ALLEGHENY TECHNOLOGIES INC
Form 424B3
May 17, 2016
Table of Contents

Filed Pursuant to Rule 424(b)(3)
Registration No. 333-204209

The information in this preliminary prospectus supplement is not complete and may be changed. This preliminary prospectus supplement and the accompanying prospectus are not an offer to sell these securities and we are not soliciting offers to buy these securities in any jurisdiction where the offer or sale is not permitted.

SUBJECT TO COMPLETION, DATED MAY 17, 2016

PRELIMINARY PROSPECTUS SUPPLEMENT

(To Prospectus Dated May 15, 2015)

$

Allegheny Technologies Incorporated

% Convertible Senior Notes due 2022

Allegheny Technologies Incorporated is offering $ aggregate principal amount of its % Convertible Senior Notes due 2022 (the notes) under this prospectus supplement. Interest on the notes will be payable semiannually in arrears on January 1 and July 1 of each year, beginning on January 1, 2017. The notes will mature on July 1, 2022.

Holders may convert their notes at their option at any time prior to the close of business on the business day immediately preceding the stated maturity date for the notes. The initial conversion rate for the notes will be shares of our common stock per $1,000 principal amount of notes, equivalent to an initial conversion price of approximately $ per share of common stock. The conversion rate will be subject to adjustment in certain events but will not be adjusted for accrued interest.

Following certain corporate transactions, we will increase the applicable conversion rate for a holder that elects to convert its notes in connection with such corporate transaction by a number of additional shares of our common stock as described in this prospectus supplement.

We may not redeem the notes prior to their stated maturity date. If we undergo a fundamental change, holders may require us to repurchase the notes in whole or in part for cash at a price equal to 100% of the principal amount of the notes to be purchased plus any accrued and unpaid interest to, but excluding, the repurchase date.

We do not intend to apply for listing of the notes on any securities exchange. Our common stock, par value $0.10 per share, is listed on the New York Stock Exchange under the trading symbol ATI. The last reported sale price of our common stock on the New York Stock Exchange on May 16, 2016 was $14.17 per share.

The notes will be our unsecured senior obligations and will rank equally with all of our other unsecured senior indebtedness.

Investing in the notes involves certain risks. See Risk Factors beginning on page S-7 of this prospectus supplement and the reports we file with the Securities and Exchange Commission pursuant to the Securities Exchange Act of 1934 incorporated by reference in this prospectus supplement and the accompanying prospectus to read about factors you should consider before making an investment in the notes.

Neither the Securities and Exchange Commission nor any state securities commission has approved or disapproved of the notes or determined if this prospectus supplement or the accompanying prospectus is truthful or complete. Any representation to the contrary is a criminal offense.

	Per Note	Total
Public offering price(1)	%	$
Underwriting discounts and commissions	%	$
Proceeds, before expenses, to us	%	$

(1) Plus accrued interest, if any, from May , 2016

The underwriters will have the option to purchase within 30 days from the date of this prospectus supplement up to an additional $ aggregate principal amount of notes from us at the public offering price less the underwriting discounts and commissions to cover over-allotments, if any.

We expect that delivery of the notes will be made to investors in book-entry form only through the facilities of The Depository Trust Company on or about May , 2016.

Joint Book-Running Managers

Citigroup **J.P. Morgan**

BofA Merrill Lynch

May , 2016

Table of Contents

TABLE OF CONTENTS

Prospectus Supplement

Prospectus

Table of Contents

ABOUT THIS PROSPECTUS SUPPLEMENT

This document is in two parts. The first part is this prospectus supplement, which describes certain matters relating to us and this offering. The second part, the accompanying prospectus dated May 15, 2015, gives more general information about debt securities we may offer from time to time, some of which may not apply to the notes offered by this prospectus supplement and the accompanying prospectus. For information about the notes, see Description of Notes in this prospectus supplement and Description of Debt Securities in the accompanying prospectus.

We are responsible for the information contained and incorporated by reference in this prospectus supplement and the accompanying prospectus and in any related free writing prospectus we prepare or authorize. We have not authorized anyone to give you any other information, and we take no responsibility for any other information that others may give you. We are not, and the underwriters are not, making an offer of these notes in any jurisdiction where the offer or sale is not permitted. You should not assume that the information contained in this prospectus supplement, the accompanying prospectus or the documents incorporated by reference in this prospectus supplement or the accompanying prospectus is accurate as of any date other than their respective dates. Our business, financial condition, results of operations and prospects may have changed since those dates.

Before you invest in the notes, you should carefully read this prospectus supplement and the accompanying prospectus. You should also read the documents we have referred you to under Where You Can Find More Information for information about us. The shelf registration statement described in the accompanying prospectus, including the exhibits thereto, can be read at the Securities and Exchange Commission s (the SEC) web site or at the SEC s Public Reference Room as described under Where You Can Find More Information.

If the information set forth in this prospectus supplement varies in any way from the information set forth in the accompanying prospectus, you should rely on the information contained in this prospectus supplement. If the information set forth in this prospectus supplement varies in any way from the information set forth in a document we have incorporated by reference, you should rely on the information in the more recent document.

Unless indicated otherwise, or the context otherwise requires, references in this document to Allegheny Technologies, ATI, the Company, we, us and our are to Allegheny Technologies Incorporated and its consolidated subsidiaries references to dollars and $ are to United States dollars.

This prospectus supplement and accompanying prospectus include registered trademarks, trade names and service marks of the Company and its subsidiaries.

Table of Contents

WHERE YOU CAN FIND MORE INFORMATION

Available Information

We file reports, proxy statements and other information with the SEC. These reports, proxy statements and other information that we file with the SEC can be read and copied at the SEC s Public Reference Room at 100 F Street, N.E., Washington, D.C. 20549. Please call the SEC at 1-800-SEC-0330 to obtain further information on the operation of the Public Reference Room. The SEC maintains a web site that contains reports, proxy and information statements and other information regarding issuers that file electronically with the SEC, including us. The SEC s web site is http://www.sec.gov. In addition, our common stock is listed on the New York Stock Exchange, and our reports and other information can be inspected at the offices of the New York Stock Exchange, 20 Broad Street, New York, New York 10005. Our web site is www.atimetals.com. Information contained on our web site is not part of, and should not be construed as being incorporated by reference into, this prospectus supplement and the accompanying prospectus.

Incorporation by Reference

The SEC allows us to incorporate by reference information that we file with it. This means that we can disclose important information to you by referring you to other documents. Any information we incorporate in this manner is considered part of this prospectus supplement and the accompanying prospectus except to the extent updated and superseded by information contained in this prospectus supplement and the accompanying prospectus. Some information that we file with the SEC after the date of this prospectus supplement and until we sell all of the securities covered by this prospectus supplement will automatically update and supersede the information contained in this prospectus supplement and the accompanying prospectus.

We incorporate by reference the following documents that we have filed with the SEC and any filings that we make with the SEC in the future under Sections 13(a), 13(c), 14 or 15(d) of the Securities Exchange Act of 1934, as amended (the Exchange Act), until we sell all of the securities covered by this prospectus supplement, including between the date of this prospectus supplement and the date on which the offering of the securities under this prospectus supplement is terminated, except as noted in the paragraph below:

Our SEC Filings (File No. 1-12001)	Period for or Date of Filing
Annual Report on Form 10-K	Year Ended December 31, 2015
Quarterly Report on Form 10-Q	Quarter Ended March 31, 2016
Current Reports on Form 8-K	February 26 and March 2 and 10 and May 11 and 16, 2016
Registration Statement on Form 8-A	July 30, 1996

Pursuant to General Instruction B of Form 8-K, any information submitted under Item 2.02, Results of Operations and Financial Condition, or Item 7.01, Regulation FD Disclosure, of Form 8-K is not deemed to be filed for the purpose of Section 18 of the Exchange Act, and we are not subject to the liabilities of Section 18 with respect to information deemed furnished (and not filed) in accordance with SEC rules, including information submitted under Item 2.02 or Item 7.01 of Form 8-K. We are not incorporating by reference any information deemed furnished (and not filed) in accordance with SEC rules, including information submitted under Item 2.02 or Item 7.01 of Form 8-K, into any filing under the Securities Act of 1933, as amended (the Securities Act), or the Exchange Act or into this prospectus supplement or the accompanying prospectus.

Statements contained in this prospectus supplement or the accompanying prospectus as to the contents of any contract, agreement or other document referred to in this prospectus supplement or the accompanying prospectus do not purport to be complete, and where reference is made to the particular provisions of that contract, agreement or other document, those references are qualified in all respects by reference to all of the provisions contained in that contract or other document. For a more complete understanding and description of each such contract, agreement or other document, we urge you to read the documents contained in the exhibits to the registration statement of which the accompanying prospectus is a part.

