



2017
ANNUAL REPORT

FINANCIAL HIGHLIGHTS

Year ended June 30 (dollars in thousands, except employee and per share data)	2017	2016	2015	2014	2013
Operating Performance					
Sales	\$ 2,058,368	\$ 2,098,436	\$ 2,647,195	\$ 2,837,190	\$ 2,589,373
Restructuring and Asset Impairment Charges	65,018	143,810	582,235	17,608	–
Loss on Divestiture	–	(131,463)	–	–	–
Income (Loss) from Continuing Operations – Attributable to Kennametal	49,138	(225,968)	(373,896)	158,366	203,265
Diluted Earnings (Loss) per Share from Continuing Operations – Attributable to Kennametal	0.61	(2.83)	(4.71)	1.99	2.52
Operating Cash Flow	192,202	219,322	351,437	271,873	284,150
Financial Condition					
Total Assets*	\$ 2,415,496	\$ 2,362,783	\$ 2,843,655	\$ 3,860,726	\$ 3,292,192
Total Debt, including Capital Leases and Notes Payable*	695,916	695,443	745,713	1,054,423	739,098
Total Kennametal Shareholders' Equity	1,017,294	964,323	1,345,807	1,929,256	1,781,826
Total Debt to Total Kennametal Shareholders' Equity*	68.4%	72.1%	55.4%	54.7%	41.5%
Other Data					
Capital Expenditures	\$ 118,018	\$ 110,697	\$ 100,939	\$ 117,376	\$ 82,835
Research and Development Expense	38,021	39,375	45,109	43,985	39,697
Number of Employees	10,700	11,200	12,700	13,500	12,600
Stock Information					
Market Price per Share – High	\$ 43.09	\$ 34.61	\$ 46.76	\$ 52.37	\$ 44.59
Market Price per Share – Low	20.40	15.11	27.63	37.98	31.62
Dividends per Share	0.80	0.80	0.72	0.72	0.64
Diluted Weighted Average Shares Outstanding	81,169	79,835	79,342	79,667	80,612
Number of Shareholders as of June 30	1,598	1,701	1,780	1,906	2,005

Forward-Looking Statements Certain statements in this report relate to future events and expectations and, as such, constitute forward-looking statements. Forward-looking statements may also include words such as “anticipates,” “believes,” “estimates,” “expects,” “hopes,” “targets,” “should,” “will,” “will likely result,” “forecast,” “outlook,” “projects” or similar expressions. Forward-looking statements involve known and unknown risks, uncertainties and other factors that may cause the actual results, performance or achievements of Kennametal to be different from those expressed in or implied by the forward-looking statements. For further discussion of forward-looking statements, including some of the specific factors that may cause such a difference, see the forward-looking statements and risk factors disclosure included in our 2017 Annual Report on Form 10-K. Kennametal disclaims any intention or obligation to update or revise any forward-looking statements.



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INVESTOR
INFORMATION

*Beginning July 1, 2016, new guidance issued by the FASB, which requires that debt issuance costs related to a recognized debt liability be presented in the balance sheet as a direct reduction from the carrying amount of that debt liability, was adopted by Kennametal and retrospectively applied to all periods presented. Debt issuance costs of \$5 million, \$6 million, \$6 million, \$7 million and \$9 million are reported as direct reductions of the carrying amounts of debt liabilities in the balance sheet as of June 30, 2017, 2016, 2015, 2014 and 2013, respectively.

DEAR FELLOW SHAREHOLDERS,

It has been an eventful year for Kennametal customers, team members and shareholders and our future looks brighter today than it has in many years.

We have renewed leadership, energized customers, and motivated team members with a solid action plan to improve financial returns. In short, we are continuing a journey that began a little less than two years ago when markets were weak, business was declining and our overall performance was disappointing. Today, markets are improving, business is growing and the opportunities for better financial performance are substantial. We are far from peak performance but we are beginning to get our competitive capabilities positioned to address the challenges and realize the potential that is in front of us.

“We have renewed leadership, energized customers, and motivated team members with a solid plan to improve financial returns.”

Ronald M. De Feo
Executive Chairman of the Board,
Kennametal Inc.

It is with this background, that I welcome Chris Rossi as our new leader. Chris was appointed August 1, 2017 as the company's President and CEO. He has over 30 years of leadership experience, most recently as CEO of the Dresser Rand business at Siemens. Chris has the operational and engineering experience as well as the energy and passion required to ensure continuing success in executing the business plan our team has developed and is implementing.



DEAR FELLOW SHAREHOLDERS,



I am excited to join Kennametal and to continue the execution of the strategic plan set in motion by Ron and the leadership team. I believe the focus on growth, simplification and modernization will strengthen the company's competitive position and deliver greater value to our customers and shareholders. While there is more work to do, we have a highly motivated and committed team that is up to the challenge. I look forward to reporting on our progress as we go forward.

A handwritten signature in black ink that reads "Christopher Rossi". The signature is fluid and cursive.

Christopher Rossi
President and Chief Executive Officer,
Kennametal Inc.

We made some difficult yet necessary choices in fiscal year 2017 and made substantial progress, but a lot of hard work is still in front of us. We expect to continue to focus our efforts in the following three areas:

1. Growth—We need to grow faster than the market and to do this we need to improve our commercial execution. We made substantial progress on this mission as we exited fiscal year 2017 with a fourth quarter organic growth¹ rate of +12% compared with the rate of organic decline of the fourth quarter of 2016 of negative 9%. This is a big turnaround in 12 months which was supported in part by a stronger than expected market but we also believe we outperformed the market in a meaningful way.

We are just getting started with new channel strategies, new products, better sales management processes, and a more entrepreneurial and energized sales team. The separation of WIDIA into a separate business segment, our success with MSC who named

us their supplier of the year, and the substantial and significant recovery of the Infrastructure business reflect what is possible when you break a business into focused, customer-centric profit and loss centers and empower smart, dedicated people to win. We realize we are in a highly competitive business but Kennametal is up for the challenge.

2. Simplification—We have made huge strides to simplify a complex enterprise which had grown complicated over time and was stagnated by product, customer, and market changes. To address this, we have set goals to reduce SKU's by 20%, product coatings by 40%, and powder formulations by 60%, and are well on our way to achieving these goals. Simultaneously, we are implementing minimum order quantities and selling process disciplines that are designed to help optimize our factories, while delivering quality products, consistently, on time and at an acceptable cost.

