ALLEGHENY TECHNOLOGIES INC Form 11-K June 10, 2016

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

FORM 11-K

ANNUAL REPORT PURSUANT TO SECTION 15(d) OF THE SECURITIES EXCHANGE ACT OF 1934

ANNUAL REPORT PURSUANT TO SECTION 15(d) OF THE SECURITIES EXCHANGE ACT OF 1934 [NO ý FEE REQUIRED] FOR THE FISCAL YEAR ENDED DECEMBER 31, 2015

..TRANSITION REPORT PURSUANT TO SECTION 15(d) OF THE SECURITIES EXCHANGE ACT OF 1934 [NO FEE REQUIRED] FOR THE TRANSITION PERIOD FROM TO COMMISSION FILE NUMBER 1-12001

ATI 401(K) SAVINGS PLAN (Title of Plan) ALLEGHENY TECHNOLOGIES INCORPORATED (Name of Issuer of securities held pursuant to the Plan) 1000 Six PPG Place, Pittsburgh, Pennsylvania 15222-5479 (Address of Plan and principal executive offices of Issuer) AUDITED FINANCIAL STATEMENTS AND SUPPLEMENTAL SCHEDULE ATI 401(k) Savings Plan As of December 31, 2015 and 2014 and for the Year Ended December 31, 2015 With Report of Independent Registered Public Accounting Firm

ATI 401(K) SAVINGS PLAN

Audited Financial Statements and Supplemental Schedule As of December 31, 2015 and 2014 and for the Year Ended Dec Contents	cember 31, 2015
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Report of Independent Registered Public Accounting Firm

Allegheny Technologies Incorporated

Pittsburgh, Pennsylvania

We have audited the accompanying statements of net assets available for benefits of the ATI 401(k) Savings Plan (the Plan) as of December 31, 2015 and 2014, and the related statement of changes in net assets available for benefits for the year ended December 31, 2015. These financial statements are the responsibility of the Plan's management. Our responsibility is to express an opinion on these financial statements based on our audit.

We conducted our audits in accordance with the standards of the Public Company Accounting Oversight Board (United States). Those standards require that we plan and perform the audit to obtain reasonable assurance about whether the financial statements are free of material misstatement. The plan is not required to have, nor were we engaged to perform, an audit of its internal control over financial reporting. Our audit included consideration of internal control over financial reporting as a basis for designing audit procedures that are appropriate in the circumstances, but not for the purpose of expressing an opinion on the effectiveness of the Plan's internal control over financial reporting. Accordingly, we express no such opinion. An audit also includes examining, on a test basis, evidence supporting the amounts and disclosures in the financial statements, assessing the accounting principles used and significant estimates made by management, as well as evaluating the overall financial statement presentation. We believe that our audits provide a reasonable basis for our opinion.

In our opinion, the financial statements referred to above present fairly, in all material respects, the net assets available for benefits of the Plan as of December 31, 2015 and 2014, and the changes in its net assets available for benefits for the year ended December 31, 2015, in conformity with accounting principles generally accepted in the United States of America.

The supplemental information in the accompanying schedule of assets (held at end of year) as of December 31, 2015 has been subjected to audit procedures performed in conjunction with the audit of the Plan's financial statements. The supplemental information is presented for the purpose of additional analysis and is not a required part of the financial statements but include supplemental information required by the Department of Labor's (DOL) Rules and Regulations for Reporting and Disclosure under the Employee Retirement Income Security Act of 1974 (ERISA). The supplemental information reconciles to the financial statements or the underlying accounting and other records, as applicable, and performing procedures to test the completeness and accuracy of the information presented in the supplemental information. In forming our opinion on the supplemental information in the accompanying schedule is fairly stated in all material respects in relation to the financial statements as a whole. /s/ Schneider Downs & Co., Inc.