Table of Contents

Any statement contained in a document incorporated by reference, or deemed to be incorporated by reference, into this prospectus supplement and the accompanying prospectus will be deemed to be modified or superseded for purposes of this prospectus supplement and the accompanying prospectus to the extent that a statement contained herein, therein or in any other subsequently filed document which also is incorporated by reference in this prospectus supplement and the accompanying prospectus modifies or supersedes that statement. Any such statement so modified or superseded will not be deemed, except as so modified or superseded, to constitute a part of this prospectus supplement and the accompanying prospectus.

We will provide without charge, upon written or oral request, a copy of any or all of the documents that are incorporated by reference into this prospectus supplement and the accompanying prospectus and a copy of any or all other contracts, agreements or documents which are referred to in this prospectus supplement or the accompanying prospectus. Requests should be directed to: Allegheny Technologies Incorporated, 1000 Six PPG Place, Pittsburgh, PA 15222-5479, Attention: Corporate Secretary; telephone number: (412) 394-2800. You also may review a copy of the registration statement, its exhibits and the documents that are incorporated by reference into this prospectus supplement and the accompanying prospectus at the SEC s Public Reference Room in Washington, D.C., as well as through the SEC s web site.

Table of Contents

FORWARD-LOOKING STATEMENTS

You should carefully review the information contained in or incorporated by reference into this prospectus supplement and the accompanying prospectus. In this prospectus supplement and the accompanying prospectus, statements that are not reported financial results or other historical information are forward-looking statements. Forward-looking statements give current expectations or forecasts of future events and are not guarantees of future performance. They are based on our management s expectations that involve a number of business risks and uncertainties, any of which could cause actual results to differ materially from those expressed in or implied by the forward-looking statements.

You can identify these forward-looking statements by the fact that they do not relate strictly to historic or current facts. They use words such as anticipates, believes, estimates, expects, would, should, will, will likely re outlook, projects, and similar expressions in connection with any discussion of future operating or financial performance.

We cannot guarantee that any forward-looking statements will be realized, although we believe that we have been prudent in our plans and assumptions. Achievement of future results is subject to risks, uncertainties and assumptions that may prove to be inaccurate. Among others, the factors discussed in the Risk Factors section of our Annual Report on Form 10-K for our fiscal year ended December 31, 2015 or under Risk Factors in this prospectus supplement could cause actual results to differ from those in forward-looking statements included in or incorporated by reference into this prospectus supplement and the accompanying prospectus or that we otherwise make. Important factors that could cause actual results to differ materially from those in the forward-looking statements include: (a) material adverse changes in economic or industry conditions generally, including global supply and demand conditions and prices for our specialty materials; (b) material adverse changes in the markets we serve, including the aerospace and defense, oil and gas/chemical process industry, electrical energy, medical, automotive, construction and mining, and other markets; (c) our inability to achieve the level of cost savings, productivity improvements, synergies, growth or other benefits anticipated by management, from strategic investments and the integration of acquired businesses, whether due to significant increases in energy, raw materials or employee benefits costs, the possibility of project cost overruns or unanticipated costs and expenses, or other factors; (d) continued decline in, or volatility of, prices and availability of supply, of the raw materials that are critical to the manufacture of our products; (e) declines in the value of our defined benefit pension plan assets or unfavorable changes in laws or regulations that govern pension plan funding; (f) significant legal proceedings or investigations adverse to us; (g) labor disputes or work stoppage; and (h) other risk factors summarized in our Annual Report on Form 10-K for the year ended December 31, 2015, and in other reports filed with the Securities and Exchange Commission. Should known or unknown risks or uncertainties materialize, or should underlying assumptions prove to be inaccurate, actual results could vary materially from those anticipated, estimated or projected. You should bear this in mind as you consider any forward-looking statements.

We undertake no obligation to publicly update forward-looking statements, whether as a result of new information, future events or otherwise, except as may be required by law. You are advised, however, to consider any additional disclosures that we may make on related subjects in future filings with the SEC. You should understand that it is not possible to predict or identify all factors that could cause our actual results to differ. Consequently, you should not consider any list of factors to be a complete set of all potential risks or uncertainties.

Table of Contents

SUMMARY

This summary highlights information about us and the notes being offered by this prospectus supplement and the accompanying prospectus. This summary is not complete and may not contain all of the information that you should consider prior to investing in the notes and our common stock. For a more complete understanding of our company, we encourage you to read this entire document, including the information incorporated by reference into this document.

Our Company

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 and precision and engineered stainless steel strip. 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.

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 and the construction and qualification of facilities to expand 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 manufacturing precision machine parts and components, which reinforce our important aerospace supply chain role.

We made significant progress in 2015 in qualifying and fully integrating a long-term strategic capital project involving 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.

Our common stock is quoted on the New York Stock Exchange under the symbol ATI.

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

Table of Contents

tubes, plus precision forgings and castings, components and machined parts. These products are designed for the high performance requirements of major end markets such 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 of 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.

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. The major end markets for our flat rolled products are oil & gas/ chemical & hydrocarbon processing industry, automotive, food processing equipment and appliances, construction and mining, electronics, communication equipment and computers, and aerospace and defense.

Our Strengths

We believe that we are well-positioned for long-term growth, profitability and cash flow generation as a result of numerous factors, including:

Leading Diversified Specialty Materials and Components Producer. We are a world leader in the manufacture of both high-value and commodity specialty materials and component products and have one of the most diversified product offerings in the specialty metals industry. We believe that our size, market position and technical and manufacturing capabilities enable us to more effectively serve the needs of our customers, further improve our cost structure through economies of scale, and position us to profitably grow our business on a long-term basis.

Diverse End Markets. Our differentiated products serve key global markets, including aerospace and defense, oil & gas/chemical & hydrocarbon processing industry, electrical energy, medical and automotive. In the aerospace industry, 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. Both of our business segments produce specialty materials that are widely used in the oil & gas industry and the chemical & hydrocarbon processing industry. Our specialty materials are also widely used in the automotive and global electrical power generation industries, as well as in various medical device products.

High Value-Added Product Offering and Strong Competitive Position. 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 have continued our strategic focus on high-value, differentiated products, which accounted for approximately 83% of our sales in 2015.

Close, Long Standing Relationships with Blue-Chip Customers. We believe that our focus on providing high quality products to our customers has led to long standing relationships with many of the industry leaders in the end markets we serve. We believe that we have an excellent reputation with our customers for providing high quality products and customer service, as well as for timely delivery. In 2014 and early 2015, we reached agreement on several long-term agreements with aerospace market OEMs that total over $4 billion in expected revenue. These long-term agreements are for our specialty materials mill products, forgings and investment castings required for both next-generation and legacy aircraft platforms. Our largest customers include 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 (GE)), Rolls-Royce plc, Snecma (SAFRAN Group) and Pratt & Whitney (a division of United Technologies Corporation), and various joint ventures that manufacture jet engines.

Experienced, Committed Management Team. Our business is managed by an experienced team of executive officers led by Richard J. Harshman, our Chairman, President and Chief Executive Officer. Our management team includes many other experienced officers in key functional areas, including technical, operations, sales, marketing, accounting, finance and legal. Our executive officers and other members of our management team are committed to growing our business, reducing costs, and pursuing other initiatives to deliver sustained growth in earnings and cash flow generation.

Business Strategy

We intend to build upon our competitive strengths to continue our growth through the execution of our focused business strategy.

Continuously Seek to Innovate and Develop. We maintain our commitment to develop innovative alloys to better serve the needs of our end market users. ATI s 718Plus® nickel-based superalloy, Rene 65 near-powder superalloy (developed with GE), and our powder alloys have won significant share in the current and next-generation engines for the aerospace and defense market. Additionally, both of our business segments produce specialty materials that are widely used in to the oil & gas industry and the chemical & 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 and wear corrosion-resistant properties necessary for difficult environments.

Maintain Emphasis on Continuous Operational Improvement. We made significant operational progress in 2015 in qualifying and fully integrating long-term strategic capital projects that we believe will position us to grow our high-value product offering. Additionally, we believe that our recent rightsizing and restructuring initiatives in our Flat Rolled Products segment will have a positive impact on that business in the second half of 2016, as we focus on the products and global markets that value our technical leadership and manufacturing capability.

Capitalize on Future Growth in Our Key End Markets. We define the key markets in which we operate as the aerospace and defense, oil & gas and chemical & hydrocarbon processing, electrical energy, automotive and medical industries. Our participation in the aerospace and defense industry has expanded significantly in recent years, from approximately 27% of our sales in 2010 to approximately 41% in 2015, as we believe we are a strategic supplier to the airframe and engine original equipment manufacturers with deep product and technological knowledge. We have long-term agreements which secure significant growth on both legacy and next-generation aircraft, with 300 new parts representing over $1 billion of new business through 2020.

