowings and between 0.25% and 0.75% for base rate borrowings. Compared to the Prior Credit Facility, the ABL facility contains no leverage or interest coverage ratios but does contain a financial covenant whereby we must maintain a fixed charge coverage ratio, measured over the prior four fiscal quarters, of not less than 1.00:1.00 after an event of default has occurred or if the undrawn availability under ABL facility is less than the greater of (i) 10% of the then applicable maximum borrowing amount or (ii) $40.0 million. We do not meet this required fixed charge coverage ratio at December 31, 2015. As a result, we are not able to access this remaining 10% or $40.0 million of the ABL facility until we meet the required ratio. Additionally, we must demonstrate liquidity, as calculated in accordance with the terms of the agreement, of at least $500 million on the date that is 91 days prior to June 1, 2019, the maturity date of the 9.375% Senior Notes due 2019, and such liquidity is available until the notes are paid in full or refinanced. There was no impact on our outstanding debt as a result of the ABL facility. There were no outstanding borrowings made under the ABL facility as of December 31, 2015, although approximately $4.6 million has been utilized to support the issuance of letters of credit. Average borrowings under the ABL and the Prior Credit Facility for the fiscal year ended December 31, 2015 were $61.0 million, bearing an average annual interest rate of 2.0%.

At December 31, 2015, we had $150 million of cash and cash equivalents, and our available liquidity includes our $400 million ABL facility. We believe that internally generated funds, current cash on hand, and available borrowings under the ABL facility will be adequate to meet foreseeable liquidity needs, including payments remaining on the HRPF project. If we need to obtain additional financing using the credit markets, the cost and the terms and conditions of such borrowings may be influenced by our credit rating. We have no significant debt maturities until June 2019. We have no off-balance sheet arrangements as defined in Item 303(a)(4) of SEC Regulation S-K.

Cash Flow and Working Capital

Cash flow from operations for 2015 was $131.4 million, which included a $229.0 million decline in managed working capital primarily associated with decreased business activity. For 2015, operating cash activities included a $59.9 million federal tax refund and the net settlement of certain foreign currency forward contracts for cash proceeds of $56.5 million (see Note 10. Derivatives for further explanation). Investing activities were a net cash outflow of $145.1 million, primarily for capital expenditures. Cash used by financing activities in 2015 was $106.0 million and consisted primarily of debt repayments of $23.6 million, including $21.4 million in remaining term debt assumed in the 2011 Ladish acquisition, dividend payments of $66.5 million to ATI stockholders and $16.0 million in dividend payments to noncontrolling interests. At December 31, 2015, cash and cash equivalents on hand totaled $149.8 million, a decrease of $119.7 million from year-end 2014. Cash and cash equivalents held by our foreign subsidiaries was $86.5 million at December 31, 2015, of which $65.9 million was held by STAL, the Company's Chinese joint venture in which ATI has a 60% interest.

Cash flow from operations for 2014 was $55.9 million, which included a $148.0 million investment in managed working capital associated with increased business activity. Investing activities were a net cash outflow of $316.2 million, and included $72.9 million for the acquisition of Dynamic Flowform Corp., $20.0 million for the acquisition of Hanard Machine, Inc., and $225.7 million of capital expenditures, which primarily related to the HRPF. Cash used by financing activities in 2014 was $497.0 million and consisted primarily of debt repayments of $414.9 million, including the June 2014 maturity of our convertible notes, and dividend payments of $77.1 million to ATI stockholders. At December 31, 2014, cash and cash equivalents on hand totaled $269.5 million, a decrease of $757.3 million from year-end 2013.

Managed Working Capital

As part of managing the liquidity of the business, we focus on controlling inventory, accounts receivable and accounts payable. In measuring performance in controlling this managed working capital, we exclude the effects of LIFO and

other inventory valuation reserves, and reserves for uncollectible accounts receivable which, due to their nature, are managed separately. We also measure managed working capital as a percentage of the prior two months annualized sales to evaluate our performance based on recent levels of business volume. We define managed working capital as gross inventory plus accounts receivable less accounts payable.

In 2015, managed working capital decreased $229.0 million, due primarily to decreased business activity and also the effects of falling raw material values. The $229.0 million decrease resulted from a $195.5 million decrease in inventory and a $203.5 million decrease in accounts receivable, partially offset by a $170.0 million decrease in accounts payable.

In 2014, managed working capital increased $148.0 million, due to increased business activity. The $148.0 million increase resulted from a $156.4 million increase in inventory and a $73.4 million increase in accounts receivable, partially offset by an $81.8 million increase in accounts payable.

Managed working capital as a percentage of annualized sales has increased, primarily due to lower annualized prior two months sales. Days sales outstanding, which measures actual collection timing for accounts receivable, worsened by approximately 21% at year-end 2015 compared to 2014 due to lower fourth quarter 2015 sales and the timing of foreign sales, which generally have longer collection periods. Gross inventory turns, which exclude the effect of LIFO and any applicable offsetting NRV inventory valuation reserves, remained unchanged in 2015 compared to 2014.

The components of managed working capital were as follows:

(In millions)	December 31, 2015	December 31, 2014	December 31, 2013
Accounts receivable	$400.3	$603.6	$528.2
Inventory	1,271.6	1,472.8	1,322.1
Accounts payable	(380.8)	(556.7)	(471.8)
Subtotal	1,291.1	1,519.7	1,378.5
Allowance for doubtful accounts	4.5	4.8	5.3
LIFO reserve	(136.4)	(4.8)	(29.4)
Inventory reserves	206.3	68.8	84.3
Corporate and other	—	6.0	2.7
Managed working capital of discontinued operations	—	—	5.1
Managed working capital	$1,365.5	$1,594.5	$1,446.5
Annualized prior 2 months sales	$2,688.8	$4,144.5	$3,675.0
Managed working capital as a % of annualized sales	50.8%	38.5%	39.4%
December 31, 2015 change in managed working capital	$(229.0)		

Capital Expenditures and Acquisitions

Capital expenditures for 2015 were $144.5 million, compared to $225.7 million in 2014 and $612.7 million in 2013. Capital expenditures in 2015 were significantly lower than our original estimate of $290 million with payments on various projects, including final HRPF payments, now scheduled to be made in 2016. We are near the end of a multi-year cycle of capital expenditures on major strategic investments. Since 2004, we have transformed ATI by investing $4.7 billion in capital expenditures and acquisitions. Nearly all of these investments have been in the United States, and approximately 75% have been self-funded.