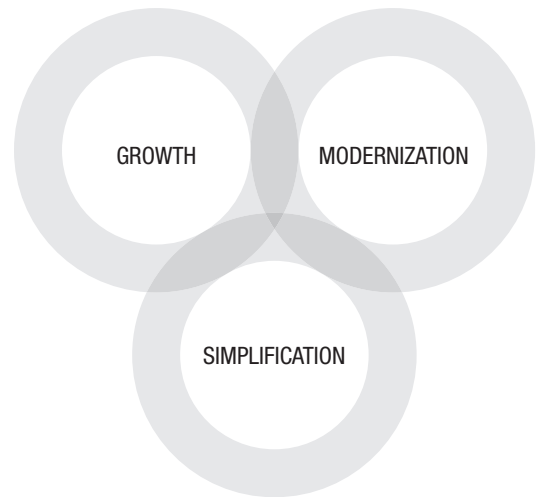
¹Non-GAAP financial information, definitions and/or reconciliations are presented in Management's Discussion and Analysis of Financial Condition and Results of Operations set forth in the 2017 Annual Report on Form 10-K.

When we reduced staffing in 2017 by over 1000 people, we did not expect the markets to improve in the short-term. We knew that by reducing headcount we would force the need to simplify. This is working as we achieved about \$90 million in savings from headcount reductions, while stretching our operations for increased efficiency. The team will need to be diligent to see this process to conclusion and to ensure that we harvest the benefits of simplification and cost reduction.

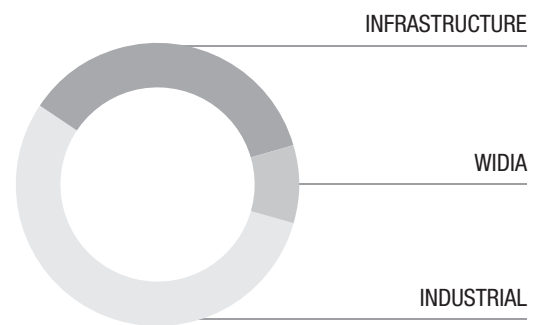
3. Modernization—Kennametal’s operations are in need of modernization which will lower costs and improve quality over time. We have begun implementing many projects that over the next 2-3 years should lower costs by an additional \$200-300 million, and expect to spend a similar amount in capital to realize these benefits. Some of the savings will come from sourcing but the majority will come from improved processes and consistency within our factories. We will concentrate expertise and develop centers of excellence for many of our activities and regional supply chains. We have created End-to-End teams on critical product and work streams. The plans have been laid out and the execution will be challenging, but we have an ambitious team that has been anxious to make this happen for many years. This is an exciting part of the Kennametal story. Their enthusiasm and hard work will drive success.

Kennametal’s Board of Directors also had a busy year. We dug into the operations, visited factories, and talked to shareholders and customers. We also added Sagar Patel, President of Aircraft Turbine Systems at Woodward Inc., to our Board as he brings a wealth of technology experience and user knowledge to the Board. We had a thorough process of CEO succession and leadership development, culminating in the appointment of Chris Rossi.

Key Initiatives



Business Segments
by % of annual sales FY17



End Markets

AEROSPACE	
EARTHWORKS	
ENERGY	
TRANSPORTATION	
GENERAL ENGINEERING	

We had a year of relatively good safety performance. This is a key area of focus for our team as we maintain our goal to protect our employees across the organization.

We were active in our communities, supporting our employees as they participate in projects to benefit the regions in which we operate.

We spent substantial time on management development and compliance training. We look to operate with the highest ethical standards each day while advancing company-wide best practices for tomorrow.

Overall, we are on a positive trajectory. There will be challenges and of course disappointments, but progress is never without ups and downs. We are keenly focused on what needs to be done to deliver industry-leading products, differentiated service, and enhanced value for shareholders. We thank you for your continuing support.



Ron De Feo
Executive Chairman of the Board,
Kennametal Inc.



Corporate Leadership

STANDING LEFT TO RIGHT:

Chuck Byrnes

Vice President, Kennametal Inc. and
President, Industrial Segment

Robert J. Clemens

Vice President and Chief Technology Officer

Alexander Broetz

Vice President, Kennametal Inc. and
President, WIDIA

Judith L. Bacchus

Vice President and Chief Human Resources
and Corporate Relations Officer

Ronald M. De Feo

Executive Chairman of the Board

Jan Kees van Gaalen

Vice President and Chief Financial Officer

Michelle R. Keating

Vice President, Secretary and
General Counsel

Peter A. Dragich

Vice President, Kennametal Inc. and
President, Infrastructure Segment

SEATED LEFT TO RIGHT:

Thomas F. McKee, Jr.

Vice President and
Chief Information Officer

Brian Maglosky

Vice President Strategic Sourcing and
Supply Planning

NOT PICTURED:

Christopher Rossi

President and Chief Executive Officer

2017 FORM 10-K

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

FORM 10-K

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

FOR THE FISCAL YEAR ENDED JUNE 30, 2017

Commission File Number 1-5318

KENNAMETAL INC.

(Exact name of registrant as specified in its charter)

Pennsylvania

(State or other jurisdiction of incorporation or organization)

25-0900168

(I.R.S. Employer Identification No.)

600 Grant Street

Suite 5100

Pittsburgh, Pennsylvania

(Address of Principal Executive Offices)

15219-2706

(Zip Code)

Registrant's telephone number, including area code: **(412) 248-8000**

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

Title of each class	Name of each exchange on which registered
Capital Stock, par value \$1.25 per share	New York Stock Exchange
Preferred Stock Purchase Rights	New York Stock Exchange

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

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

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

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

Indicate by check mark whether the registrant has submitted electronically and posted on its corporate Web site, if any, every Interactive Data File required to be submitted and posted pursuant to Rule 405 of Regulation S-T (§232.405 of this chapter) during the preceding 12 months (or for such shorter period that the registrant was required to submit and post such files). YES NO

Indicate by check mark if disclosure of delinquent filers pursuant to Item 405 of Regulation S-K (§229.405 of this chapter) is not contained herein, and will not be contained, to the best of registrant's knowledge, in definitive proxy or information statements incorporated by reference in Part III of this Form 10-K or any amendment to this Form 10-K.