Expand Our Global Presence. Approximately 42% of our sales in 2015 came from markets outside the United States in which we believe have attractive growth prospects. Additionally, we believe that at least 50% of our 2015 sales were driven by global markets when we consider exports of our customers. 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 and oil & gas 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.

Preserve Liquidity Position and Engage in Proactive Liability Management. We seek to maintain a conservative balance sheet and believe that we have sufficient liquidity to fully support our daily operations. As of March 31, 2016, we had approximately $157 million of cash and cash equivalents and, after giving effect to

Table of Contents

the recent amendment to our senior secured credit facility (the Credit Facility) described under the caption Summary - Recent Developments, we have available liquidity of approximately $275 million under the Credit Facility. We have no significant debt maturities until 2019. We recently entered into a new four-year labor agreement with a majority of employees represented by the USW, which includes important changes to retirement benefit programs, including a freeze to new entrants to our defined benefit pension plan and the elimination of retiree medical benefits for new employees. As a result of the changes, we will ratably recognize approximately $8 million of lower retirement benefit expense in the Flat Rolled Products segment for the remainder of 2016. We believe that this benefit change will favorably impact our results of operations in future years.

Recent Developments

On May 13, 2016, Allegheny Technologies Incorporated and certain of its wholly owned domestic subsidiaries entered into a First Amendment to Revolving Credit and Security Agreement, dated as of May 13, 2016 (the Credit Agreement Amendment), amending that certain Revolving Credit and Security Agreement, dated as of September 15, 2015 (the Credit Agreement), by and among the borrowers party thereto, the guarantors party thereto, the lenders party thereto, PNC Bank, National Association, as Agent, and PNC Capital Markets LLC, as Sole Lead Arranger and Sole Bookrunner. The Credit Agreement Amendment amended the Credit Agreement to, among other things, (i) add a term loan (the Term Loan) in the amount of $100,000,000 to the Credit Facility and (ii) amend certain of the covenants in the Credit Agreement and related defined terms. All amounts owed with respect to the Term Loan will be due and payable on November 13, 2017 if not earlier prepaid. The borrowers under the Term Loan may prepay all amounts owed with respect to the Term Loan on a one-time basis on or after May 13, 2017. We used the proceeds of the Term Loan to repay amounts outstanding under the revolving credit facility under the Credit Agreement. For more information regarding the Credit Agreement Amendment, see our Current Report on Form 8-K filed on May 16, 2016, which is incorporated by reference in this prospectus supplement and the accompanying prospectus.

Table of Contents

The Offering

The following summary is provided solely for your convenience and is not intended to be complete. You should read the full text and more specific details contained elsewhere in this prospectus supplement and the accompanying prospectus. For purposes of this offering summary, references to Allegheny Technologies Incorporated, we, our and us refer only to Allegheny Technologies Incorporated and not its subsidiaries. For a more detailed description of the notes, see Description of Notes in this prospectus supplement and Description of Debt Securities in the accompanying prospectus.

Issuer	Allegheny Technologies Incorporated, a Delaware corporation
Notes Offered	$ aggregate principal amount of % Convertible Senior Notes due 2022. We have also granted the underwriters an option to purchase within 30 days after the date of this prospectus supplement up to an additional $ aggregate principal amount of notes, solely to cover over-allotments, if any.
Maturity	July 1, 2022.
Interest Payment Dates	January 1 and July 1 of each year, beginning on January 1, 2017.
Ranking	The notes will be our unsecured senior obligations; effectively junior to any of our existing and future secured indebtedness to the extent of the assets securing such indebtedness, and structurally subordinated to any indebtedness and other liabilities of our subsidiaries; *pari passu* in right of payment with all of our existing and future senior debt; senior in right of payment to all of our existing and future subordinated obligations.

After giving effect to this offering, the application of the proceeds from this offering as described under the caption Use of Proceeds and the transactions contemplated by the Credit Agreement Amendment, as described under the caption Summary Recent Developments, we would have had an aggregate of approximately $ of indebtedness outstanding (or $ if the underwriters exercise in full their option to purchase additional notes).

Optional Redemption	We may not redeem the notes prior to their stated maturity date.
Conversion Rights	Holders may convert the notes at their option at any time prior to the close of business on the business day immediately preceding the stated maturity date of the notes in equal multiples of $1,000 principal amount.
	The initial conversion rate for the notes will be shares of our common stock per $1,000 principal amount of notes, equivalent to an initial conversion price of approximately $ per share of common stock. Such conversion rate will be subject to adjustment in certain events but will not be adjusted for accrued interest.
	In addition, following certain corporate transactions, we will increase the applicable conversion rate for a holder who elects to convert in

Table of Contents

	connection with such corporate transaction by a number of additional shares of our common stock as described under Description of Notes Conversion Rights Adjustment to Conversion Rate Upon Certain Fundamental Changes.
Fundamental Change	Under certain circumstances following a fundamental change, we will be required to make an offer to purchase all of the notes at a purchase price of 100% of the principal amount, plus accrued and unpaid interest, if any, to the date of repurchase.
Use of Proceeds	We intend to use the net proceeds from this offering for general corporate purposes, which may include voluntary or required contributions to our defined benefit pension trust or repurchases, repayment or refinancing of debt. See Use of Proceeds.
Trading Symbol for Our Common Stock	Our common stock is listed on the New York Stock Exchange under the symbol ATI.
Risk Factors	You should carefully consider the information set forth in the section entitled Risk Factors and the other information included or incorporated by reference into this prospectus supplement and the accompanying prospectus in deciding whether to purchase the notes.
Governing Law	The indenture and the notes will be governed by and construed in accordance with the laws of the State of New York.

Table of Contents

Summary Consolidated Financial Data

We derived the summary consolidated financial data shown below as of December 31, 2013, 2014 and 2015 and for each of the years then ended from our audited consolidated financial statements. We derived the summary consolidated financial data shown below as of March 31, 2015 and 2016 and for each of the three-month periods then ended from our unaudited consolidated financial statements. The unaudited financial statements from which we derived this data were prepared on the same basis as the audited consolidated financial data and include all adjustments, consisting only of normal recurring adjustments, necessary to present fairly our results of operations and financial condition as of the periods presented. The results of operations for interim periods are not necessarily indicative of the operating results for any future period. You should read the following financial information in conjunction with Management s Discussion and Analysis of Financial Condition and Results of Operations and our consolidated financial statements and the related notes in our Annual Report on Form 10-K for the fiscal year ended December 31, 2015 and our Quarterly Report on Form 10-Q for the fiscal quarter ended March 31, 2016, which are incorporated by reference in this prospectus supplement and the accompanying prospectus.

	Year Ended December 31,			Three Months Ended March 31,	
	2013	2014	2015	2015	2016
	(Dollars in Millions)				
				(Unaudited)	
Statement of income data:					
Sales:					
High Performance Metals & Components	$ 1,944.8	$ 2,006.8	$ 1,985.9	$ 542.8	$ 493.0
Flat Rolled Products	2,098.7	2,216.6	1,733.7	582.7	264.5
Total sales	4,043.5	4,223.4	3,719.6	1,125.5	757.5
Segment operating profit (loss):					
High Performance Metals & Components	159.6	234.8	157.1	72.9	29.1
Flat Rolled Products	(147.8)	(47.0)	(241.9)	(6.8)	(109.6)
Total segment operating profit (loss)	11.8	187.8	(84.8)	66.1	(80.5)
Income (loss) from continuing operations	(91.2)	10.2	(365.9)	12.6	(98.1)
Income (loss) from discontinued operations, net of tax	252.8	(0.6)			
Net income (loss)	161.6	9.6	(365.9)	12.6	(98.1)
Less: Net income attributable to noncontrolling interests	7.6	12.2	12.0	2.6	3.1
Net income (loss) attributable to ATI	154.0	(2.6)	(377.9)	10.0	(101.2)
Balance sheet data (at end of period):					
Working capital(1)	$ 1,743.3	$ 1,584.4	$ 1,181.1	$ 1,599.4	$ 972.0
Total assets(1)	6,885.0	6,571.7	5,751.7	6,546.2	5,719.1
Long-term debt(1)	1,513.9	1,498.2	1,491.8	1,498.5	1,492.7
Total debt(1)	1,933.8	1,516.0	1,495.7	1,516.4	1,649.2
Cash and cash equivalents	1,026.8	269.5	149.8	238.0	156.9
Total stockholders equity	2,994.7	2,709.3	2,184.4	2,708.0	2,098.4

Cash flow information:					
Cash flow provided by (used in) operating activities	$ 368.4	$ 55.9	$ 131.4	$ 12.0	$ (61.5)
Cash flow used in investing activities	(11.0)	(316.2)	(145.1)	(22.5)	(68.7)
Cash flow provided by (used in) financing activities	364.8	(497.0)	(106.0)	(21.0)	137.3
Other data:					
Ratio of earnings to fixed charges(2)	(3)	(3)	(3)	1.6x	(3)
EBITDA (unaudited)(4)	$ 89.3	$ 282.7	$ (179.5)	$ 92.0	$ (60.7)
Adjusted EBITDA (unaudited)(5)	$ 212.3	$ 320.8	$ 166.1	$ 104.4	$ (25.3)

Table of Contents

(1) Information as presented in our Annual Report on Form 10-K for the fiscal year ended December 31, 2013 and in our Quarterly Report on Form 10-Q for the fiscal quarter ended March 31, 2015 has been restated to reflect the adoption on a retrospective basis in the fourth quarter of fiscal year 2015 of new accounting guidance for the balance sheet classification of deferred taxes and for debt issuance costs.