We have significantly expanded and continue to expand our manufacturing capabilities to meet current and expected demand growth from the aerospace (engine and airframe) and defense, oil and gas, chemical and hydrocarbon processing industry, electrical energy, automotive and medical markets, especially for titanium and titanium-based alloys, nickel-based alloys and superalloys, specialty alloys, and zirconium and related alloys. We made significant progress in 2015 in qualifying and fully integrating several long-term strategic capital projects that position ATI to grow our high-value products. These strategic capital projects, namely the HRPF and the Rowley titanium sponge facility, have been multi-year accomplishments that are expected to begin providing a return on our invested capital after extended construction and qualification phases.

A few of our major strategic accomplishments during 2015 include:

- Fully integrating our Flat Rolled Products segment HRPF into all production processes. The HRPF enables ATI to grow our high-value product lines, such as nickel-based and specialty alloys, and titanium and titanium alloys, across both business segments. These differentiated products serve key global markets including aerospace and defense, oil

& gas/chemical & hydrocarbon processing industry and electrical energy. The HRPF also enabled the decommissioning of two higher-cost legacy hot-rolling operations.

- The premium-quality (PQ) qualification process for our products used in jet engine rotating parts made with titanium sponge produced by our Rowley, UT facility was completed in the second quarter 2015. This marked the completion

of a journey from the 2009 commencement of operations that fully qualifies Rowley as a PQ titanium sponge producer for all applications.

- We continued to pace capital expansions in the High Performance Materials & Components segment for nickel alloy powder, titanium investment castings, and forgings to support the anticipated market demand increases, and grow new part introductions (NPIs) for the aerospace market.

We currently expect our 2016 capital expenditures to be approximately $240 million, including our nickel alloy powder expansion ($45 million), final payments on the HRPF ($70 million), completion of the expansion of our titanium investment castings capacity ($10 million), and the expansion of manufacturing capabilities at our STAL joint venture in China ($35 million), which is consolidated within ATI's financial results. The STAL capital expansion will be fully funded by STAL's operations. Our objective is to fund these capital expenditures in 2016 with cash on hand and cash flow generated from our operations, and if needed, by using a portion of our $400 million ABL facility.

Debt

Total debt outstanding decreased $21.7 million in 2015 to $1,505.2 million at December 31, 2015. We made debt repayments of $23.6 million, including $21.4 million in remaining term debt assumed in the 2011 Ladish acquisition.

In managing our overall capital structure, some of the measures on which we focus are net debt to total capitalization, which is the percentage of our debt, net of cash that may be available to reduce borrowings, to our total invested and borrowed capital, and total debt to total capitalization, which excludes cash balances. At year-end 2015, our net debt to total capitalization was 39.4%, compared to 32.6% at December 31, 2014.

(In millions)	December 31, 2015	December 31, 2014
Total debt (a)	$1,505.2	$1,526.9
Less: Cash	(149.8)	(269.5)
Net debt	$1,355.4	$1,257.4
Total ATI stockholders' equity	2,082.8	2,598.4
Net ATI capital	$3,438.2	$3,855.8
Net debt to ATI capital	39.4%	32.6%

Total debt to total capitalization was 42.0% at December 31, 2015 compared to 37.0% at December 31, 2014.

(In millions)	December 31, 2015	December 31, 2013
Total debt (a)	$1,505.2	$1,526.9
Total ATI stockholders' equity	2,082.8	2,598.4
Total ATI capital	$3,588.0	$4,125.3
Total debt to ATI capital	42.0%	37.0%

(a) Excludes debt issuance costs.

The stated interest rate payable on the 5.875% 2023 Notes is subject to adjustment in the event of changes in the credit ratings on the 2023 Notes by either Moody's or Standard & Poor's ("S&P"). Each notch of credit rating downgrade increases interest expense by 0.25% on the 2023 Notes, up to a maximum 4 notches by each of the two credit rating agencies, or a total 2.0% potential interest rate change up to 7.875%, of which 1.75% interest rate change has occurred as of December 31, 2015.

During 2014, a one notch downgrade of our credit rating resulted in an increase of the interest rate on the 2023 Notes from 5.875% to 6.125% effective with the interest period beginning August 15, 2014. During 2015, additional downgrades of our credit rating resulted in increases to the interest rate on the 2023 Notes to 7.625%, effective for the interest period beginning August 16, 2015. These downgrades resulted in $4.1 million of additional interest expense for 2015. Therefore, one future downgrade of our credit rating by S&P could result in an additional increase to the interest cost with respect to the 2023 Notes by 0.25%. Any further credit rating downgrades have no effect on the interest rate of the 2023 Notes, and increases in our credit ratings from these rating agencies would reduce interest expense on the 2023 Notes to the original 5.875% interest rate in a similar manner.

During 2015, we prepaid $5.7 million in aggregate principal amount of its 6.14% ATI Ladish Series B senior notes due May 16, 2016, representing all of the remaining outstanding Series B Notes. Also during 2015, we repaid the $10.0 million aggregate principal amount of its outstanding 6.41% ATI Ladish Series C senior notes, due September

2, 2015. The Series B and C Notes were assumed by the Company in the 2011 Ladish acquisition.

On September 23, 2015, we entered into a $400 million Asset Based Lending ("ABL") Revolving Credit Facility, which replaced a $400 million revolving credit facility originally entered into on July 31, 2007 (as amended, the "Prior Credit Facility"). The ABL facility matures in September 2020 and is collateralized by the accounts receivable and inventory of our domestic operations. There was no impact on our outstanding debt as a result of the ABL facility. There were no outstanding borrowings made under the ABL facility as of December 31, 2015, although approximately $4.6 million has been utilized to support the issuance of letters of credit. Average borrowings under the ABL and the Prior Credit Facility for the fiscal year ended December 31, 2015 were $61.0 million, bearing an average annual interest rate of 2.0%.

We have an additional, separate credit facility for the issuance of letters of credit. As of December 31, 2015, $32 million in letters of credit were outstanding under this facility.