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

Large accelerated filer

Accelerated filer

Non-accelerated filer (Do not check if smaller reporting company)

Smaller reporting company

Emerging growth company

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

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

As of December 31, 2016, the aggregate market value of the registrant's Capital Stock held by non-affiliates of the registrant, estimated solely for the purposes of this Form 10-K, was approximately \$1,840,200,000. For purposes of the foregoing calculation only, all directors and executive officers of the registrant and each person who may be deemed to own beneficially more than 5% of the registrant's Capital Stock have been deemed affiliates.

As of July 31, 2017, there were 80,672,938 of the Registrant's Capital Stock outstanding.

DOCUMENTS INCORPORATED BY REFERENCE

Portions of the Proxy Statement for the 2017 Annual Meeting of Shareholders are incorporated by reference into Part III.

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FORWARD-LOOKING INFORMATION

Statements and financial discussion and analysis contained herein and in the documents incorporated by reference herein that are not historical facts are "forward-looking statements" within the meaning of Section 27A of the Securities Act of 1933, as amended and Section 21E of the Securities Exchange Act of 1934, as amended (the "Exchange Act"). For example, statements about Kennametal's outlook for earnings, sales volumes, cash flow, and capital expenditures for its fiscal year 2018, its expectations regarding future growth and any statements regarding future operating or financial performance or events are forward-looking. We have also included forward looking statements in this Form 10-K concerning, among other things, our strategy, goals, plans and projections regarding our financial position, liquidity and capital resources, results of operations, market position, and product development. Forward-looking statements are based on management's beliefs, assumptions and estimates using information available to us at the time. These statements are not guarantees of future events or performance and are subject to various risks and uncertainties that are difficult to predict. Should one or more of these risks or uncertainties materialize, or should the assumptions underlying the forward-looking statements prove incorrect, our actual results could vary materially from our current expectations. There are a number of factors that could cause our actual results to differ from those indicated in the forward-looking statements. They include: downturns in the business cycle or economic downturns; our ability to achieve all anticipated benefits of our restructuring initiatives; risks related to our foreign operations and international markets, such as fluctuations in currency exchange rates, different regulatory environments, trade barriers, exchange controls, and social and political instability; changes in the regulatory environment in which we operate, including environmental, health and safety regulations; potential for future goodwill and other intangible asset impairment charges; our ability to protect and defend our intellectual property; continuity and security of information technology infrastructure; competition; our ability to retain our management and employees; demands on management resources; availability and cost of the raw materials we use to manufacture our products; product liability claims; integrating acquisitions and achieving the expected savings and synergies; global or regional catastrophic events; demand for and market acceptance of our products; business divestitures; labor relations; and implementation of environmental remediation matters. We provide additional information about many of the specific risks we face in the "Risk Factors" Section of this Annual Report on Form 10-K. We can give no assurance that any goal or plan set forth in forward-looking statements can be achieved and readers are cautioned not to place undue reliance on such statements, which speak only as of the date made. Except as required by law, we do not intend to release publicly any revisions to forward-looking statements as a result of future events or developments.

PART I

ITEM 1 - BUSINESS

OVERVIEW Kennametal Inc. was incorporated in Pennsylvania in 1943 as a manufacturer of tungsten carbide metal cutting tooling. From this beginning, the Company has grown into a global leader in the development and application of tungsten carbides, ceramics, super-hard materials and solutions used in metal cutting and mission-critical wear applications to combat extreme conditions associated with wear fatigue, corrosion and high temperatures. The Company's reputation for material technology, metal cutting application knowledge, as well as expertise and innovation in the development of custom solutions and services, contributes to its leading position in its primary markets.

Our product offering includes a wide selection of standard and customized technologies for metalworking applications, such as turning, milling, hole making, tooling systems and services. End users of the Company's metalworking products include manufacturers engaged in a diverse array of industries including: the manufacturers of transportation vehicles and components, machine tools and light and heavy machinery; airframe and aerospace components; and energy-related components for the oil and gas industry, as well as power generation.

In addition, we produce specialized wear components and metallurgical powders that are used for custom-engineered and challenging applications. End users of the Company's products include producers and suppliers in equipment-intensive operations such as coal mining, road construction, quarrying, oil and gas exploration, refining, production and supply.

Unless otherwise specified, any reference to a "year" refers to our fiscal year ending on June 30.

BUSINESS SEGMENT REVIEW The Company's reportable operating segments have been determined in accordance with the Company's internal management structure, which is organized based on operating activities, the manner in which we organize segments for making operating decisions and assessing performance and the availability of separate financial results. Sales and operating income by segment are presented in Management's Discussion and Analysis of Financial Condition and Results of Operations set forth in Item 7 of this annual report on Form 10-K (MD&A). Additional segment data is provided in Note 20 of our consolidated financial statements set forth in Item 8 of this annual report on Form 10-K (Item 8) which is incorporated herein by reference.

In order to take advantage of the growth opportunities of our WIDIA brand, we implemented a new operating structure at the beginning of fiscal 2017. A key attribute of the new structure is the establishment of the Widia operating segment, which we separated out from our 2016 Industrial segment. In order to better leverage the opportunities in our Widia business, and be more agile and competitive in the marketplace, we are placing higher levels of focus, determination and leadership in this business. Beginning in fiscal 2017, we had three global reportable operating segments: Industrial, Widia and Infrastructure.

INDUSTRIAL In the Industrial segment, we focus on customers in the transportation, general engineering, aerospace and defense market sectors, as well as the machine tool industry, delivering high performance metalworking tools for specified purposes. Our customers in these end markets use our products and services in the manufacture of engines, airframes, automobiles, trucks, ships and other various types of industrial equipment. The technology and customization requirements we provide vary by customer, application and industry. Industrial goes to market under the Kennametal® brand through its direct sales force, a network of independent and national chain distributors, integrated supplier channels and via the Internet. Application engineers and technicians are critical to the sales process and directly assist our customers with specified product design, selection, application and support.

WIDIA In the Widia segment, we offer a focused assortment of standard and custom metal cutting solutions to general engineering, aerospace, energy and transportation customers. We serve our customers primarily through a network of value added resellers, integrated supplier channels and via the Internet. Widia markets its products under the WIDIA®, WIDIA Hanita® and WIDIA GTD® brands.

INFRASTRUCTURE In the Infrastructure segment, we focus on customers in the energy and earthworks market sectors that support primary industries such as oil and gas, power generation and chemicals; underground, surface and hard-rock mining; highway construction and road maintenance; and process industries such as food and feed. Our success is determined by our ability to gain an in-depth understanding of our customers' engineering and development needs, to provide complete system solutions and high-performance capabilities to optimize and add value to their operations. Infrastructure markets its products primarily under the Kennametal® brand and sells through a direct sales force as well as distributors.