Pittsburgh, Pennsylvania June 10, 2016

ATI 401(K) SAVINGS PLAN Statements of Net Assets Available for Benefits

	December 31	
	2015	2014
Investments at fair value:		
Interest in Allegheny Technologies Incorporated Master Trust	\$518,483,138	\$52,331,525
Interest in registered investment companies	5,305,772	333,254
Total investments at fair value	523,788,910	52,664,779
Investments at contract value:		
Interest in Allegheny Technologies Incorporated Master Trust	127,310,024	8,439,712
Total investments at contract value	127,310,024	8,439,712
Notes receivable from participants	19,122,872	1,486,892
Employer contributions receivable	565,712	191,573
Employee contributions receivable	415,393	126,378
	20,103,977	1,804,843
Net assets available reflecting investments at fair value	\$671,202,911	\$62,909,334
See accompanying notes.		

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ATI 401(K) SAVINGS PLAN Statement of Changes in Net Assets Available for Benefits

	Year Ended December 31, 2015
Contributions:	
Employee	\$7,167,755
Employer	8,969,298
Rollovers	339,891
Total contributions	16,476,944
Interest income on notes receivable from participants	153,471
Investment income (loss):	
Net investment loss from Plan interest in Allegheny Technologies Incorporated Master Trust	(10,782,551)
Net loss from interest in registered investment companies	(161,333)
Other income	7,377
Total investment loss	(10,936,507)
	5,693,908
Benefits paid to participants	(11,879,562)
Fees	(8,645)
	(11,888,207)
Net decrease in net assets available for benefits prior to transfers	(6,194,299)
Transfers into plan	614,487,876
Net increase in net assets available for benefits	608,293,577
Net assets available for benefits at beginning of year	62,909,334
Net assets available for benefits at end of year	\$671,202,911
See accompanying notes.	

ATI 401(K) SAVINGS PLAN

Notes to Financial Statements December 31, 2015 Note 1. Description of the Plan

The ATI 401(k) Savings Plan (the Plan) is a defined contribution plan and is subject to the provisions of the Employee Retirement Income Security Act of 1974 (ERISA). The Plan's sponsor is Allegheny Technologies Incorporated (ATI, the Plan Sponsor). Until November 30, 2015, the Plan included participating employers of the controlled group which included salaried employees located at the Cudahy Forging Division of ATI Ladish LLC and salaried and hourly employees of certain ATI Ladish LLC subsidiaries. Effective November 30, 2015, all non-represented employees of ATI in six other ATI defined contribution plans were transferred into the ATI Forgings and Castings Savings and Deferral Plan, which was renamed the ATI 401(k) Savings Plan. The following brief description of the Plan is provided for general information purposes only. Participants should refer to the summary plan description for more complete information regarding eligibility, vesting, contributions, and withdrawals.

Individual accounts are maintained for each participant, reflecting the participant's before-tax and after-tax contributions, rollover contributions, Company matching contributions, and account earnings. The Plan's income and any related administrative expenses are allocated to participant accounts based on the proportionate value of the participant's accounts to the total market value of all accounts.

Amounts up to 80% of a participant's compensation, as defined in the Plan agreement, can be contributed in any combination of after-tax and before-tax contributions for each period, subject to limitations imposed by the Code (\$18,000 for calendar year 2015). Catch up contributions of \$6,000 were available to participants 50 years or older in 2015. Participants are allowed to rollover existing qualified retirement funds into the Plan. The Plan allows participants to direct their contributions, and contributions made on their behalf, to any of the investment options offered by the Plan. Unless otherwise specified by the participant, contributions are made to the QDIA (Qualified Default Investment Alternative), The Vanguard Target Retirement Fund that most closely matches the participants 65th birthday date (e.g. Vanguard Target Retirement 2030 Fund).

Employees are 100% vested in their contributions and associated earnings at all times. Effective January 1, 2015, all employees in the Plan became immediately vested in all company contributions, including the company match and non-elective contribution. The non-elective contribution represents 6.5% of eligible earnings while the company match is made at a rate of 50% on up to 6% of the employee's eligible earnings deferral.

A participant may borrow the lesser of \$50,000 or 50% of his or her account balance. Loans are repayable through payroll deductions over periods ranging up to 60 months for general purpose loans and up to 180 months for residential loans. The interest rate is determined at the issuance of the loans at a rate equivalent to prevailing interest rates charged by a professional lender and is fixed over the life of the note.