STAL, the Company's Chinese joint venture company in which ATI has a 60% interest, has a separate $20 million revolving credit facility entered into in April 2015. Borrowings under the STAL revolving credit facility are in U.S. dollars based on U.S. interbank offered rates. The credit facility is supported solely by STAL's financial capability without any guarantees from the joint venture partners. The credit facility requires STAL to maintain a minimum level of shareholders' equity, and certain financial ratios.

A summary of required payments under financial instruments (excluding accrued interest) and other commitments are presented below.

(In millions)	Total	Less than 1 year	1-3 years	4-5 years	After 5 years
Contractual Cash Obligations					
Total Debt including Capital Leases	$1,505.2	$3.9	$1.1	$350.2	$1,150.0
Interest on Debt (A)	661.8	113.1	222.2	170.3	156.2
Operating Lease Obligations	83.1	19.7	23.8	17.7	21.9
Other Long-term Liabilities	108.3	—	45.9	16.8	45.6
Pension and OPEB Obligations (B)	1,160.9	42.6	496.2	350.5	271.6
Unconditional Purchase Obligations					
Raw Materials (C)	514.4	186.3	184.5	48.2	95.4
Capital expenditures	92.3	89.3	3.0	—	—
Other (D)	171.8	75.9	61.5	21.7	12.7
Total	$4,297.8	$530.8	$1,038.2	$975.4	$1,753.4
Other Financial Commitments					
Lines of Credit (E)	$508.7	$108.7	$—	$400.0	$—
Guarantees	$22.4				

(A) Amounts include contractual interest payments using the interest rates in effect as of December 31, 2015 applicable to the Company's 9.375% Senior Notes due 2019, the 5.95% Senior Notes due 2021, the 5.875% Senior Notes due 2023 and the 6.95% Debentures due 2025.

(B) Based on current actuarial studies, amounts include payments to U.S. nonqualified and foreign pension plans, and beginning in 2017, minimum required payments to the U.S. qualified pension plan assuming the expected long-term return on pension assets is achieved. Projections of minimum required payments to the U.S. qualified pension plan are subject to significant uncertainty based on a number of factors including actual pension plan asset returns, changes in estimates of participant longevity, and changes in interest rates. Amounts also include actuarial projections of payments under other postemployment benefit plans. In most retiree healthcare plans, our contributions are capped based on the cost as of a certain date. See Note 12, Pension Plans and Other Postretirement Benefits for further information.

(C) We have contracted for physical delivery for certain of our raw materials to meet a portion of our needs. These contracts are based upon fixed or variable price provisions. We used current market prices as of December 31, 2015, for raw material obligations with variable pricing.

(D) We have various contractual obligations that extend through 2030 for services involving production facilities and administrative operations. Our purchase obligation as disclosed represents the estimated termination fees payable if we were to exit these contracts.

(E) There were no amounts drawn under foreign credit agreements at December 31, 2015. Drawn amounts include $4.6 million utilized under the $400 million ABL facility for standby letters of credit, which renew annually, and $31.8 million under a separate letter of credit facility. These letters of credit are used to support: $30.6 million in workers' compensation and general insurance arrangements, and $5.8 million related to environmental matters.

Commitments and Contingencies

At December 31, 2015, our reserves for environmental remediation obligations totaled approximately $15 million, of which $8 million was included in other current liabilities. These reserves included estimated probable future costs of $4 million for federal Superfund and comparable state-managed sites; $9 million for formerly owned or operated sites for remediation or indemnification obligations; $1 million for owned or controlled sites at which our operations have been discontinued; and $1 million for sites utilized in our ongoing operations. We continue to evaluate whether we may be able to recover a portion of future costs for environmental liabilities from third parties and to pursue such recoveries where appropriate. The timing of expenditures depends on a number of factors that vary by site. ATI expects that it will expend present accruals over many years and that remediation of all sites with which it has been identified will be completed within thirty years.

At December 31, 2015, we had recognized asset retirement obligations (AROs) of $25.0 million related to landfill closures, decommissioning costs, facility leases and conditional AROs associated with manufacturing activities using what may be characterized as potentially hazardous materials. The sale of the tungsten materials business in 2013 included an indemnification to the buyer for conditional ARO costs of up to $13 million for a five year period. A $9.4 million charge was recorded in 2013 to increase reserves to $13 million for these retained liabilities, which was reported as part of the gain on sale of the tungsten materials business.

Based on currently available information, it is reasonably possible that the costs for active matters may exceed our recorded reserves by as much as $16 million. However, future investigation or remediation activities may result in the discovery of additional hazardous materials, potentially higher levels of contamination than discovered during prior investigation, and may impact costs of the success or lack thereof in remedial solutions. Therefore, future developments, administrative actions or liabilities relating to environmental matters could have a material adverse effect on the ATI’s consolidated financial condition or results of operations.

Retirement Benefits

At December 31, 2015, our U.S. qualified defined benefit pension plan (U.S. Plan) was approximately 71% funded in accordance with generally accepted accounting principles. The funded position of the U.S. Plan decreased in 2015 primarily due to lower returns on plan assets. In 2014, we made several significant changes to our retirement benefit programs, including a freeze of all future benefit accruals to the U.S. Plan, and to our nonqualified U.S. defined benefit pension plans, effective December 31, 2014, and also the elimination of company-provided salaried retiree life insurance benefits and all remaining company provided salaried retiree medical benefits. These changes to retirement benefits affected all participants in these various retirement benefit plans other than those employees or retirees covered by collective bargaining contracts or other contractual employment arrangements. Based upon current regulations and actuarial studies, we are not required to make any significant cash contributions to the U.S. Plan for 2016. However, we may elect, depending upon investment performance of the pension plan assets and other factors, to make additional voluntary cash contributions to this plan in the future.