INTERNATIONAL OPERATIONS During 2017, we generated 56 percent of our sales in markets outside of the United States of America (U.S.), with principal international operations in Western Europe, Asia and Canada. In addition, we operate additional manufacturing and distribution facilities in Israel, Latin America and South Africa, while serving customers through sales offices, agents and distributors in Eastern Europe and other parts of the world. While geographic diversification helps to minimize the sales and earnings impact of demand changes in any one particular region, our international operations are subject to normal risks of doing business globally, including fluctuations in currency exchange rates and changes in social, political and economic environments.

Our international assets and sales are presented in Note 20 of the Company's consolidated financial statements, set forth in Item 8 and are incorporated herein by reference. Further information about the effects and risks of currency exchange rates is presented in the Quantitative and Qualitative Disclosures About Market Risk section, as set forth in Item 7A of this annual report on Form 10-K (Item 7A).

STRATEGY AND GENERAL DEVELOPMENT OF BUSINESS Fiscal 2017 was a year of substantial change on many levels. Early in 2017 we outlined initiatives to transform the Company through improving sales execution, simplification and lowering costs through a reduction in workforce in addition to modernization of our manufacturing plants. While each of these will continue during the coming years, we have made significant achievements in each of these areas.

Commercial execution

- Transitioned approximately 4,100 customers to date from the direct to indirect channel to both improve customer service and refocus our direct sales force on larger accounts
- Implementing customer classification and customer relationship management (CRM) software to improve sales efficiency
- Reorganized the Infrastructure business around strategic business units

Simplifying the organization

- Reduced the number of stock keeping units by 8 percent and powder formulations and coatings by 48 percent and 30 percent, respectively, to reduce manufacturing and supply chain complexity
- Implemented minimum order quantities and economic order quantities to improve manufacturing efficiency

Lowering costs to improve margins

- Reduced run-rate employment costs by approximately \$80 million by reducing employment levels across all levels of our organization
- Launched modernization and End-to-End process improvement programs for our manufacturing facilities, which we anticipate will generate \$200 million to \$300 million of additional annual savings in the next two to three years

Markets were more positive than in the prior year and exceeded our original expectations set when we embarked on fiscal 2017. Total year organic growth was 4 percent with year-over-year growth in all segments reflecting not only improving end market conditions but improving commercial execution.

Beyond these factors having a beneficial impact on our performance for the year, market forces also added some complexity to our decision-making regarding balancing between constraining our operating expenses, while also ensuring that we serve our customers appropriately in the light of increasing demand.

Our cost reduction achievements were significant, and we are well-positioned to improve further as we move steadily forward with our multi-year plans. In 2017, all restructuring programs delivered incremental benefits of approximately \$72 million. Estimated ongoing annualized savings for these programs at completion by December 31, 2018 are expected to be between \$165 and \$180 million.

The cost savings we achieved in fiscal 2017 include only a small amount of the anticipated benefits from the modernization and End-to-End initiatives that we have planned, and the benefits from our ongoing product and process simplification initiatives. The results of those programs are anticipated to accrue to the Company over the next two to three years. At the same time, we continue to focus on cash flow and liquidity to support our planned investments. Further discussion and analysis of the development of our business is set forth in MD&A.

ACQUISITIONS AND DIVESTITURES We continue to evaluate new opportunities for the expansion of existing product lines into new market areas where appropriate. We also continue to evaluate opportunities for the introduction of new and/or complementary product offerings into new and/or existing market areas where appropriate. Rather than evaluating potential acquisitions in the near term, we expect to continue to grow our business and further enhance our market position through the investment opportunities that exist within our core businesses.

RAW MATERIALS AND SUPPLIES Our major metallurgical raw materials consist of tungsten ore concentrates and oxides, compounds and secondary materials such as cobalt, tantalum, titanium and niobium. Although an adequate supply of these raw materials currently exists, our major sources for raw materials are located abroad and prices fluctuate at times. We have entered into extended raw material supply agreements and will implement product price increases as deemed necessary to mitigate rising costs. For these reasons, we exercise great care in selecting, purchasing and managing availability of raw materials. We also purchase steel bars and forgings for making toolholders and other tool parts, as well as for producing rotary cutting tools and accessories. We obtain products purchased for use in manufacturing processes and for resale from thousands of suppliers located in the U.S. and abroad. Our internal capabilities help mitigate our reliance on third parties for raw materials as they provide access to additional sources of raw materials and offer tungsten carbide recycling capabilities.

RESEARCH AND DEVELOPMENT Our product development efforts focus on providing solutions to our customers' manufacturing challenges and productivity requirements. Our product development program provides discipline and focus for the product development process by establishing "gateways," or sequential tests, during the development process to remove inefficiencies and accelerate improvements. This program speeds and streamlines development into a series of actions and decision points, combining efforts and resources to produce new and enhanced products faster. This program is designed to assure a strong link between customer requirements and corporate strategy, and to enable us to gain full benefit from our investment in new product development.

We hold a number of patents and trademarks which, in the aggregate, are material to the operation of our businesses.

Research and development expenses included in operating expense totaled \$38.0 million, \$39.4 million and \$45.1 million in 2017, 2016 and 2015, respectively.

SEASONALITY Our business is affected by seasonal variations to varying degrees by traditional summer vacation shutdowns of customers' plants and holiday shutdowns that affect our sales levels during the first and second quarters of our fiscal year.

BACKLOG Our backlog of orders generally is not significant to our operations.

COMPETITION As one of the world's leading producers of metalworking tools and specialty wear-resistant components and coating solutions, we maintain a leading competitive position in major markets worldwide. We continually strengthen our competitive position by developing new and innovative metalworking and earth cutting products and services, innovative surface and wear solutions and innovative products for mining, construction and road milling applications among many others. We actively compete in the sale of all our products with several large global competitors and with many smaller niche businesses offering various capabilities to customers around the world. While several of our competitors are divisions of larger corporations, our industry remains largely fragmented, containing several hundred fabricators, toolmakers and niche specialty coating businesses. Many of our competitors operate relatively small facilities, producing a limited selection of tools while buying cemented tungsten carbide components from original producers of cemented tungsten carbide products, including Kennametal. We also supply coating solutions and other engineered wear-resistant products to both larger corporations and smaller niche businesses. Given the fragmentation, opportunities for consolidation exist from both U.S.-based and internationally-based firms, as well as among thousands of industrial supply distributors.