Participants, while employed, may withdraw all or a portion of their after-tax contributions and may also withdraw all or a portion of their before-tax contributions in the event of demonstrated financial hardship, as defined by the Plan. After age 59 ¹/2, a participant may withdraw the vested portion of this account.

Participants with account balances greater than \$1,000 are not required to take a distribution upon termination. Participants making hardship withdrawals are not permitted to contribute to the Plan for 12 months after the date of the hardship withdrawal.

Payments of benefits are available by request upon termination due to retirement, disability, death, or other voluntary or involuntary termination of employment. Prior to December 1, 2015, distributions of account balances could be made as lump-sum or installment payments. Effective December 1, 2015, distributions can only be made in the form of a lump sum.

All expenses incurred in the administration of the Plan, including those charged by the Plan's trustee, Mercer Trust Company, are paid by the Plan, except as paid for or reimbursed by the Company.

Note 2. Significant Accounting Policies

Use of Estimates and Basis of Accounting

The preparation of financial statements in conformity with U.S. generally accepted accounting principles requires management to make estimates and assumptions that affect the amounts reported in the financial statements, accompanying notes and supplemental schedule. Actual results could differ from those estimates. The financial statements are prepared under the accrual basis of accounting.

Investment Valuation

Certain assets of the Plan have been commingled in the Allegheny Technologies Incorporated Master Trust (the Master Trust) with the assets of various ATI sponsored defined contribution plans for investment and administrative purposes. The investment in the Master Trust represents the Plan's interest in the net assets of the Master Trust, and is stated at fair value or for fully benefit-responsive investment contracts, at contract value. Contract value is the relevant measurement attributable to fully benefit-responsive investment contracts because contract value is the amount participants would receive if they were to initiate permitted transactions under the terms of the Plan. The contract value represents contributions plus earnings, less participant withdrawals and administrative expenses. Master Trust assets as well as income/losses are allocated among the participating plans by assigning to each plan those transactions (primarily contributions, benefit payments, and plan-specific expenses) that can be specifically identified and by allocating among all plans, in proportion to the fair value of the assets assigned to each plan, income and expenses resulting from the collective investment of the assets of the Master Trust.

Payment of Benefits

Benefits are recorded when paid.

Notes Receivable from Participants

Notes receivable from participants represent participant loans that are recorded at their unpaid principal balance plus any accrued but unpaid interest. Interest income on notes receivable from participants is recorded when it is earned. Related fees are recorded as administrative expenses and are expensed when they are incurred. No allowance for credit losses were recorded as of December 31, 2015 or 2014. If a participant ceases to make a note repayment and the plan administrator deems the note to be a distribution, the note receivable balance is reduced and a benefit payment is recorded.

Recent Accounting Pronouncements

In May 2015, the Financial Accounting Standards Board (FASB) issued ASU 2015-07, "Fair Value Measurement (Topic 820): Disclosures for Investments in Certain Entities That Calculate Net Asset Value per Share (or Its Equivalent)." This FASB pronouncement removes the requirement to categorize within the fair value hierarchy all investments for which fair value is measured using the net asset value per share as a practical expedient. ASU 2015-07 also removes the requirement to make certain disclosures for all investments that are eligible to be measured at fair value using the net asset value per share as a practical expedient, and is effective for public businesses beginning after December 15, 2015, with early adoption permitted. ASU 2015-07 requires retrospective application by removing investments measured using net asset value as a practical expedient from the fair value hierarchy in all periods presented. The Plan has elected to early adopt this ASU in the current year and as such, these financial statements have revised disclosures to reflect this adoption.

In July 2015, the FASB issued Accounting Standards Update (ASU) 2015-12, "Plan Accounting: Defined Benefit Pension Plans (Topic 960), Defined Contribution Pension Plans (Topic 962), Health and Welfare Benefit Plans (Topic 965): (Part I) Fully Benefit-Responsive Investment Contracts, (Part II) Plan Investment Disclosures, (Part III) Measurement Date Practical Expedient (consensuses of the Emerging Issues Task Force)." These FASB pronouncements attempt to reduce complexity in employee benefit plan accounting. Such changes include: (1) measuring and presenting fully benefit-responsive investment contracts at contract value; (2) eliminating various requirements for plan investment disclosures, such as net appreciation/depreciation by general investment by type and individual investments that represent 5% or more of net assets; and (3) a practical expedient that permits a plan to measure investments as of a month-end date closest to the plan's fiscal year-end. ASU 2015-12 is effective for the Plan

beginning after December 15, 2015, with early adoption permitted and retrospective application required. The Plan has elected to early adopt Parts I and II of this ASU in the current year and as such, these financial statements reflect this adoption.