Dividends

We paid a quarterly cash dividend of $0.08 per share of common stock outstanding for the fourth quarter of 2015 and $0.18 per share of common stock outstanding for the first three quarters of 2015 and and all four quarters of 2014. The payment of dividends and the amount of such dividends depends upon matters deemed relevant by our Board of Directors, such as our results of operations, financial condition, cash requirements, future prospects, any limitations imposed by law, credit agreements or senior securities, and other factors deemed relevant and appropriate. Our ABL facility restricts our ability to pay dividends in certain circumstances. Under the ABL facility, however, there is no limit on dividend payments provided that the undrawn availability, after giving effect to a particular dividend payment, is at least the greater of $120.0 million and 30% of the maximum revolving credit availability, and no event of default under the ABL facility has occurred and is continuing or would result from paying the dividend. In addition, there is no limit on dividend payments if the undrawn availability is less than the greater of $120.0 million and 30% of the maximum revolving credit availability but more than the greater of $60.0 million and 15% of the maximum revolving credit availability, if (i) no event of default has occurred and is continuing or would result from paying the dividend, (ii) we demonstrate to the administrative agent that, prior to and after giving effect to the payment of the dividend (A) the undrawn availability, as measured both at the time of the dividend payment and as an average for the 60 consecutive day period immediately preceding the dividend payment, is at least the greater of $60.0

million and 15% of the maximum revolving credit availability, and (B) we maintain a fixed charge coverage ratio of at least 1.00:1.00, as calculated in accordance with the terms of the ABL facility.

Labor Matters

The collective bargaining agreements between ATI and the USW at many of our Flat Rolled Products segment facilities, and at two High Performance Materials & Components segment facilities located in Albany, OR and Lockport, NY, expired on June 30, 2015. Due to the lack of progress in ongoing contract negotiations, we issued a lockout notice involving more than 2,000 workers at various facilities which took effect August 15, 2015. We have and will continue to operate the affected facilities and continue serving customer needs with our salaried and non-union employees and temporary professional staffing until the contract negotiations are resolved. On February 22, 2016, we reached a tentative agreement with the bargaining committee of the USW on a new labor contract, which would end the lockout. The contract is subject to ratification by USW members.

Critical Accounting Policies

The accompanying consolidated financial statements have been prepared in conformity with United States generally accepted accounting principles. When more than one accounting principle, or the method of its application, is generally accepted, management selects the principle or method that is appropriate in our specific circumstances. Application of these accounting principles requires our management to make estimates about the future resolution of existing uncertainties; as a result, actual results could differ from these estimates. In preparing these consolidated financial statements, management has made its best estimates and judgments of the amounts and disclosures included in the financial statements giving due regard to materiality.

Inventories

At December 31, 2015, we had net inventory of $1,271.6 million. Inventories are stated at the lower of cost (last-in, first-out (LIFO), first-in, first-out (FIFO) and average cost methods) or market, less progress payments. Costs include direct material, direct labor and applicable manufacturing and engineering overhead, and other direct costs. Most of our inventory is valued utilizing the LIFO costing methodology. Inventory of our non-U.S. operations is valued using average cost or FIFO methods. Under the LIFO inventory valuation method, changes in the cost of raw materials and production activities are recognized in cost of sales in the current period even though these material and other costs may have been incurred at significantly different values due to the length of time of our production cycle. In a period of rising prices, cost of sales expense recognized under LIFO is generally higher than the cash costs incurred to acquire the inventory sold. Conversely, in a period of declining raw material prices, cost of sales recognized under LIFO is generally lower than cash costs incurred to acquire the inventory sold. Generally, over time based on overall inflationary trends in raw materials, labor and overhead costs, the use of the LIFO inventory valuation method will result in a LIFO inventory valuation reserve, as the higher current period costs are included in cost of sales and the balance sheet carrying value of inventory is reduced.

The prices for many of the raw materials we use have been extremely volatile during the past several years. Since we value most of our inventory utilizing the LIFO inventory costing methodology, a fall in raw material costs results in a benefit to operating results by reducing cost of sales and increasing the inventory carrying value, while conversely, a rise in raw material costs has a negative effect on our operating results by increasing cost of sales while lowering the carrying value of inventory. For example, for the year ended December 31, 2015, the effect of falling raw material costs on our LIFO inventory valuation method resulted in cost of sales that were $131.6 million lower than what would have been recognized under the FIFO costing methodology to value our inventory.

Due primarily to persistent raw material deflation over the last several years, we are in an unusual situation of having a LIFO inventory balance that exceeds replacement cost. In cases where inventory at FIFO cost is lower than the LIFO carrying value, a write-down of the inventory to market may be required, subject to a lower of cost or market evaluation. In applying the lower of cost or market principle, market means current replacement cost, subject to a ceiling (market value shall not exceed net realizable value) and a floor (market shall not be less than net realizable value reduced by an allowance for a normal profit margin). We evaluate product lines on a quarterly basis to identify inventory values that exceed estimated net realizable value. The calculation of a resulting reserve, if any, is recognized as an expense in the period that the need for the reserve is identified.

The impact to our cost of sales for changes in the LIFO costing methodology and associated NRV inventory reserves were as follows (in millions):

	Fiscal year ended December 31,		
	2015	2014	2013

LIFO benefit (charge)	$131.6	$(24.7)	$80.9
NRV benefit (charge)	$(131.5)	$25.0	$(35.0)
Net cost of sales impact	$0.1	$0.3	$45.9

We also recorded lower of cost or market charges primarily related to non-premium quality (PQ) grade products during the ramp-up and qualification of the Rowley, UT titanium sponge production facility and continued sluggish demand for industrial

titanium products from global markets. These lower of cost or market charges were $24.5 million in 2015, $23.2 million in 2014 and $20.5 million in 2013. Additionally, in December 2015, based on current market prices for non-PQ grades of titanium sponge, we recorded a $25.4 million charge to revalue this inventory (see Note 4).

It is our general policy to write-down to scrap value any inventory that is identified as obsolete and any inventory that has aged or has not moved in more than twelve months. In some instances this criterion is up to twenty-four months due to the longer manufacturing and distribution process for such products.

The LIFO inventory valuation methodology is not utilized by many of the companies with which we compete, including foreign competitors. As such, our results of operations may not be comparable to those of our competitors during periods of volatile material costs due, in part, to the differences between the LIFO inventory valuation method and other acceptable inventory valuation methods.