The principal competitive differentiators in our businesses include customer focused support and application expertise, custom and standard product innovation, product performance, quality and availability, as well as service, pricing and productivity delivered ascribed to our brands. We derive competitive advantage from our premium brand positions, global presence, application expertise and ability to address unique customer needs with new and improved tools, innovative surface and wear solutions, highly engineered components, consistent quality, traditional and digital customer service and technical assistance capabilities, state-of-the-art manufacturing and multiple sales channels. With these strengths, we are able to sell products based on the value-added productivity we deliver to our customers, rather than competing solely on price.

REGULATION From time to time, we are a party to legal claims and proceedings that arise in the ordinary course of business, which may relate to our operations or assets, including real, tangible, or intellectual property. While we currently believe that the amount of ultimate liability, if any, with respect to these actions will not materially affect our financial position, results of operations or liquidity, the ultimate outcome of any litigation is uncertain. Were an unfavorable outcome to occur or if protracted litigation were to ensue, the impact could be material to us.

Compliance with government laws and regulations pertaining to the discharge of materials or pollutants into the environment or otherwise relating to the protection of the environment did not have a material effect on our capital expenditures or competitive position for the years covered by this report, nor is such compliance expected to have a material effect in the future.

Among other environmental laws, we are subject to the Comprehensive Environmental Response Compensation and Liability Act of 1980 (Superfund), under which we have been designated by the United States Environmental Protection Agency (USEPA) as a potentially responsible party (PRP) with respect to environmental remedial costs at certain Superfund sites. We have evaluated our claims and liabilities associated with these Superfund sites based upon best currently available information. We believe our environmental accruals are adequate to cover our portion of the environmental remedial costs at the Superfund sites where we have been designated a PRP, to the extent these expenses are probable and reasonably estimable.

Reserves for other potential environmental issues at June 30, 2017 and 2016 were \$12.4 million and \$12.5 million, respectively. The reserves that we have established for environmental liabilities represent our best current estimate of the costs of addressing all identified environmental situations, based on our review of currently available evidence, and take into consideration our prior experience in remediation and that of other companies, as well as public information released by the USEPA, other governmental agencies, and by the PRP groups in which we are participating. Although the reserves currently appear to be sufficient to cover these environmental liabilities, there are uncertainties associated with environmental liabilities, and we can give no assurance that our estimate of any environmental liability will not increase or decrease in the future. The reserved and unreserved liabilities for all environmental concerns could change substantially due to factors such as the nature and extent of contamination, changes in remedial requirements, technological changes, discovery of new information, the financial strength of other PRPs, the identification of new PRPs and the involvement of and direction taken by the U.S. government on these matters.

We maintain a Corporate Environmental, Health and Safety (EHS) Department to monitor compliance with environmental regulations and to oversee remediation activities. In addition, we have designated EHS coordinators who are responsible for each of our manufacturing facilities. Our financial management team periodically meets with members of the Corporate EHS Department and the Corporate Legal Department to review and evaluate the status of environmental projects and contingencies. On a quarterly basis, we review financial provisions and reserves for environmental contingencies and adjust these reserves when appropriate.

EMPLOYEES We employed approximately 10,700 people at June 30, 2017, of which approximately 3,500 were located in the U.S. and 7,200 in other parts of the world, principally Europe, Asia Pacific and India. At June 30, 2017, approximately 2,700 of the above employees were represented by labor unions. We consider our labor relations to be generally good.

AVAILABLE INFORMATION Our Internet address is www.kennametal.com. On the SEC Filings page of our Web Site, which is accessible under the "About Us" tab, under Investor Relations, we post the following filings as soon as reasonably practicable after they are electronically filed with or furnished to the Securities and Exchange Commission (SEC): our annual report on Form 10-K, our annual proxy statement, our annual conflict minerals disclosure and report on Form SD, our annual reports on Form 11-K, our quarterly reports on Form 10-Q, our current reports on Form 8-K and any amendments to those reports filed or furnished pursuant to Section 13(a) or 15(d) of the Securities Exchange Act of 1934, as amended (Exchange Act). Our SEC Filings page of our Web Site also includes Forms 3, 4 and 5 filed pursuant to Section 16(a) of the Exchange Act. All filings posted on our SEC Filings page of our Web Site are available to be viewed on the Web page free of charge. On the Corporate Governance page of our Web Site, which is under the "About Us" tab, under Investor Relations, we post the following charters and guidelines: Audit Committee Charter, Compensation Committee Charter, Nominating/Corporate Governance Committee Charter, Kennametal Inc. Corporate Governance Guidelines and Kennametal Inc. Stock Ownership Guidelines. On the Ethics and Compliance page of our Web Site, which is under the "About Us" tab, under Company Profile, we post our Code of Conduct and our Conflict Minerals Statement. All charters and guidelines posted on our Web pages are available to be viewed on our Web page free of charge. Information contained on our Web site is not part of this annual report on Form 10-K or our other filings with the SEC. Copies of this annual report on Form 10-K and those items disclosed on the Corporate Governance and Ethics and Compliance pages of our Web Site are available without charge upon written request to: Investor Relations, Kennametal Inc., 600 Grant Street, Suite 5100, Pittsburgh, Pennsylvania 15219-2706.

ITEM 1A – RISK FACTORS

This section describes material risks to our business that are currently known to us. Our business, financial condition or results of operations may be materially affected by a number of factors. Our management regularly monitors the risks inherent in our business, with input and assistance from our Enterprise Risk Management department. In addition to real time monitoring, we periodically conduct a formal enterprise-wide risk assessment to identify factors and circumstances that might present significant risk to the Company. Many of these factors are discussed throughout this report. The risks below, however, are not exhaustive. We operate in a rapidly changing environment. Other risks that we currently believe to be immaterial could become material in the future. We also are subject to legal and regulatory change. New factors can emerge, and it is not possible to predict the outcome of all other factors on our business, financial condition or results of operations. The following discussion details the material factors and uncertainties that we believe could cause Kennametal's actual results to differ materially from those projected in any forward-looking statements:

Downturns in the business cycle could adversely affect our sales and profitability. Our business has historically been cyclical and subject to significant impact from economic downturns. Global economic downturn coupled with global financial and credit market disruptions have had a negative impact on our sales and profitability historically. These events could contribute to weak end markets, a sharp drop in demand and higher costs of borrowing and/or diminished credit availability. Although we believe that the long-term prospects for our business remain positive, we are unable to predict the future course of industry variables or the strength, pace or sustainability of economic recovery and the effects of government intervention.