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Note 3. Investments

Certain assets of the Plan along with the assets of various other ATI sponsored plans are part of the Master Trust. The Plan's interest in the net assets of the Master Trust was approximately 70% at December 31, 2015 and 6% at December 31, 2014. The Plan also permits self-directed investments in registered investment companies that are maintained in accounts separate from the Master Trust.

The Plan's approximate share of the various investment types at fair value held by the Master Trust at December 31, 2015 and 2014 was as follows:

20152014 Registered investment companies 76%9%

Common collective trusts 69%6%

Corporate common stock 59 % 1 %

The Plan's approximate share of the various investment types at contract value held by the Master Trust at December 31, 2015 and 2014 was as follows:

20152014

Synthetic investment contracts 65 % 4 % Guaranteed investment contracts 65 % 4 %

Guaranteed investment contracts 05 %4 %

The following table is a summary, at fair value, of the net assets of the Master Trust by investment type as of December 31, 2015 and 2014:

	2015	2014		
Common collective trusts	\$463,917,622	2\$426,729,102		
Registered investment companies	228,064,975	287,768,013		
Corporate common stock	37,937,779	79,471,712		
Other	786,109	1,018,588		
Total investments held by the Master Trust at fair value	\$730,706,48	5\$794,987,415		
The following table is a summary, at contract value, of the net assets of the Master Trust by investment type as of				
December 31, 2015 and 2014:				
	2015	2014		
~	\$169.06			

Synthetic investment contracts	\$162,965,928\$165,415,452	
Guaranteed investment contracts	33,537,563	36,938,462
Total investments held by the Master Trust at contract value	\$196,503,49	1\$202,353,914

Investment income (loss) attributable to the Master Trust for the year ended December 31, 2015 was as follows: Net depreciation in fair value of investments \$(52,372,705) Income from investments at contract value 4,453,219 Expenses Administrative expenses and other, net (1,635,038)

Total investment loss \$(49,554,524)

The BNY Mellon Stable Value Fund (the Fund) investment alternative invests in guaranteed investment contracts (GICs), a pooled separate account, and actively managed structured or synthetic investment contracts (SICs), and a common collective trust (CCT). The GICs are promises by a bank or insurance company to repay principal plus a fixed rate of return through contract maturity. SICs differ from GICs in that there are specific assets supporting the SICs and these assets are owned by the Plan. The bank or insurance company issues a wrapper contract that allows participant-directed transactions to be made at contract value. The assets supporting the SICs are comprised of government agency bonds, corporate bonds, residential mortgage backed securities, asset-backed securities (ABOs), common collective trusts (CCT), and collateralized mortgage obligations (CMOs).

Interest crediting rates on the GICs in the Fund are determined at the time of purchase. Such interest rates are reviewed and may be reset on a quarterly basis. Interest crediting rates on the SICs are either: (1) set at the time of purchase for a fixed term and crediting rate, (2) set at the time of purchase for a fixed term and variable crediting rate, or (3) set at the time of purchase and reset monthly within a "constant duration." A constant duration contract may specify a duration of 2.5 years, and the crediting rate is adjusted monthly based upon quarterly rebalancing of eligible 2.5 year duration investment instruments at the time of each resetting; in effect the contract never matures.

Although it is management's intention to hold the investment contracts in the Fund until maturity, certain investment contracts provide for adjustments to contract value for withdrawals made prior to maturity. If the Plan were deemed to be in violation of ERISA or lose its tax exempt status, among other events, the issuers of the fully responsive investment contracts would have the ability to terminate the contracts and settle at an amount different from contract value.