Asset Impairment

We monitor the recoverability of the carrying value of our long-lived assets. An impairment charge is recognized when the expected net undiscounted future cash flows from an asset's use (including any proceeds from disposition) are less than the asset's carrying value, and the asset's carrying value exceeds its fair value. Changes in the expected use of a long-lived asset group, and the financial performance of the long-lived asset group and its operating segment, are evaluated as indicators of possible impairment. Future cash flow value may include appraisals for property, plant and equipment, land and improvements, future cash flow estimates from operating the long-lived assets, and other operating considerations. We perform the required annual goodwill impairment and indefinite lived intangible asset evaluations in the fourth quarter of each year. Additionally, in the fourth quarter of each year in conjunction with the annual business planning cycle, or more frequently if new material information is available, we evaluate the recoverability of temporarily idled facilities.

For example, in December 2015, we announced rightsizing actions to better align our Flat Rolled Products operations to the challenging market conditions for our commodity products. Such actions included the idling of the standard stainless melt shop and sheet finishing operations at the Midland, PA facility, which was completed in January 2016, and the grain-oriented electrical steel (GOES) operations in Western PA, including the Bagdad, PA facility, which is expected to be completed by April 2016. As a result of these idlings, we evaluated the recoverability of these temporarily idled facilities and concluded that the expected net undiscounted future cash flows from these assets were less than their carrying value. As a result, a $24.2 million impairment charge was recognized to reduce the carrying value of the Midland facility to estimated fair value and a $30.3 million impairment charge was recognized to reduce the carrying value of GOES operations assets to estimated fair value. These long-lived asset impairment charges were based on analysis of the estimated fair values, including asset appraisals using income and market approaches.

In addition, as part of our 2014-2018 strategic planning process, which was completed in the fourth quarter of 2013, we updated our strategic assessment of the likely future use of several manufacturing facilities. The strategic investments in manufacturing capabilities and process technologies we have made in the last several years enabled the closure in 2013 of older, higher-cost operations, and the streamlining of our manufacturing processes by reducing our manufacturing footprint. In 2013, we recorded a $67.5 million restructuring charge, which included $55.1 million of impairment charges relating to the previously idled Albany, OR standard grade titanium sponge production facility, the previously idled New Castle, IN flat-rolled stainless finishing facility, and the Wallingford, CT flat-rolled stainless finishing facility, which was closed in 2014.

Also, during 2013, we completed a strategic review of our iron castings and fabricated components businesses. These businesses were not projected to meet our long-term profitable growth and return on capital employed expectations, resulting in the closure of the fabricated components business and planned divestiture of the iron casting business in 2013. In April 2014, we announced the closure of the iron castings business, as the divestiture of this business through a sale process on commercially acceptable terms was unlikely to be successful. The orderly wind-down of operations was completed by the end of the third quarter 2014. The closure of the iron castings business resulted in $1.8 million of cash exit costs in 2014, primarily related to severance benefits, of which $1.0 million was paid in 2014 and $0.8 million was paid in 2015. In addition, we recorded $18.6 million of asset impairment of long-lived assets associated with these operations in 2013. These businesses are reported as discontinued operations for all periods presented, and are not reported within our sales, results of continuing operations, or business segment results.

We perform our annual goodwill impairment evaluations in the fourth quarter of each year. As a result of this assessment in 2015, the Company determined that the fair value of the Flat Rolled Products business was below carrying value, including goodwill. During the fourth quarter of 2015, we recorded a $126.6 million pre-tax impairment charge to write-off all the goodwill in the Flat Rolled Products segment. This was due to challenging market conditions in 2015 in this business, primarily impacting commodity stainless flat-rolled products. Fourth quarter 2015 market conditions continued to deteriorate in this business due in large part to a surge of imports into the U.S. market, and excess North American and global capacities for commodity stainless steel sheet. Base-selling prices for commodity stainless steel sheet products fell throughout 2015 and

reached historic lows in December. In addition, weakness continued in the oil & gas/chemical & hydrocarbon processing industry market, which has been the largest end market for the Flat Rolled Products business. As discussed above, restructuring actions were initiated in December 2015 in the Flat Rolled Products business in response to these market conditions and outlook, including announced idling of various operations. This goodwill impairment charge was excluded from the Flat Rolled Products business segment results.

The fair values of all other reporting units with goodwill significantly exceeded the carrying values for the 2015 evaluation. Fair values were determined by using a quantitative assessment that includes discounted cash flow and multiples of cash earnings valuation techniques, plus valuation comparisons to recent public sale transactions of similar businesses, if any. These impairment assessments and valuation methods require us to make estimates and assumptions regarding future operating results, cash flows, changes in working capital and capital expenditures, selling prices, profitability, and the cost of capital. Many of these assumptions are determined by reference to market participants we have identified. For example, our weighted average cost of capital used in our discounted cash flow assessments was approximately 10%, and long-term growth rates ranged from 2% to 5%. Although we believe that the estimates and assumptions used were reasonable, actual results could differ from those estimates and assumptions.

In order to validate the reasonableness of the estimated fair values of the reporting units as of the valuation date, a reconciliation of the aggregate fair values of all reporting units to market capitalization was performed using a reasonable control premium. No goodwill impairments were determined to exist for the years ended December 31, 2014 and 2013.

Retirement Benefits

We have defined benefit pension plans or defined contribution retirement plans covering substantially all of our employees. We also sponsor several postretirement plans covering certain hourly and salaried employees and retirees. These plans provide health care and life insurance benefits for eligible employees. In December 2014, the Company announced several significant changes to its retirement benefit programs. These changes are part of our ongoing initiatives to create an integrated and aligned business with a market competitive, cost competitive, and consistent health, welfare and retirement benefit structure across our operations. These changes included:

- Freezing all future benefit accruals to our U.S. qualified defined benefit pension plan (U.S. Plan), and to our non-qualified defined benefit pension plans, including the executive Supplemental Pension Plan, effective December 31, 2014.
- Implementing a consistent defined contribution retirement plan across all U.S. operations effective January 1, 2015.
- Ending Company-provided salaried retiree life insurance benefits effective January 1, 2015.
- Ending all remaining Company-provided salaried retiree medical benefits on January 1, 2016. The salaried retiree medical benefit plan being ended was assumed as part of the 2011 Ladish acquisition. Certain participants in the retiree medical plan will have transition provisions through the end of 2016.
- These changes to pension, retiree life insurance and medical benefits do not affect benefits for those employees or retirees covered by collective bargaining contracts or other contractual employment agreements.