Our restructuring efforts may not have the intended effects. We are in the process of implementing multi-year restructuring and other actions to improve our manufacturing costs and operating expenses. However, there is no assurance that these actions, or any others that we have taken or may take, will be sufficient to counter any future economic or industry disruptions. We cannot provide assurance that we will not incur additional restructuring charges or impairment charges, or that we will achieve all of the anticipated benefits from restructuring actions we have taken or plan to take in the future. If we are unable to effectively restructure our operations in the light of evolving market conditions, it could have a material adverse effect on our business, financial condition, results of operations and cash flows.

Our factory modernization and End-to-End initiatives began in fiscal 2017. The purpose of these programs are to invest in our plants, equipments and processes to automate and lower our overall labor cost, and to configure equipment in our plants so that we gain efficiency through an end-to-end process. These capital investments are expected to result in substantial savings from reduced labor, maintenance and supply costs while at the same time improving the quality of our products. We cannot provide assurance that we will achieve all of the anticipated savings from these planned actions. These initiatives are expected to put pressure on cash flows in the near-term. Further, as the business has shown more rapid improvements than initially expected, it is possible that we may not be able to modernize fast enough to keep up with demand in select locations, causing us to keep direct hourly employment in certain circumstances somewhat higher than previously anticipated. If we are unable to effectively execute our plans, it could have a material adverse effect on our business, financial condition, results of operations and cash flows.

Our international operations pose certain risks that may adversely impact sales and earnings. We have manufacturing operations and assets located outside of the U.S., including but not limited to those in Western Europe, Brazil, Canada, China, India, Israel and South Africa. We also sell our products to customers and distributors located outside of the U.S. During the year ended June 30, 2017, 56 percent of our consolidated sales were derived from non-U.S. markets. These international operations are subject to a number of special risks, in addition to the risks of our domestic business, including currency exchange rate fluctuations, differing protections of intellectual property, trade barriers, exchange controls, regional economic uncertainty, differing (and possibly more stringent) labor regulations, labor unrest, risk of governmental expropriation, domestic and foreign customs and tariffs, current and changing regulatory environments (including, but not limited to, the risks associated with the importation and exportation of products and raw materials), risk of failure of our foreign employees to comply with both U.S. and foreign laws, including antitrust laws, trade regulations and the Foreign Corrupt Practices Act, difficulty in obtaining distribution support, difficulty in staffing and managing widespread operations, differences in the availability and terms of financing, political instability and unrest and risks of increases in taxes. Also, in some foreign jurisdictions, we may be subject to laws limiting the right and ability of entities organized or operating therein to pay dividends or remit earnings to affiliated companies unless specified conditions are met. To the extent we are unable to effectively manage our international operations and these risks, our international sales may be adversely affected, we may be subject to additional and unanticipated costs, and we may be subject to litigation or regulatory action. As a consequence, our business, financial condition and results of operations could be seriously harmed.

Changes in the regulatory environment, including environmental, health and safety regulations, could subject us to increased compliance and manufacturing costs, which could have a material adverse effect on our business.

Health and Safety Regulations. Certain of our products contain hard metals, including tungsten and cobalt. Hard metal dust is being studied for potential adverse health effects by organizations in several regions throughout the world, including the U.S., Europe and Japan. Future studies on the health effects of hard metals may result in our products being classified as hazardous to human health, which could lead to new regulations in countries in which we operate that may restrict or prohibit the use of, and/or exposure to, hard metal dust. New regulation of hard metals could require us to change our operations, and these changes could affect the quality of our products and materially increase our costs.

Environmental Regulations. We are subject to various environmental laws, and any violation of, or our liabilities under, these laws could adversely affect us. Our operations necessitate the use and handling of hazardous materials and, as a result, we are subject to various federal, state, local and foreign laws, regulations and ordinances relating to the protection of the environment, including those governing discharges to air and water, handling and disposal practices for solid and hazardous wastes, the cleanup of contaminated sites and the maintenance of a safe workplace. These laws impose penalties, fines and other sanctions for noncompliance and liability for response costs, property damages and personal injury resulting from past and current spills, disposals or other releases of, or exposure to, hazardous materials. We could incur substantial costs as a result of noncompliance with or liability for cleanup or other costs or damages under these laws. We may be subject to more stringent environmental laws in the future. If more stringent environmental laws are enacted in the future, these laws could have a material adverse effect on our business, financial condition and results of operations.

Regulations affecting the mining and drilling industries or utilities industry. Some of our principal customers are mining and drilling and utility companies. Many of these customers supply coal, oil, gas or other fuels as a source for the production of utilities in the U.S. and other industrialized regions. The operations of these mining and drilling companies are geographically diverse and are subject to or affected by a wide array of regulations in the jurisdictions where they operate, such as applicable environmental laws and regulations governing the operations of utilities. As a result of changes in regulations and laws relating to such industries, our customers' operations could be disrupted or curtailed by governmental authorities. The high cost of compliance with mining, drilling and environmental regulations may also induce customers to discontinue or limit their operations, and may discourage companies from developing new opportunities. As a result of these factors, demand for our mining- and drilling-related products could be substantially affected by regulations adversely impacting the mining and drilling industries or altering the consumption patterns of utilities.

Impairment of goodwill and other intangible assets with indefinite lives could result in a negative impact on our financial condition and results of operations. At June 30, 2017, goodwill and other indefinite-lived intangible assets totaled \$318.7 million, or 13% of our total assets. Goodwill results from acquisitions, representing the excess of cost over the fair value of the net tangible and other identifiable intangible assets we have acquired. At a minimum, we assess annually whether there has been impairment in the value of our intangible assets. If future operating performance at one or more of our reporting units were to fall significantly below current levels, we could record, under current applicable accounting rules, a non-cash impairment charge for goodwill or other intangible asset impairment. Any determination requiring the impairment of a significant portion of goodwill or other intangible assets would negatively affect our financial condition and results of operations.