(2) For purposes of determining the ratio of earnings to fixed charges, earnings include pre-tax income 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).

(3) For the years ended December 31, 2015, 2014 and 2013 and the quarter ended March 31, 2016, fixed charges exceeded earnings by $492.1 million, $7.1 million, $192.8 million and $135.9 million, respectively.

(4) We define EBITDA as income (loss) from continuing operations before interest, other income and income taxes, plus depreciation and amortization. We define Adjusted EBITDA as EBITDA excluding goodwill impairment charges, restructuring charges including acquisition costs, net realizable value (NRV) inventory valuation charges, start-up and qualification costs for the HRPF and the Rowley, UT premium-quality (PQ) titanium sponge production facility, and costs associated with the work stoppage and return-to-work provisions of collective bargaining agreements. EBITDA and Adjusted EBITDA are not measures of financial performance under generally accepted accounting principles. EBITDA and Adjusted EBITDA are not calculated in the same manner by all companies and, accordingly, are not necessarily comparable to similarly titled measures of other companies and may not be an appropriate measure of performance relative to other companies. Interest expense, net as presented includes reductions for interest expense capitalized on construction in progress and is net of interest income. We have presented EBITDA and Adjusted EBITDA in this prospectus supplement solely as a supplemental disclosure because we believe it allows for a more complete analysis of our results of operations. We believe that EBITDA and Adjusted EBITDA are useful to investors because these measures are commonly used to analyze companies on the basis of operating performance, leverage and liquidity. Furthermore, analogous measures are used by industry analysts to evaluate operating performance. EBITDA and Adjusted EBITDA are not intended to be measures of free cash flow for management s discretionary use, as they do not consider certain cash requirements such as interest payments, tax payments and capital expenditures. EBITDA and Adjusted EBITDA are not intended to represent, and should not be considered more meaningful than, or as an alternatives to, a measure of operating performance as determined in accordance with generally accepted accounting principles. The definitions of EBITDA and Adjusted EBITDA will differ from the amounts calculated under the definition of Consolidated EBITDA that is contained in the Credit Facility. **We do not intend to provide EBITDA or Adjusted EBITDA information for future periods in earnings press releases, filings with the SEC or in response to inquiries.** EBITDA and Adjusted EBITDA are calculated as follows:

	Year Ended December 31,			Three Months Ended March 31,	
	2013	**2014**	**2015**	**2015**	**2016**
	(Dollars in Millions) (Unaudited)				

Income (loss) from continuing operations before interest, other income and income taxes	$ (91.3)	$ 106.1	$ (369.4)	$ 46.4	$ (104.8)
Depreciation and amortization	180.6	176.6	189.9	45.6	44.1
EBITDA	$ 89.3	$ 282.7	$ (179.5)	$ 92.0	$ (60.7)
Impairment of goodwill			126.6		
Restructuring charges	67.5		64.3		9.0
Non-cash NRV inventory charges	35.0	(25.0)	131.5		
HRPF start-up costs		22.6	9.2	5.6	
Rowley PQ qualification costs	20.5	40.5	14.0	6.8	
Work stoppage and return-to-work costs					26.4
Adjusted EBITDA	$ 212.3	$ 320.8	$ 166.1	$ 104.4	$ (25.3)

Table of Contents

RISK FACTORS

Investing in the notes and our common stock involves risks. You should carefully read and consider the risks described below as well as the risks described in the sections entitled Item 1. Business and Item 1A. Risk Factors in our Annual Report on Form 10-K for the year ended December 31, 2015, which is incorporated by reference into this prospectus supplement and the accompanying prospectus. You should also carefully read and consider the other information contained in or incorporated by reference into this prospectus supplement and the accompanying prospectus, including risks described above in Forward-Looking Statements, before making a decision to invest in the notes. Each of these risks could materially and adversely affect our business, financial condition, results of operations, liquidity and prospects, and could result in a partial or complete loss of your investment.

Risks Relating to the Notes

Our substantial indebtedness could adversely affect our business, financial condition or results of operations and prevent us from fulfilling our obligations under the notes.

We currently have and, after this offering, will continue to have a significant amount of indebtedness. As of March 31, 2016, after giving effect to this offering, the application of the proceeds from this offering as described under the caption Use of Proceeds and the transactions contemplated by the Credit Agreement Amendment, as described under the caption Summary Recent Developments, our total consolidated indebtedness would have been approximately $ billion (excluding accounts payable, accrued expenses, other liabilities, variable interest entity liabilities and unfunded commitments). This substantial level of indebtedness increases the risk that we may be unable to generate enough cash to pay amounts due in respect of our indebtedness, including the notes.

Our substantial indebtedness could have important consequences to you and significant effects on our business. For example, it could:

- make it more difficult for us to satisfy our obligations with respect to the notes;
- increase our vulnerability to general adverse economic and industry conditions;
- require us to dedicate a substantial portion of our cash flow from operations to payments on our indebtedness, thereby reducing the availability of our cash flow to fund working capital, capital expenditures, our strategic growth initiatives and development efforts and other general corporate purposes;
- limit our flexibility in planning for, or reacting to, changes in our business and the industry in which we operate;
- restrict us from exploiting business opportunities;

- place us at a competitive disadvantage compared to our competitors that have less indebtedness; and

- limit our ability to borrow additional funds for working capital, capital expenditures, acquisitions, debt service requirements, execution of our business strategy or other general corporate purposes.

In addition, the agreements that govern our current indebtedness contain, and the agreements that may govern any future indebtedness that we may incur may contain, financial and other restrictive covenants that will limit our ability to engage in activities that may be in our long-term best interests. Our failure to comply with those covenants could result in an event of default that, if not cured or waived, could result in the acceleration of all of our debt.

Despite our substantial current indebtedness, we and our subsidiaries may still be able to incur substantially more indebtedness. This could further exacerbate the risks associated with our substantial leverage.

We and our subsidiaries may be able to incur substantial additional indebtedness in the future, including pursuant to a capital markets transaction such as a notes offering, as well as additional secured indebtedness that would be structurally senior to the notes. Furthermore, neither the base indenture nor the supplemental indenture establishing the terms of the notes limits the amount of debt that we or our subsidiaries may issue. Adding new indebtedness to current debt levels could make it more difficult for us to satisfy our obligations with respect to the notes.

Repayment of our debt, including the notes, is dependent on cash flow generated by our subsidiaries.

Our subsidiaries own a significant portion of our assets and conduct a significant portion of our operations. Accordingly, repayment of our indebtedness, including the notes, is dependent, to a significant extent, on the generation of cash flow by our subsidiaries and their ability to make such cash available to us, by dividend, debt repayment or otherwise. None of our subsidiaries will guarantee the notes. Our subsidiaries do not have any obligation to pay amounts due on the notes or to make funds available for that purpose. Our subsidiaries may not be able to, or may not be permitted to, make distributions to enable us to make payments in respect of our indebtedness, including the notes. Each subsidiary is a distinct legal entity and, under certain circumstances, legal and contractual restrictions may limit our ability to obtain cash from our subsidiaries. In the event that we do not receive distributions from our subsidiaries, we may be unable to make required principal and interest payments on our indebtedness, including the notes.

The notes will be structurally subordinated to all liabilities of our subsidiaries.

The notes will not be guaranteed by any of our subsidiaries and are therefore structurally subordinated to the indebtedness and other liabilities of our subsidiaries. These subsidiaries are separate and distinct legal entities and have no obligation, contingent or otherwise, to pay any amounts due pursuant to the notes, or to make any funds available therefor, whether by dividends, loans, distributions or other payments. Any right that we have to receive any assets of any of the subsidiaries upon the liquidation or reorganization of those subsidiaries, and the consequent rights of holders of notes to realize proceeds from the sale of any of those subsidiaries assets, will be effectively subordinated to the claims of those subsidiaries creditors, including trade creditors and holders of preferred equity interests of those subsidiaries. Accordingly, in the event of a bankruptcy, liquidation or reorganization of any of our subsidiaries, these subsidiaries will pay the holders of their debts, holders of preferred equity interests and their trade creditors before they will be able to distribute any of their assets to us.