Under U.S. generally accepted accounting principles, benefit expenses recognized in financial statements for defined benefit pension plans are determined on an actuarial basis, rather than as contributions are made to the plan. A significant element in determining our pension expense in accordance with the accounting standards is the expected investment return on plan assets. In establishing the expected return on plan investments, which is reviewed annually in the fourth quarter, we take into consideration input from our third party pension plan asset managers and actuaries regarding the types of securities the plan assets are invested in, how those investments have performed historically, and expectations for how those investments will perform in the future. Our expected long-term return on pension plan investments was 8.0% in 2015. We apply this assumed rate to the market value of plan assets at the end of the previous year. This produces the expected return on plan assets that is included in annual pension expense for the current year. The actual returns on pension plan assets for the last five years have been (1.2)% for 2015, 6.5% for 2014, 14.3% for 2013, 8.0% for 2012, and 0.3% for 2011. The effect of increasing, or lowering, the expected return on pension plan investments by 0.25% results in additional pre-tax annual income, or expense, of approximately $5 million. The cumulative difference between this expected return and the actual return on plan assets is deferred and amortized into pension income or expense over future periods. The amount of expected return on plan assets can vary

significantly from year-to-year since the calculation is dependent on the market value of plan assets as of the end of the preceding year. The expected long-term rate of return on pension plan investments for 2016 is 8.0%.

In accordance with accounting standards, we determine the discount rate used to value pension plan liabilities as of the last day of our fiscal year. The discount rate reflects the current rate at which the pension liabilities could be effectively settled. In estimating this rate, we receive input from our actuaries regarding the rates of return on high quality, fixed-income investments with maturities matched to the expected future retirement benefit payments. Based on this assessment, we established a

discount rate of 4.65% for valuing the pension liabilities as of December 31, 2015, and for determining the pension expense for 2016. We had previously assumed a discount rate of 4.25% at the end of 2014 and 5.15% at the end of 2013. The estimated effect of changing the discount rate by 0.50% would decrease pension liabilities in the case of an increase in the discount rate, or increase pension liabilities in the case of a decrease in the discount rate, by approximately $160 million. Such a change in the discount rate would decrease pension expense in the case of an increase in the discount rate, or increase pension expense in the case of a decrease in the discount rate, by approximately $3 million. The effect on pension liabilities for changes to the discount rate, as well as the net effect of other changes in actuarial assumptions and experience, are deferred and amortized over future periods in accordance with the accounting standards.

As discussed above, gains and losses due to differences between actual and expected results for investment returns on plan assets, changes in the discount rate used to value benefit obligations, and other changes in estimates such as participant life expectancy are deferred and recognized in the income statement over future periods. However for balance sheet presentation, these gains and losses are included in the determination of benefit obligations, net of plan assets, included on the year-end consolidated balance sheet. At December 31, 2015, the Company had $1.4 billion of pre-tax net actuarial losses on its pension obligations, primarily related to an extended decline over the last several years in the discount rate used to value the pension obligations. These actuarial losses have been recognized on the consolidated balance sheet through a reduction in stockholders' equity, and are being recognized in the consolidated statement of operations through expense amortizations over future years. As a result of the pension freeze effective December 31, 2014 and the resultant determination of inactive status, beginning in 2015, the U.S. Plan and the non-qualified U.S. pension plans changed the amortization period for accumulated other comprehensive loss recognition to average remaining life expectancy, which is approximately 18 years on a weighted average basis, rather than the average remaining service period of 10 years, which was used in 2014 and prior periods.

With respect to our postretirement plans, under most of the plans, our contributions towards retiree medical premiums are capped based upon the cost as of certain dates, thereby creating a defined contribution. For the non-collectively bargained plans, we maintain the right to amend or terminate the plans in the future. In accordance with U.S. generally accepted accounting standards, postretirement expenses recognized in financial statements associated with defined benefit plans are determined on an actuarial basis, rather than as benefits are paid. We use actuarial assumptions, including the discount rate and the expected trend in health care costs, to estimate the costs and benefit obligations for these plans. The discount rate, which is determined annually at the end of each fiscal year, is developed based upon rates of return on high quality, fixed-income investments. At the end of 2015, we determined the rate to be 4.50%, compared to a 4.10% discount rate in 2014, and a 5.15% discount rate in 2013. The estimated effect of changing the discount rate by 0.50% would decrease postretirement obligations in the case of an increase in the discount rate, or increase postretirement obligations in the case of a decrease in the discount rate, by approximately $20 million. Such a change in the discount rate would decrease postretirement benefit expense in the case of an increase in the discount rate, or increase postretirement benefit expense in the case of a decrease in the discount rate, by approximately $3 million. Based upon predictions of continued significant medical cost inflation in future years, the annual assumed rate of increase in the per capita cost of covered benefits of health care plans is 8.0% in 2016 and is assumed to gradually decrease to 4.5% in the year 2038 and remain level thereafter.

Pending Accounting Pronouncements

In February 2016, the FASB issued new guidance on the accounting for leases. This new guidance will require that a lessee recognize assets and liabilities on the balance sheet for all leases with a lease term of more than twelve months, with the result being the recognition of a right of use asset and a lease liability. The new lease accounting requirements are effective for the Company's 2019 fiscal year with a modified retrospective transition approach required, with early adoption permitted. The Company is currently evaluating the impact of the new guidance on its consolidated financial statements.

In May 2014, the FASB issued changes to revenue recognition with customers. This update provides a five-step analysis of transactions to determine when and how revenue is recognized. An entity should recognize revenue to depict the transfer of promised goods or services to customers in an amount that reflects the consideration to which the

entity expects to be entitled in exchange for those goods or services. In July 2015, the FASB approved a one-year deferral of the effective date of this new guidance resulting in it now being effective for the Company beginning in fiscal year 2018. This update may be applied retrospectively to each prior reporting period presented or retrospectively with the cumulative effect of initially applying this update recognized at the date of initial application. The Company is currently evaluating the impact of the new guidance on its consolidated financial statements.