Our continued success depends on our ability to protect and defend our intellectual property. Our future success depends in part upon our ability to protect and defend our intellectual property. We rely principally on nondisclosure agreements and other contractual arrangements and trade secret laws and, to a lesser extent, trademark and patent laws, to protect our intellectual property. However, these measures may be inadequate to protect our intellectual property from infringement by others or prevent misappropriation of our proprietary rights. In addition, the laws of some foreign countries do not protect proprietary rights to the same extent as do U.S. laws. If one of our patents is infringed upon by a third party, we may need to devote significant time and financial resources to attempt to halt the infringement. We may not be successful in defending the patents involved in such a dispute. Similarly, while we do not knowingly infringe on patents, copyrights or other intellectual property rights owned by other parties, we may be required to spend a significant amount of time and financial resources to resolve any infringement claims against us. We may not be successful in defending our position or negotiating an alternative remedy. Our inability to protect our proprietary information and enforce or defend our intellectual property rights in proceedings initiated by or against us could have a material adverse effect on our business, financial condition and results of operations.

Failure of, or a breach in security of, our information technology systems could adversely affect our business. We rely on information technology infrastructure to achieve our business objectives. Any disruption of this infrastructure could negatively impact our ability to record or process orders, manufacture and ship in a timely manner, or otherwise carry on business in the normal course. Any such events could cause us to lose customers or revenue and could require us to incur significant expense to remediate.

A security breach of our information technology could also interrupt or damage our operations or harm our reputation. In addition, we could be subject to liability if confidential information relating to customers, suppliers, employees or other parties is misappropriated from our computer system. Despite the implementation of security measures, these systems may be vulnerable to physical break-ins, computer viruses, programming errors or similar disruptive problems.

We operate in a highly competitive environment. Our domestic and foreign operations are subject to significant competitive pressures. We compete directly and indirectly with other manufacturers and suppliers of metalworking tools, engineered components and advanced materials. Some of our competitors are larger than we are and may have greater access to financial resources or be less leveraged than us. In addition, the industry in which our products are used is a large, fragmented industry that is highly competitive.

If we are unable to retain our qualified management and employees, our business may be negatively affected. Our ability to provide high quality products and services depends in part on our ability to retain our skilled personnel in the areas of management, product engineering, servicing and sales. Competition for such personnel is intense, and our competitors can be expected to attempt to hire our management and skilled employees from time to time. In addition, our restructuring activities and strategies for growth have placed, and are expected to continue to place, increased demands on our management's skills and resources. Additionally, we have not yet completed the headcount reduction initiative associated with our restructuring programs. If we are unable to retain our management team and professional personnel, our customer relationships and level of technical expertise could be negatively affected, which may materially and adversely affect our business.

Any interruption of our workforce, including interruptions due to our restructuring initiatives, unionization efforts, changes in labor relations or shortages of appropriately skilled individuals could impact our business.

Our future operating results may be affected by fluctuations in the prices and availability of raw materials. The raw materials we use for our products include ore concentrates, compounds and secondary materials containing tungsten, tantalum, titanium, niobium and cobalt. A significant portion of our raw materials is supplied by sources outside of the U.S. The raw materials industry as a whole is highly cyclical and at times pricing and supply can be volatile due to a number of factors beyond our control, including natural disasters, general economic and political conditions, labor costs, competition, import duties, tariffs and currency exchange rate fluctuations. This volatility can significantly affect our raw material costs. In an environment of increasing raw material prices, competitive conditions can affect how much of the price increases in raw materials that we can recover in the form of higher sales prices for our products. To the extent we are unable to pass on any raw material price increases to our customers, our profitability could be adversely affected. Furthermore, restrictions in the supply of tungsten, cobalt and other raw materials could adversely affect our operating results. If the prices for our raw materials increase or we are unable to secure adequate supplies of raw materials on favorable terms, our profitability could be impaired. If the prices for our raw materials decrease, we could face product pricing challenges.

Product liability claims could have a material adverse effect on our business. The sale of metalworking, mining, highway construction and other tools and related products as well as engineered components and advanced materials entails an inherent risk of product liability claims. We cannot give assurance that the coverage limits of our insurance policies will be adequate or that our policies will cover any particular loss. Insurance can be expensive, and we may not always be able to purchase insurance on commercially acceptable terms, if at all. Claims brought against us that are not covered by insurance or that result in recoveries in excess of our insurance coverage could have a material adverse effect on our business, financial condition and results of operations.

We may not be able to complete, manage or integrate acquisitions successfully. In the past, we have acquired companies and we may continue to evaluate acquisition opportunities that have the potential to support and strengthen our business. We can give no assurances, however, that any acquisition opportunities will arise or if they do, that they will be consummated, or that additional financing, if needed, will be available on satisfactory terms. In addition, acquisitions involve inherent risks that the businesses acquired will not perform in accordance with our expectations. We may not be able to achieve the synergies and other benefits we expect from the integration of acquisitions as successfully or rapidly as projected, if at all. Our failure to consummate an acquisition or effectively integrate newly acquired operations could prevent us from realizing our expected strategic growth and rate of return on an acquired business and could have a material and adverse effect on our results of operations and financial condition.

Natural disasters or other global or regional catastrophic events could disrupt our operations and adversely affect results. Despite our concerted effort to minimize risk to our production capabilities and corporate information systems and to reduce the effect of unforeseen interruptions to us through business continuity planning, we still may be exposed to interruptions due to catastrophe, natural disaster, pandemic, terrorism or acts of war, which are beyond our control. Disruptions to our facilities or systems, or to those of our key suppliers, could also interrupt operational processes and adversely impact our ability to manufacture our products and provide services and support to our customers. As a result, our business, our results of operations, financial position, cash flows and stock price could be adversely affected.

ITEM 1B – UNRESOLVED STAFF COMMENTS

None.