We may not be able to repurchase the notes upon a fundamental change.

Upon a fundamental change as defined in the indenture, we will be required to make an offer to repurchase all outstanding notes at 100% of their principal amount, plus accrued and unpaid interest. We may not have sufficient financial resources to purchase all of the notes that are tendered upon a fundamental change repurchase offer. A failure to make the fundamental change repurchase offer or to pay the fundamental change repurchase price when due would result in a default under the indenture. The occurrence of a fundamental change would also constitute an event of default under the Credit Facility and may constitute an event of default under the terms of the agreements governing our other indebtedness or require us to offer to repay or repurchase such other indebtedness. See Description of Notes Fundamental Change Permits Holders to Require us to Purchase Notes.

There may be no active trading market for the notes.

The notes are a new issue of securities for which there is no established market. Accordingly, any or all of the following may occur:

no liquid market for the registered notes may develop;

you may be unable to sell your notes; or

the price at which you will be able to sell the notes may be lower than their principal amount or purchase price. If a public market were to exist, the notes could trade at prices that may be higher or lower than their principal amount or purchase price, depending on many factors, including prevailing interest rates, the market for similar securities, and our financial performance. We do not intend to list the notes on any securities exchange or to seek approval for quotations through any automated quotation system. No active market for the notes is currently anticipated.

The notes are not protected by restrictive covenants.

Neither we nor any of our subsidiaries will be restricted by the indenture from incurring any indebtedness or other obligation, paying dividends or making distributions on our capital stock or the capital stock of any of our subsidiaries or purchasing or redeeming our capital stock or the capital stock of any of our subsidiaries. In addition, we will not be required to maintain any financial ratios or specified levels of net worth or liquidity pursuant to the indenture. Further, the indenture does not contain covenants or other provisions to afford protection to holders of the notes in the event of a fundamental change involving us except to the extent described under Description of Notes Fundamental Change Permits Holders to Require Us to Purchase Notes and Description of Notes Conversion Rights Adjustment to Conversion Rate Upon Certain Fundamental Changes.

Recent regulatory actions may adversely affect the trading price and liquidity of the notes.

We expect that many investors in, and potential purchasers of, the notes will employ, or seek to employ, a convertible arbitrage strategy with respect to the notes. Investors would typically implement this strategy by selling short the common stock underlying the notes and dynamically adjusting their short position while they hold the notes. Investors may also implement this strategy by entering into swaps on our common stock in lieu of or in addition to short selling our common stock.

The SEC and other regulatory and self-regulatory authorities have implemented various rules and may adopt additional rules in the future that may impact those engaging in short selling activity involving equity securities (including our common stock), including Rule 201 of SEC Regulation SHO, the Financial Industry Regulatory Authority, Inc. s Limit Up-Limit Down program, market-wide circuit breaker systems that halt trading of securities for certain periods following specific market declines, and rules stemming from the enactment and implementation of the Dodd-Frank Wall Street Reform and Consumer Protection Act. Past regulatory actions, including emergency actions or regulations have had a significant impact on the trading prices and liquidity of equity-linked instruments. Any governmental action that similarly restricts the ability of investors in, or potential purchasers of, the notes to effect short sales of our common stock or enter into swaps on our common stock could similarly adversely affect the trading price and the liquidity of the notes.

In addition, if investors and potential purchasers seeking to employ a convertible arbitrage strategy are unable to borrow or enter into swaps on our common stock, in each case on commercially reasonable terms, the trading price and liquidity of the notes may be adversely affected.

As a holder of notes, you will not be entitled to any rights with respect to our common stock, but you will be subject to all changes made with respect to our common stock.

If you hold notes, you will not be entitled to any rights with respect to our common stock into which your notes may be converted (including, without limitation, voting rights and rights to receive any dividends or other distributions on our common stock) unless you receive our common stock upon conversion of your notes, but you will be subject to all changes affecting our common stock. You will have the rights with respect to our common stock into which your notes may be converted only if you receive our common stock upon conversion and only as of the date when you become an owner of the shares of our common stock upon such conversion. For example, in the event that an amendment is proposed to our charter or bylaws requiring stockholder approval and the record date for determining the stockholders of record entitled to vote on the amendment occurs prior to the date you are deemed the owner of the shares of our common stock due upon conversion, you will not be entitled to vote on the amendment, although you will nevertheless be subject to any changes in the powers, preferences or special rights of our common stock.

Table of Contents

The market price of the notes is expected to be significantly affected by the market price of our common stock, which may continue to be volatile and will be affected by factors beyond our control.

We expect that the market price of our notes will be significantly affected by the market price of our common stock. This may result in greater volatility in the market price of the notes than would be expected for nonconvertible debt securities. The market price of our common stock has been and may continue to be subject to significant fluctuations due not only to general stock market conditions but also to changes in sentiment in the market regarding our operations, business prospects, liquidity or this offering. During the period from January 1, 2015 to May 16, 2016, our common stock has fluctuated from a high of $37.76 per share to a low of $7.08 per share. The market price of our common stock will likely continue to fluctuate in response to, among other things, the factors discussed under Item 1. Business and Item 1A. Risk Factors in our Annual Report on Form 10-K for the year ended December 31, 2015, which is incorporated by reference into this prospectus supplement and the accompanying prospectus.

The conversion rate for notes may not be adjusted for all dilutive events.

The conversion rate of the notes is subject to adjustment for certain events, including, but not limited to, the issuance of stock dividends on our common stock, the issuance of certain rights or warrants, subdivisions, combinations, distributions of capital stock, indebtedness or assets, cash dividends and certain issuer tender or exchange offers as described under Description of Notes Conversion Rights Conversion Rate Adjustments. The conversion rate will not be adjusted, however, for other events, such as a third-party tender or exchange offer or an issuance of common stock for cash, that may adversely affect the trading price of the notes or our common stock. In addition, an event that adversely affects the value of the notes may occur, and that event may not result in an adjustment to the conversion rate.

Some significant restructuring transactions may not constitute a fundamental change, in which case we would not be obligated to offer to purchase the notes.

Upon the occurrence of certain fundamental change transactions described under Description of Notes Fundamental Change Permits Holders to Require Us to Purchase Notes, you have the right to require us to repurchase your notes. However, the fundamental change provisions will only afford protection to holders of notes in the event of certain transactions. Other transactions such as leveraged recapitalizations, refinancings, restructurings, or acquisitions initiated by us may not constitute a fundamental change requiring us to repurchase the notes. In the event of any such transaction, the holders would not have the right to require us to repurchase the notes, even though each of these transactions could increase the amount of our indebtedness or otherwise adversely affect our capital structure or any credit ratings, thereby adversely affecting the holders of notes.

The adjustment to the applicable conversion rate for notes converted in connection with a make whole fundamental change may not adequately compensate you for any lost value of your notes as a result of such transaction.

If a make whole fundamental change, as described under Description of Notes Adjustment to Conversion Rate upon Certain Fundamental Changes, occurs, under certain circumstances we will increase the applicable conversion rate by a number of additional shares of our common stock for notes converted in connection with such fundamental change. The increase in the applicable conversion rate will be determined based on the date on which the fundamental change becomes effective and the price paid per share of our common stock in, or the price of our common stock over a 10 trading-day period immediately preceding the effective date of, such transaction, as described under Description of Notes Conversion Rights Adjustment to Conversion Rate Upon Certain Fundamental Changes. The adjustment to the applicable conversion rate for notes converted in connection with a fundamental change may not adequately compensate you for any lost value of your notes as a result of such transaction. In addition, if the stock price for such transaction (determined as described under Description of Notes Conversion Rights Adjustment to Conversion Rate Upon Certain Fundamental Changes) is greater than $ per share, or if such price is less than $ per share (each such price, subject to adjustment), no adjustment will be made to the applicable conversion rate.

Our obligation to increase the applicable conversion rate in connection with any such fundamental change could be considered a penalty, in which case the enforceability thereof would be subject to general principles of reasonableness of economic remedies. An increase in the conversion rate may be treated as a distribution subject to tax as a dividend. You should carefully consider the information under Material U.S. Federal Income Tax Considerations.

The fundamental change provisions may delay or prevent an otherwise beneficial takeover attempt of us.