Forward-Looking Statements

From time-to-time, the Company has made and may continue to make “forward-looking statements” within the meaning of the Private Securities Litigation Reform Act of 1995. Certain statements in this report relate to future events and expectations and, as such, constitute forward-looking statements. Forward-looking statements include those containing such words as “anticipates,” “believes,” “estimates,” “expects,” “would,” “should,” “will,” “will likely result,” “fore “outlook,” “projects,” and similar expressions. Such forward-looking statements are based on management’s current expectations and include known and unknown risks, uncertainties and other factors, many of which the Company is unable to predict or control, that may cause our actual results or performance to materially differ from any future results or performance expressed or implied by such statements. Various of these factors are described in Item 1A, Risk Factors, of this Annual Report on Form 10-K and will be described from time-to-time in the Company filings with the SEC, including the Company’s Annual Reports on Form 10-K and the Company’s subsequent reports filed with the SEC on Form 10-Q and Form 8-K, which are available on the SEC’s website at http://www.sec.gov and on the Company’s website at http://www.atimetals.com. We assume no duty to update our forward-looking statements.

Item 7A. Quantitative and Qualitative Disclosures About Market Risk

As part of our risk management strategy, we utilize derivative financial instruments, from time to time, to hedge our exposure to changes in energy and raw material prices, foreign currencies, and interest rates. We monitor the third-party financial institutions which are our counterparty to these financial instruments on a daily basis and diversify our transactions among counterparties to minimize exposure to any one of these entities. Fair values for derivatives were measured using exchange-traded prices for the hedged items including consideration of counterparty risk and the Company’s credit risk. Our exposure to volatility in interest rates is presently not material, as nearly all of our debt is at fixed interest rates.

Volatility of Energy Prices. Energy resources markets are subject to conditions that create uncertainty in the prices and availability of energy resources. The prices for and availability of electricity, natural gas, oil and other energy resources are subject to volatile market conditions. These market conditions often are affected by political and economic factors beyond our control. Increases in energy costs, or changes in costs relative to energy costs paid by competitors, have and may continue to adversely affect our profitability. To the extent that these uncertainties cause suppliers and customers to be more cost sensitive, increased energy prices may have an adverse effect on our results of operations and financial condition. We use approximately 9 to 12 million MMBtu’s of natural gas annually, depending upon business conditions, in the manufacture of our products. These purchases of natural gas expose us to risk of higher gas prices. For example, a hypothetical $1.00 per MMBtu increase in the price of natural gas would result in increased annual energy costs of approximately $9 to $12 million. We use several approaches to minimize any material adverse effect on our financial condition or results of operations from volatile energy prices. These approaches include incorporating an energy surcharge on many of our products and using financial derivatives to reduce exposure to energy price volatility.

At December 31, 2015, the outstanding financial derivatives used to hedge our exposure to energy cost volatility included natural gas hedges. In the fourth quarter 2015, due to changes in expected operating levels within Flat Rolled Products segment operations, we concluded that a portion of these natural gas cash hedges for 2016 were ineffective based on forecast changes in underlying natural gas usage. We recognized a $3.3 million pre-tax loss for the ineffective portion of these cash flow hedges, which is reported in selling and administrative expenses on the consolidated statement of operations for the year ended December 31, 2015. Approximately 55% of our forecasted requirements for natural gas for 2017 and 15% for 2018 are hedged. The net mark-to-market valuation of the outstanding natural gas hedges at December 31, 2015 was an unrealized pre-tax loss of $25.8 million, comprised of $17.3 million in accrued liabilities and $8.5 million in other long-term liabilities on the balance sheet. For the year ended December 31, 2015, the effects of natural gas hedging activity increased cost of sales by $18.2 million.

Volatility of Raw Material Prices. We use raw materials surcharge and index mechanisms to offset the impact of increased raw material costs; however, competitive factors in the marketplace can limit our ability to institute such mechanisms, and there can be a delay between the increase in the price of raw materials and the realization of the benefit of such mechanisms. For example, in 2015 we used approximately 95 million pounds of nickel; therefore a hypothetical change of $1.00 per pound in nickel prices would result in increased costs of approximately $95 million. In addition, in 2015 we also used approximately 800 million pounds of ferrous scrap in the production of our

flat-rolled products and a hypothetical change of $0.01 per pound would result in increased costs of approximately $8 million. While we enter into raw materials futures contracts from time-to-time to hedge exposure to price fluctuations, such as for nickel, we cannot be certain that our hedge position adequately reduces exposure. We believe that we have adequate controls to monitor these contracts, but we may not be able to accurately assess exposure to price volatility in the markets for critical raw materials.

The majority of our products are sold utilizing raw material surcharges and index mechanisms. However as of December 31, 2015, we had entered into financial hedging arrangements, primarily at the request of our customers, related to firm orders, for an aggregate amount of approximately 26 million pounds of nickel with hedge dates through 2020. The aggregate notional amount hedged is approximately 28% of a single year's estimated nickel raw material purchase requirements. Any gain or loss associated with these hedging arrangements is included in cost of sales. At December 31, 2015, the net mark-to-market valuation of our outstanding raw material hedges was an unrealized pre-tax loss of $45.2 million, comprised of $22.2 million in accrued liabilities and $23.0 million in other long-term liabilities on the balance sheet.

Foreign Currency Risk. Foreign currency exchange contracts are used, from time-to-time, to limit transactional exposure to changes in currency exchange rates. We sometimes purchase foreign currency forward contracts that permit us to sell specified amounts of foreign currencies expected to be received from our export sales for pre-established U.S. dollar amounts at specified dates. The forward contracts are denominated in the same foreign currencies in which export sales are denominated. These contracts are designated as hedges of the variability in cash flows of a portion of the forecasted future export sales transactions which otherwise would expose the Company to foreign currency risk, primarily the euro. In addition, we may also designate cash balances held in foreign currencies as hedges of forecasted foreign currency transactions.

During the fiscal year ended December 31, 2015, we net settled 211.9 million euro notional value of foreign currency forward contracts designated as cash flow hedges with 2016 and 2017 maturity dates, receiving cash proceeds of $56.5 million which is reported in cash provided by operating activities on the consolidated cash flow statement. In the fourth quarter 2015, due to management actions in the Flat Rolled Products segment to de-emphasize commodity stainless steel sheet products in 2016, we concluded that a portion of these settled euro cash flow hedges for 2016 were ineffective based on forecast changes for euro-denominated sales. We recognized a $14.3 million pre-tax gain for the ineffective portion of these cash flow hedges, which is reported in selling and administrative expenses on the consolidated statement of operations for the year ended December 31, 2015. The portion of the deferred gains on these settled cash flow hedges determined to be effective is currently recognized in accumulated other comprehensive income and will be reclassified to earnings when the underlying transactions occur. In 2015, we entered into 244.7 million euro notional value of foreign currency forward contracts designated as fair value hedges with 2015, 2016 and 2017 maturity dates to replace a portion of the settled euro cash flow hedges, of which 139.2 million euro notional value was outstanding as of December 31, 2015. We recorded a $9.0 million benefit in costs of sales on the consolidated statement of operations in the fiscal year ended December 31, 2015, for maturities and mark-to-market changes on these fair value hedges.