Certain investments are subject to restrictions or limitations if the Plan Sponsor decided to entirely exit an investment. Investments in registered investment companies and the Fund may require at least 30 days prior notice to completely withdraw from the investments. The targeted date fund investments held in common collective trusts currently do not require the prior approval of the investment manager if the Plan Sponsor decides to entirely exit these investments, but prior trade date notification is necessary to effect timely securities settlement or delivery of an investment's liquidation and transfer to another investment. The Plan had no unfunded commitments as of December 31, 2015 and 2014. Note 4. Fair Value Measurement

In accordance with accounting standards, fair value is defined as the price that would be received to sell an asset or paid to transfer a liability in an orderly transaction between market participants at the measurement date.

The accounting standards establish a three-level hierarchy for fair value measurements based upon the transparency of inputs to the valuation of an asset or liability as of the measurement date.

Determination of Fair Value

Fair value is based upon quoted market prices, where available. If listed prices or quotes are not available, fair value is based upon models that primarily use, as inputs, market-based or independently sourced market parameters, including yield curves, interest rates, volatilities, equity or debt prices, foreign exchange rates and credit curves. In addition to market information, models may also incorporate transaction details, such as maturity. Valuation adjustments, such as liquidity valuation adjustments, may be necessary when the Plan is unable to observe a recent market price for a financial instrument that trades in inactive (or less active) markets. Liquidity adjustments are not taken for positions classified within Level 1 (as defined below) of the fair value hierarchy.

The methods described below may produce a fair value calculation that may not be indicative of net realizable value or reflective of future fair values. Furthermore, while the Plan believes its valuation methods are appropriate and consistent with other market participants, the use of different methodologies or assumptions to determine the fair value of certain financial instruments could result in a different estimate of fair value at the reporting date. There have been no changes in the methodologies used at December 31, 2015 and 2014.

Valuation Hierarchy

The three levels of inputs to measure fair value are as follows:

Level 1 – Quoted prices in active markets for identical assets and liabilities.

Level 2 – Observable inputs other than quoted prices included in Level 1, such as quoted prices for similar assets and liabilities in active markets; quoted prices for identical assets and liabilities in markets that are not active; or other inputs that are observable or can be corroborated by observable market data.

Level 3 – Unobservable inputs that are supported by little or no market activity and that are significant to the fair value of the assets and liabilities. This includes certain pricing models, discounted cash flow methodologies and similar techniques that use significant unobservable inputs.

A financial instrument's categorization within the valuation hierarchy is based upon the lowest level of input that is significant to the fair value measurement.

Valuation Methodologies

The valuation methodologies used for assets and liabilities measured at fair value, including their general classification based on the fair value hierarchy, include the following:

Cash and cash equivalents – Where the net asset value (NAV) is a quoted price in a market that is active, it is classified within Level 1 of the valuation hierarchy. In certain cases, NAV is a quoted price in a market that is not active, or is based on quoted prices for similar assets and liabilities in active markets, and these investments are classified within Level 2 of the valuation hierarchy.

Corporate common stocks – These investments are valued at the closing price reported on the major market on which the individual securities are traded. Common stock is classified within Level 1 of the valuation hierarchy.

Common collective trust funds – These investments are investment vehicles valued using the NAV, as a practical expedient, provided by the administrator of the fund. The NAV is based on the value of the underlying assets owned by the fund, minus its liabilities, and then divided by the number of shares outstanding.

Registered investment companies – These investments are public investment vehicles valued using the NAV provided by the administrator of the fund. The NAV is based on the value of the underlying assets owned by the fund, minus its liabilities, and then divided by the number of shares outstanding. Where the NAV is a quoted price in a market that is active, it is classified within Level 1 of the valuation hierarchy.

The following tables present the financial instruments of the Master Trust at fair value by caption on the statement of net assets available for benefits and by category of the valuation hierarchy (as described above) as of December 31, 2015 and 2014. The Master Trust had no assets classified within Level 2 or Level 3 of the valuation hierarchy. There were no reclassifications of assets between levels of the fair value hierarchy for the period presented.

Master Trust assets measured at fair value on a recurring basis:

December 31, 2015Level 1TotalInterest in registered investment companies\$228,064,975\$228,064,975Corporate common stock37,937,77937,937,779OtherCorporate common stock37,937,779