The fundamental change purchase rights, which will allow noteholders to require us to purchase all or a portion of their notes upon the occurrence of a fundamental change, as defined in Description of Notes Fundamental Change Permits Holders to Require Us to Purchase Notes, and the provisions requiring an increase to the conversion rate for conversions in connection with fundamental changes may in certain circumstances delay or prevent a takeover of us and the removal of incumbent management that might otherwise be beneficial to investors.

We may issue additional shares of our common stock or instruments convertible into our common stock, including in connection with conversions of notes, and thereby materially and adversely affect the price of our common stock, and, in turn, the notes.

Subject to lock-up provisions described under Underwriting, we are not restricted from issuing additional shares of our common stock or other instruments convertible into our common stock during the life of the notes. See Underwriting. We cannot predict the size of future issuances or the effect, if any, that they may have on the market price for our common stock. If we issue additional shares of our common stock or instruments convertible into our common stock, it may materially and adversely affect the price of our common stock and, in turn, the price of the notes. Furthermore, the conversion of some or all of the notes may dilute the ownership interests of existing stockholders, and any sales in the public market of shares of our common stock issuable upon any such conversion could adversely affect prevailing market prices of our common stock or the notes. In addition, the anticipated issuance and sale of substantial amounts of common stock or the anticipated conversion or exercise of securities into shares of our common stock could depress the price of our common stock.

Risks Relating to U.S. Federal Income Taxation

You may be subject to tax if we make or fail to make certain adjustments to the conversion rate of the notes even though you do not receive a corresponding cash distribution.

The conversion rate of the notes is subject to adjustment in certain circumstances, including the payment of certain cash dividends. If the conversion rate is adjusted as a result of a distribution that is taxable to our common stockholders, such as a cash dividend, you may be deemed to have received for U.S. federal income tax purposes a taxable dividend to the extent of our earnings and profits without the receipt of any cash. In addition, a failure to adjust (or adjust adequately) the conversion rate after an event that increases your proportionate interest in us could be treated as a deemed taxable dividend to you. If a fundamental change occurs prior to the maturity date, under some circumstances, we will increase the conversion rate for notes converted in connection with the fundamental change. Such increase may also be treated as a distribution subject to U.S. federal income tax as a dividend. If you are a non-U.S. holder (as defined in Material U.S. Federal Income Tax Considerations), such deemed dividend may be subject to U.S. federal withholding tax (currently at a 30% rate, or such lower rate as may be specified by an applicable treaty), which may be set off against subsequent payments on the notes. See Description of Notes Conversion Rights Conversion Rate Adjustments and Material U.S. Federal Income Tax Considerations. You should consult your tax advisor as to the tax consequences of constructive dividends.

You may be subject to tax upon a change in conversion consideration or subsequent conversion following a change in control even though you do not receive a corresponding cash distribution.

In the event we undergo certain of the events described under Description of Notes Recapitalizations, Reclassifications and Changes of Our Common Stock or Description of Notes Merger, Consolidation or Sale of Assets , the conversion consideration may be changed, and depending on the circumstances at the time of such an event, such a change may result in a taxable event for U.S. federal income tax purposes. In addition, a subsequent conversion for the new conversion consideration may be a taxable event. See Material U.S. Federal Income Tax Considerations Possible Effect of the Change in Conversion Consideration after a Change in Control.

Table of Contents

USE OF PROCEEDS

We estimate that the net proceeds from this offering will be approximately $ million (or approximately $ million if the underwriters exercise their option to purchase additional notes to cover over-allotments, if any, in full), after deducting the underwriting discounts and commissions and estimated offering expenses payable by us. We intend to use the net proceeds from this offering for general corporate purposes, which may include voluntary or required contributions to our defined benefit pension trust or repurchases, repayment or refinancing of debt.

Until the net proceeds from this offering are applied as described above, we may invest proceeds in short-term, investment grade interest-bearing securities or in obligations of, or guaranteed by, the U.S. government.

Table of Contents

COMMON STOCK PRICE RANGE AND DIVIDENDS

Our common stock is listed on the New York Stock Exchange under the symbol ATI. The following table sets forth, for the periods indicated, the high and low sales prices per share of our common stock as reported on the NYSE and the dividends declared per share of our common stock.

	Price Range of Common Stock		Cash Dividend
	High	Low	Per Share
2014			
First Quarter	$ 38.30	$ 29.74	$ 0.18
Second Quarter	$ 45.26	$ 37.56	$ 0.18
Third Quarter	$ 46.32	$ 36.74	$ 0.18
Fourth Quarter	$ 36.99	$ 30.02	$ 0.18
2015			
First Quarter	$ 35.10	$ 27.12	$ 0.18
Second Quarter	$ 37.76	$ 29.05	$ 0.18
Third Quarter	$ 31.02	$ 13.66	$ 0.18
Fourth Quarter	$ 19.10	$ 10.15	$ 0.08
2016			
First Quarter	$ 18.38	$ 7.08	$ 0.08
Second Quarter (through May 16, 2016)	$ 18.03	$ 13.95	$ 0.08(1)

(1) On May 6, 2016, our Board of Directors declared a quarterly cash dividend of $0.08 per share of our common stock. The dividend is payable on June 9, 2016 to our stockholders of record at the close of business on May 27, 2016.

The last reported sale price of our common stock on the New York Stock Exchange on May 16, 2016 was $14.17 per share. As of May 13, 2016, there were 108,880,478 shares of our common stock outstanding held by approximately 3,653 registered holders.

The payment of dividends, if any, and the amount of such dividends depends upon matters deemed relevant by our Board of Directors on a quarterly basis, such as our results of operations, financial condition, cash requirements, future prospects, any limitations imposed by law, credit agreements or debt securities and other factors deemed relevant and appropriate. Under the Credit Facility, there is no limit on dividend declarations or 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 sum of the maximum revolving advance amount under the Credit Facility and the outstanding principal amount under the Term Loan, and no event of default under the Credit Facility has occurred and is continuing or would result from paying the dividend. In addition, there is no limit on dividend declarations or payments if the undrawn availability is less than the greater of $120.0 million and 30% of the sum of the maximum revolving advance amount under the Credit Facility and the outstanding principal amount under the Term Loan, but more than the greater of $60.0 million and 15% of the sum of the maximum revolving advance amount under the Credit Facility and the outstanding principal amount under the Term Loan, 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 sum of the maximum revolving advance amount under the Credit Facility and the outstanding principal amount under the Term Loan, 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 Credit Facility.

While we have historically paid cash dividends on our common stock on a quarterly basis, no assurance can be given that we will continue to pay dividends on our common stock in a manner and amount consistent with our historic practices, or at all, in the future.

Table of Contents

CAPITALIZATION

The following table sets forth our consolidated capitalization as of March 31, 2016:

- on an actual basis; and
- on an as-adjusted basis to reflect (i) the consummation of the transactions contemplated by the Credit Agreement Amendment, as described under the caption Summary Recent Developments, and (ii) the issuance of notes pursuant to this offering (assuming no exercise of the underwriters option to purchase additional notes) and the application of the net proceeds therefrom, as described under the caption Use of Proceeds.

This table should be read in conjunction with our historical consolidated financial statements, including the related notes, which are incorporated by reference in this prospectus supplement and the accompanying prospectus, as well as any related free writing prospectus.

	As of March 31, 2016	
	Actual	As Adjusted
	(Dollars in millions)	
Cash and cash equivalents	$ 156.9	$
Total debt (including current portion of long-term debt):		
Revolving credit facility(1)	$ 150.0	$ 50.0
Term loan		100.0
9.375% Senior Notes due 2019	350.0	350.0
5.95% Senior Notes due 2021	500.0	500.0
% Convertible Senior Notes due 2022 (offered hereby)(2)		
5.875% Senior Notes due 2023	500.0	500.0
Allegheny Ludlum 6.95% Debentures due 2025	150.0	150.0
Other debt	8.3	8.3
Debt issuance costs	(9.1)	(9.1)
Total debt	1,649.2	
Stockholders equity:		
Preferred stock, par value $0.10; 50,000,000 shares authorized; issued none	$	$
Common stock, par value $0.10; 500,000,000 shares authorized; 109,695,171 shares issued; 108,916,743 shares outstanding	11.0	11.0
Additional paid-in-capital	1,171.9	1,171.9
Retained earnings	1,835.9	1,835.9
Treasury stock, at cost; 778,428 shares	(28.7)	(28.7)
Accumulated other comprehensive loss, net of tax	(994.9)	(994.9)
Total ATI stockholders equity	1,995.2	1,995.2
Noncontrolling interests	103.2	103.2

Total stockholders equity	2,098.4	2,098.4
Total ATI capitalization	$ 3,644.4	$

(1) Our revolving credit facility provides for aggregate borrowings of up to $400 million. Borrowing availability under the facility is reduced on a dollar-for-dollar basis by the amount of any outstanding letters of credit under the facility. As of March 31, 2016, we had outstanding borrowings of $150.0 million under the facility, and approximately $9.8 million of letters of credit were outstanding under the facility.