We may also enter into foreign currency forward contracts that are not designated as hedges, which are denominated in the same foreign currency in which export sales are denominated. We have 25 million euro notional value outstanding as of December 31, 2015 of foreign currency forward contracts not designated as hedges, with maturity dates into the third quarter of 2016.

At December 31, 2015, the net mark-to-market valuation of the outstanding foreign currency forward contracts was an unrealized pre-tax gain of $2.1 million, comprised of $2.0 million in prepaid expenses and other current assets, $0.4 million in other assets, $0.2 million in accrued liabilities and $0.1 million in other long-term liabilities on the balance sheet.

Item 8. Financial Statements and Supplementary Data

Report of Independent Registered Public Accounting Firm

The Board of Directors and Stockholders of
Allegheny Technologies Incorporated and Subsidiaries

We have audited the accompanying consolidated balance sheets of Allegheny Technologies Incorporated and Subsidiaries as of December 31, 2015 and 2014, and the related consolidated statements of operations, comprehensive income (loss), cash flows, and changes in equity for each of the three years in the period ended December 31, 2015. These financial statements are the responsibility of the Company's management. Our responsibility is to express an opinion on these financial statements based on our audits.

We conducted our audits 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 the financial statements are free of material misstatement. An audit includes examining, on a test basis, evidence supporting the amounts and disclosures in the financial statements. An audit also includes assessing the accounting principles used and significant estimates made by management, as well as evaluating the overall financial statement presentation. We believe that our audits provide a reasonable basis for our opinion.

In our opinion, the financial statements referred to above present fairly, in all material respects, the consolidated financial position of Allegheny Technologies Incorporated and Subsidiaries at December 31, 2015 and 2014, and the consolidated results of their operations and their cash flows for each of the three years in the period ended December 31, 2015, in conformity with U.S. generally accepted accounting principles.

We also have audited, in accordance with the standards of the Public Company Accounting Oversight Board (United States), Allegheny Technologies Incorporated and Subsidiaries' internal control over financial reporting as of December 31, 2015, based on criteria established in Internal Control-Integrated Framework issued by the Committee of Sponsoring Organizations of the Treadway Commission (2013 framework) and our report dated February 26, 2016 expressed an unqualified opinion thereon.

/s/ Ernst & Young LLP

Pittsburgh, Pennsylvania
February 26, 2016

Allegheny Technologies Incorporated and Subsidiaries
Consolidated Statements of Operations
(In millions, except per share amounts)

For the Years Ended December 31,	2015	2014	2013
Sales	$3,719.6	$4,223.4	$4,043.5
Costs and expenses:			
Cost of sales	3,659.3	3,844.8	3,790.9
Selling and administrative expenses	238.8	272.5	276.4
Impairment of goodwill	126.6	—	—
Restructuring charges	64.3	—	67.5
Income (loss) before interest, other income and income taxes	(369.4)	106.1	(91.3)
Interest expense, net	(110.2)	(108.7)	(65.2)
Other income, net	1.6	4.1	1.7
Income (loss) from continuing operations before income taxes	(478.0)	1.5	(154.8)
Income tax benefit	(112.1)	(8.7)	(63.6)
Income (loss) from continuing operations	(365.9)	10.2	(91.2)
Income (loss) from discontinued operations, net of tax	—	(0.6)	252.8
Net income (loss)	(365.9)	9.6	161.6
Less: Net income attributable to noncontrolling interests	12.0	12.2	7.6
Net income (loss) attributable to ATI	$(377.9)	$(2.6)	$154.0
Basic net income (loss) per common share			
Continuing operations attributable to ATI per common share	$(3.53)	$(0.02)	$(0.93)
Discontinued operations attributable to ATI per common share	—	(0.01)	2.37
Basic net income (loss) attributable to ATI per common share	$(3.53)	$(0.03)	$1.44
Diluted net income (loss) per common share			
Continuing operations attributable to ATI per common share	$(3.53)	$(0.02)	$(0.93)
Discontinued operations attributable to ATI per common share	—	(0.01)	2.37
Diluted net income (loss) attributable to ATI per common share	$(3.53)	$(0.03)	$1.44
Amounts attributable to ATI common stockholders			
Loss from continuing operations, net of tax	$(377.9)	$(2.0)	$(98.8)
Income (loss) from discontinued operations, net of tax	—	(0.6)	252.8
Net income (loss)	$(377.9)	$(2.6)	$154.0

The accompanying notes are an integral part of these statements.

Allegheny Technologies Incorporated and Subsidiaries
Consolidated Statements of Comprehensive Income (Loss)
(In millions)

For the Years Ended December 31,	2015	2014	2013
Net income (loss)	$(365.9)	$9.6	$161.6
Currency translation adjustment			
Unrealized net change arising during the period	(37.0)	(34.1)	13.8
Reclassification adjustment included in net income (loss)	—	0.5	1.5
Total	(37.0)	(33.6)	15.3
Unrealized holding gain (loss) on securities			
Net gain arising during the period	—	—	0.1
Derivatives			
Net derivatives gain (loss) on hedge transactions	(33.3)	45.7	(25.2)
Reclassification to net income of net realized loss (gain)	(18.2)	(3.6)	14.0
Income taxes on derivative transactions	(19.5)	16.2	(4.3)
Total	(32.0)	25.9	(6.9)
Postretirement benefit plans			
Actuarial loss			
Amortization of net actuarial loss	75.0	88.1	129.0
Net gain (loss) arising during the period	(95.8)	(424.5)	384.9
Prior service cost			
Amortization to net income (loss) of net prior service cost (credits)	6.2	(0.7)	(15.2)
Income taxes on postretirement benefit plans	5.1		