(2) Represents the aggregate principal amount of the notes offered hereby.

Table of Contents

The number of shares of our common stock in the table above excludes:

- an aggregate of 7,000 shares of our common stock issuable upon exercise of outstanding stock options issued under our equity compensation plans at a weighted average exercise price of $72.46 per share;

- an aggregate of 3,255,148 shares of our common stock reserved for issuance in connection with other outstanding stock-settled equity awards;

- an additional 1,371,893 shares of our common stock available for future grants under our equity compensation plans; and

- shares of common stock initially issuable in connection with conversion of the notes offered hereby.

Table of Contents

DESCRIPTION OF NOTES

The following description of the particular terms of the notes offered by this prospectus supplement supplements the description of the general terms and provisions of the debt securities set forth in the accompanying prospectus under the caption Description of Debt Securities.

In this Description of Notes, references to ATI, the Company, we, our and us and similar words refer only to Allegheny Technologies Incorporated and not to any of its subsidiaries.

The notes will be issued under a senior indenture dated as of June 1, 2009, as heretofore supplemented and as supplemented by a supplemental indenture to be dated as of , 2016, between us and The Bank of New York Mellon, as trustee (as so supplemented, the indenture). The indenture is subject to and is governed by the Trust Indenture Act of 1939, as amended. We have filed the indenture as an exhibit to the registration statement of which the accompanying prospectus forms a part. The following description summarizes selected provisions of the indenture and the notes. It does not restate the indenture or the terms of the notes in their entirety. We urge you to read the indenture and the notes because the indenture and the notes, and not this description, define the rights of noteholders.

General

The notes:

- will be our senior unsecured obligations;
- will initially be limited to an aggregate principal amount of $ (or $ if the underwriters over-allotment option with respect to the notes is exercised in full);
- will bear interest at a rate of % per year, payable semiannually in arrears on January 1 and July 1 of each year, beginning January 1, 2017;
- will be subject to purchase for cash by us at the option of the holders following a fundamental change (as defined below under Fundamental Change Permits Holders to Require Us to Purchase Notes), at a price equal to 100% of the principal amount of the notes to be repurchased, plus accrued and unpaid interest, if any, to, but excluding, the fundamental change repurchase date;
- will mature on July 1, 2022 (the stated maturity date), unless earlier converted or repurchased;
- will be issued in denominations of $1,000 and integral multiples of $1,000 in excess thereof; and
- will be represented by one or more registered notes in global form, but in certain limited circumstances may be represented by notes in certificated form. See Book-entry Issuance.

The notes may be converted into shares of our common stock initially at a conversion rate of shares of common stock per $1,000 principal amount of notes (equivalent to a conversion price of approximately $ per share of common stock). The conversion rate is subject to adjustment if certain events occur. A holder surrendering its notes for conversion will not receive any separate cash payment for interest, if any, accrued and unpaid to the conversion date except under the limited circumstances described below.

The indenture does not limit the amount of debt that may be issued by the Company or its subsidiaries under the indenture or otherwise. The indenture does not contain any financial covenants and does not restrict us from paying dividends or issuing or repurchasing our other securities. Other than restrictions described under the captions Fundamental Change Permits Holders to Require Us to Purchase Notes and Merger, Consolidation or Sale of Assets below and except for the provisions set forth under Conversion Rights Adjustment to Conversion Rate Upon Certain Fundamental Changes, the indenture does not contain any covenants or other provisions designed to afford holders of the notes protection in the event of a highly leveraged transaction involving the Company or in the event of a decline in the credit rating of the Company as the result of a takeover, recapitalization, highly leveraged transaction or similar restructuring involving the Company that could adversely affect such holders.

We may, from time to time, without notice to, or the consent of, the holders of the notes, issue additional notes under the indenture with the same terms and with the same CUSIP number as the notes offered hereby in an unlimited aggregate principal amount, *provided* that such additional notes must be part of the same issue as the notes offered hereby for United States federal income tax purposes. We may also from time to time repurchase notes in open market purchases or negotiated transactions without giving prior notice to the holders of the notes.

The terms of the notes allow us to reduce or otherwise set-off against any payments made or deemed made by us to a holder in respect of the notes or common stock for any amounts we believe we are required to withhold by law. For example, non-U.S., holders of notes may, under some circumstances, be subject to U.S. federal withholding tax with respect to payments of interest on the notes. Holders of convertible debt instruments such as the notes may be deemed to receive taxable distributions if the conversion rate of such instruments is adjusted (or not adjusted) even though such holders do not receive any actual cash or property. In this case, U.S. holders may be subject to U.S. federal backup withholding tax and non-U.S. holders may be subject to U.S. federal withholding tax with respect to such deemed distributions. See generally the discussion under the heading Material U.S. Federal Income Tax Considerations.

Prior to or upon the occurrence of any event that results in an actual or deemed payment by us to a holder in respect of the notes or common stock, the terms of the notes allow us (or the trustee or other paying agent acting on our behalf) to request a holder to furnish any appropriate documentation that may be required in order to determine our withholding obligations under applicable law (including, without limitation, a U.S. Internal Revenue Service Form W-9, Form W-8BEN, Form W-8ECI, as appropriate). Upon the receipt of any such documentation, or if no such documentation is provided, we (or the trustee or other paying agent acting on our behalf) will withhold from any actual or deemed payments by us to a holder in respect of the notes or common stock to the extent required by applicable law. See generally the discussion under the heading Material U.S. Federal Income Tax Considerations.

We do not intend to list the notes on a national securities exchange or interdealer quotation system.

Except to the extent the context otherwise requires, we use the term notes in this prospectus supplement to refer to each $1,000 principal amount of notes. We use the term common stock in this prospectus supplement to refer to our common stock, par value $0.10 per share. References in this prospectus supplement to a holder or holders of notes that are held through DTC are references to owners of beneficial interests in such notes, unless the context otherwise requires. However, we and the trustee will treat the person in whose name the notes are registered (Cede & Co., in the case of notes held through DTC) as the owner of such notes for all purposes. References herein to the close of business refer to 5:00 p.m., New York City time, and to the open of business refer to 9:00 a.m., New York City time.

Ranking

The notes will be our senior and unsecured indebtedness and will rank equally with all of our other existing and future senior and unsecured indebtedness. The notes will effectively rank junior to any of our existing and future secured indebtedness to the extent of the assets securing such indebtedness, and will be structurally subordinated to any indebtedness and other liabilities of our subsidiaries. Indebtedness of our subsidiaries and obligations and liabilities of our subsidiaries are structurally senior to the notes since, in the event of a bankruptcy, liquidation, dissolution, reorganization or other winding up, the assets of our subsidiaries will be available to pay the notes only after the subsidiaries indebtedness and other obligations and liabilities are paid in full. If that happens, we may not have sufficient assets remaining to pay the amounts due on any or all of the notes then outstanding. Because we generally stand as an equity holder, rather than a creditor, of our subsidiaries, creditors of those subsidiaries will have their debt satisfied out of the subsidiaries assets before our creditors, including the noteholders.

As of March 31, 2016, we had an aggregate of approximately $1.6 billion of indebtedness outstanding. After giving effect to this offering, the application of the proceeds from this offering as described under the caption Use of

Proceeds and the transactions contemplated by the Credit Agreement Amendment, as described under the caption Summary Recent Developments, as of March 31, 2016, we would have had an aggregate of approximately $ of indebtedness outstanding (or $ if the underwriters exercise in full their option to purchase additional notes).

Table of Contents

Interest

The notes will bear interest at a rate of % per year. Interest on the notes will accrue from, and including, May , 2016 or from and including the most recent date on which interest has been paid or duly provided for. Interest will be payable semiannually in arrears on January 1 and July 1 of each year (each such date, an interest payment date), beginning January 1, 2017. Unless otherwise explicitly stated, all references to interest in this prospectus supplement include additional interest, if any, payable at our election as the sole remedy during certain periods for an event of default relating to the failure to comply with our reporting obligations as described under Events of Default.

Interest will be paid to the person in whose name a note is registered at the close of business on December 15 or June 15, as the case may be, immediately preceding the relevant interest payment date (each such date, a regular record date). Interest on the notes will be computed on the basis of a 360-day year composed of twelve 30-day months.

If any interest payment date (other than an interest payment date coinciding with the stated maturity date or earlier required repurchase date upon a fundamental change as defined in Fundamental Change Permits Holders to Require Us to Purchase Notes) of a note falls on a day that is not a business day, such interest payment date will be postponed to the next succeeding business day and no interest on such payment will accrue for the period from and after the interest payment date to such next succeeding business day. If the stated maturity date would fall on a day that is not a business day, the required payment of interest, if any, and principal will be made on the next succeeding business day and no interest on such payment will accrue for the period from and after the stated maturity date to such next succeeding business day. If a fundamental change purchase date would fall on a day that is not a business day, the Company will purchase the notes on the next succeeding business day, and no interest will accrue for the period from the earlier fundamental change purchase date to such next succeeding business day. The Company will pay the fundamental change purchase price promptly following the later of such next succeeding business day or the time of book-entry transfer or the delivery of the notes as described in Fundamental Change Permits Holders to Require Us to Purchase Notes. The term business day means any day other than a Saturday, a Sunday or a day on which banking institutions in the applicable place of payment are authorized or obligated by law or executive order to close.

No Optional Redemption

No sinking fund is provided for the notes.

The notes will not be redeemable prior to the stated maturity date.

Conversion Rights

General

Prior to the close of business on the business day immediately preceding the stated maturity date of the notes, the notes will be convertible at any time at the option of the holder. The conversion rate will initially be shares of our common stock per $1,000 principal amount of notes (equivalent to a conversion price of approximately $ per share of common stock). The trustee will initially act as the conversion agent.

Upon conversion, you will not receive any separate cash payment for accrued and unpaid interest, if any, except as described below. We will not issue fractional shares of our common stock upon conversion of notes. Instead, we will pay cash in lieu of fractional shares based on the last reported sale price (as defined below) of the common stock on the relevant conversion date. Our delivery to you of the full number of shares of our common stock, together with any cash payment for any fractional shares, into which a note is convertible, will be deemed to satisfy in full our obligation to pay:

- the principal amount of the note; and

- accrued and unpaid interest, if any, to, but not including, the conversion date.

Table of Contents

As a result, accrued and unpaid interest, if any, to, but not including, the conversion date will be deemed to be paid in full rather than cancelled, extinguished or forfeited.

The conversion rate and the equivalent conversion price in effect at any given time are referred to as the applicable conversion rate and the applicable conversion price, respectively, and will be subject to adjustment as described below. The applicable conversion price at any given time will be computed by dividing $1,000 by the applicable conversion rate at such time. A holder may convert fewer than all of such holder s notes so long as the notes converted are an integral multiple of $1,000 principal amount.

If a holder of notes has submitted notes for repurchase upon a fundamental change, the holder may convert those notes only if that holder withdraws the repurchase election made by that holder in accordance with the terms of the indenture.

Upon conversion of a note, except in the limited circumstances described below, the holder of such note will not be entitled to any separate cash payment for accrued and unpaid interest, if any. If notes are converted after the close of business on a regular record date for the payment of interest, holders of such notes at the close of business on such record date will receive the interest, if any, payable on such notes on the corresponding interest payment date notwithstanding the conversion. Notes surrendered for conversion during the period from the close of business on any regular record date to the open of business on the immediately following interest payment date, must be accompanied by funds equal to the amount of interest, if any, payable on such interest payment date on the notes so converted; *provided* that no such payment need be made

- for conversions following the regular record date immediately preceding the stated maturity date;
- if we have specified a fundamental change purchase date that is after a regular record date and on or prior to the corresponding interest payment date; or
- to the extent of any overdue interest, if any overdue interest exists at the time of conversion with respect to such note.

Therefore, for the avoidance of doubt, all record holders as of the close of business on the regular record date immediately preceding the maturity date will receive the full interest payment due on the maturity date regardless of whether their notes have been converted following such regular record date.

If a holder converts notes, we will pay any documentary, stamp or similar issue or transfer tax due on the issue of any shares of our common stock upon the conversion, unless the tax is due because the holder requests any shares to be issued in a name other than the holder s name, in which case the holder will pay that tax.

The last reported sale price of our common stock on any trading day means the closing sale price per share (or if no closing sale price is reported, the average of the bid and ask prices or, if more than one in either case, the average of the average bid and the average ask prices) of our common stock on that trading day as reported in composite transactions for the principal United States national or regional securities exchange on which our common stock is traded.

If our common stock is not listed for trading on a United States national or regional securities exchange on the relevant trading day, the last reported sale price will be the last quoted bid price for our common stock in the over-the-counter market on the relevant trading day as reported by the OTC Markets Group Inc. or similar organization selected by us. If our common stock is not so quoted, the last reported sale price will be the average of the mid-point of the last bid and ask prices for our common stock on the relevant date from each of at least three nationally recognized independent investment banking firms selected by us for this purpose.

For purposes hereof, trading day means a day during which (i) trading in our common stock generally occurs on The New York Stock Exchange or, if our common stock is not then listed on The New York Stock Exchange, on the principal other United States national or regional securities exchange or market on which our common stock is then traded, and (ii) a last reported sale price for our common stock is available on such securities exchange or market. If our common stock is not so listed or traded, trading day means a business day.

Table of Contents

Conversion Procedures

If you hold a beneficial interest in a global note, to convert you must comply with DTC s procedures for converting a beneficial interest in a global note and, if required, pay funds equal to interest payable on the next interest payment date to which you are not entitled and, if required, pay all taxes or duties, if any.

If you hold a certificated note, to convert you must:

- complete and manually sign the conversion notice on the back of the note, or a facsimile of the conversion notice;
- deliver the conversion notice, which is irrevocable, and the note to the conversion agent;
- if required, furnish appropriate endorsements and transfer documents;
- if required, pay all transfer or similar taxes; and
- if required, pay funds equal to interest payable on the next interest payment date to which you are not entitled.

The date you comply with these requirements is the conversion date under the indenture.

If a holder has already delivered a purchase notice as described under Fundamental Change Permits Holders to Require Us to Purchase Notes with respect to a note, the holder may not surrender that note for conversion until the holder has withdrawn the purchase notice in accordance with the indenture.

Settlement Upon Conversion

Upon conversion of the notes, we will deliver to a converting holder a number of shares of our common stock equal to the product of (1) the aggregate principal amount of notes to be converted divided by $1,000, and (2) the applicable conversion rate. We will deliver such shares of common stock on the third business day immediately following the relevant conversion date. We will deliver cash in lieu of any fractional share of common stock issuable upon conversion based upon the last reported sale price on the relevant conversion date.

Each conversion will be deemed to have been effected as to any notes surrendered for conversion on the conversion date; provided, however, that the person in whose name any shares of our common stock shall be issuable upon such conversion will become the holder of record of such shares as of the close of business on the conversion date.

Conversion Rate Adjustments

The conversion rate will be adjusted as described below, except that we will not make any adjustments to the conversion rate if holders of the notes participate (as a result of holding the notes, and at the same time as common stockholders participate) in any of the transactions described below as if such holders of the notes held a number of shares of our common stock equal to the applicable conversion rate, multiplied by the principal amount (expressed in thousands) of notes held by such holders, without having to convert their notes.

(1) If we issue shares of our common stock as a dividend or distribution on shares of our common stock, or if we effect a share split or share combination, the conversion rate will be adjusted based on the following formula:

$$CR_1 = CR_0 \times \frac{OS_1}{OS_0}$$

where,

CR_0 = the conversion rate in effect immediately prior to the close of business on the record date for such dividend or distribution or immediately prior to the open of business on the effective date of such share split or combination, as applicable

Table of Contents

CR_1	=	the conversion rate in effect immediately after the close of business on such record date or immediately after the open of business on such effective date, as applicable
OS_0	=	the number of shares of our common stock outstanding immediately prior to the close of business on such record date or immediately prior to the open of business on such effective date, as applicable
OS_1	=	the number of shares of our common stock outstanding immediately prior to such ex-dividend date or effective date, as applicable, after giving pro forma effect to such dividend, distribution, share split or share combination

Any adjustment made under this clause (1) shall become effective immediately after the close of business on the record date for such dividend or distribution, or immediately after the open of business on the effective date for such share split or share combination. If any dividend or distribution of the type described in this clause (1) is declared but not so paid or made, the conversion rate shall be immediately readjusted, effective as of the date our board of directors determines not to pay such dividend or distribution, to the conversion rate that would then be in effect if such dividend or distribution had not been declared.

(2) If we distribute to holders of all or substantially all of our common stock any rights or warrants entitling them for a period of not more than 45 calendar days to subscribe for or purchase shares of our common stock, at a price per share less than the average of the last reported sale prices of our common stock for the 10 consecutive trading-day period ending on, and including, the trading day immediately preceding the date of announcement of such distribution, the conversion rate will be adjusted based on the following formula:

$$CR_1 = CR_0 \times \frac{OS_0 + X}{OS_0 + Y}$$

where,

CR_0 =