ITEM 2 – PROPERTIES

Our principal executive offices are located at 600 Grant Street, Suite 5100, Pittsburgh, Pennsylvania, 15219. Our corporate center and Technology Center are located at 1600 Technology Way, P.O. Box 231, Latrobe, Pennsylvania, 15650. A summary of our principal manufacturing facilities and other materially important properties is as follows:

Location	Owned/Leased	Principal Products	Primary Segment
United States:			
Gurley, Alabama	Owned	Metallurgical Powders	Infrastructure
Huntsville, Alabama	Owned	Metallurgical Powders	Infrastructure
Madison, Alabama	Owned	Tungsten Heavy Alloy	Infrastructure
Rogers, Arkansas	Owned/Leased	Carbide Products, Pelletizing Die Plates and Downhole Drilling Carbide Components	Infrastructure
Rockford, Illinois	Owned	Indexable Tooling	Industrial
Goshen, Indiana	Leased	Powders; Welding Rods, Wires and Machines	Infrastructure
New Albany, Indiana	Leased	High Wear Coating for Steel Parts	Infrastructure
Greenfield, Massachusetts	Owned	High-Speed Steel Taps	Widia
Traverse City, Michigan	Owned	Wear Parts	Infrastructure
Fallon, Nevada	Owned	Metallurgical Powders	Infrastructure
Asheboro, North Carolina	Owned	Carbide Round Tools	Industrial
Henderson, North Carolina	Owned	Metallurgical Powders	Infrastructure
Roanoke Rapids, North Carolina	Owned	Metalworking Inserts	Industrial
Cleveland, Ohio	Leased	Distribution	Industrial
Orwell, Ohio	Owned	Metalworking Inserts	Industrial
Solon, Ohio	Owned	Metalworking Toolholders	Industrial
Whitehouse, Ohio	Owned	Metalworking Inserts and Round Tools	Industrial
Bedford, Pennsylvania	Owned/Leased	Mining and Construction Tools, Wear Parts and Distribution	Infrastructure
Irwin, Pennsylvania	Owned	Carbide Wear Parts	Infrastructure
New Castle, Pennsylvania	Owned/Leased	Specialty Metals and Alloys	Infrastructure
Johnson City, Tennessee	Owned	Metalworking Inserts	Industrial
La Vergne, Tennessee	Owned	Metalworking Inserts	Industrial
New Market, Virginia	Owned	Metalworking Toolholders	Industrial
International:			
La Paz, Bolivia	Owned	Tungsten Concentrate	Infrastructure
Indaiatuba, Brazil	Leased	Metalworking Carbide Drills and Toolholders	Industrial
Belleville, Canada	Owned	Casting Components, Coatings and Powder Metallurgy Components	Infrastructure
Victoria, Canada	Owned	Wear Parts	Infrastructure
Fengpu, China	Owned	Intermetallic Composite Ceramic Powders and Parts	Infrastructure
Shanghai, China	Owned	Powders, Welding Rods and Wires and Casting Components	Infrastructure
Shanghai, China	Owned	Distribution	Industrial
Tianjin, China	Owned	Metalworking Inserts and Carbide Round Tools	Industrial
Xuzhou, China	Leased	Mining Tools	Infrastructure
Ebermannstadt, Germany	Owned	Metalworking Inserts	Industrial
Essen, Germany	Owned	Metalworking Inserts, Metallurgical Powders and Wear Parts	Industrial
Königsee, Germany	Leased	Metalworking Carbide Drills	Industrial
Lichtenau, Germany	Owned	Metalworking Toolholders	Industrial

Location	Owned/Leased	Principal Products	Primary Segment
Mistelgau, Germany	Owned	Metallurgical Powders, Metalworking Inserts and Wear Parts	Infrastructure
Nabburg, Germany	Owned	Metalworking Toolholders and Metalworking Round Tools, Drills and Mills	Industrial
Neunkirchen, Germany	Owned	Distribution	Industrial
Schongau, Germany	Owned	Ceramic Vaporizer Boats	Infrastructure
Vohenstrauss, Germany	Owned	Metalworking Carbide Drills	Industrial
Bangalore, India	Owned	Metalworking Inserts and Toolholders and Wear Parts	Industrial
Shlomi, Israel	Owned	High-Speed Steel and Carbide Round Tools	Widia
San Giuliano Milanese, Italy	Leased	Indexable Inserts	Industrial
Zory, Poland	Leased	Mining and Construction Conicals	Infrastructure
Boksburg, South Africa	Leased	Mining and Construction Conicals	Infrastructure
Barcelona, Spain	Leased	Metalworking Cutting Tools	Industrial
Kingswinford, United Kingdom	Leased	Distribution	Industrial
Newport, United Kingdom	Owned	Intermetallic Composite Powders	Infrastructure

We also have a network of warehouses and customer service centers located throughout North America, Europe, India, Asia Pacific and Latin America, a significant portion of which are leased. The majority of our research and development efforts are conducted at a corporate technology center located in Latrobe, Pennsylvania, U.S., as well as at our facilities in Rogers, Arkansas, U.S.; Fürth, Germany and Bangalore, India.

We use all of our significant properties in the businesses of powder metallurgy, tools, tooling systems, engineered components and advanced materials. Our production capacity is adequate for our present needs. We believe that our properties have been adequately maintained, are generally in good condition and are suitable for our business as presently conducted.

ITEM 3 - LEGAL PROCEEDINGS

The information set forth in Part I, Item 1, of this annual report on Form 10-K under the caption "Regulation" is incorporated into this Item 3. From time to time, we are party to legal claims and proceedings that arise in the ordinary course of business, which may relate to our operations or assets, including real, tangible or intellectual property. Although certain of these actions are currently pending, we do not believe that any individual proceeding is material or that our pending legal proceedings in the aggregate are material to Kennametal.

ITEM 4 - MINE SAFETY DISCLOSURES

Not applicable.

EXECUTIVE OFFICERS OF THE REGISTRANT

Incorporated by reference into this Part I is the information set forth in Part III, Item 10 under the caption "Executive Officers of the Registrant" of this annual report on Form 10-K.

PART II

ITEM 5 - MARKET FOR THE REGISTRANT'S COMMON EQUITY, RELATED STOCKHOLDER MATTERS AND ISSUER PURCHASES OF EQUITY SECURITIES

Our Capital Stock is traded on the New York Stock Exchange (symbol KMT). The number of shareholders of record as of July 31, 2017 was 1,595. Stock price ranges and dividends declared and paid were as follows:

Quarter ended	September 30	December 31	March 31	June 30
Fiscal 2017				
High	\$ 29.35	\$ 35.66	\$ 39.94	\$ 43.09
Low	20.40	26.79	31.28	36.14
Dividends	0.20	0.20	0.20	0.20
Fiscal 2016				
High	\$ 34.61	\$ 29.45	\$ 23.61	\$ 26.24
Low	23.77	17.71	15.11	20.98
Dividends	0.20	0.20	0.20	0.20

The information incorporated by reference in Part III, Item 12 of this annual report on Form 10-K from our 2017 Proxy Statement under the heading "Equity Compensation Plans – Equity Compensation Plan Information" is hereby incorporated by reference into this Item 5.

PERFORMANCE GRAPH

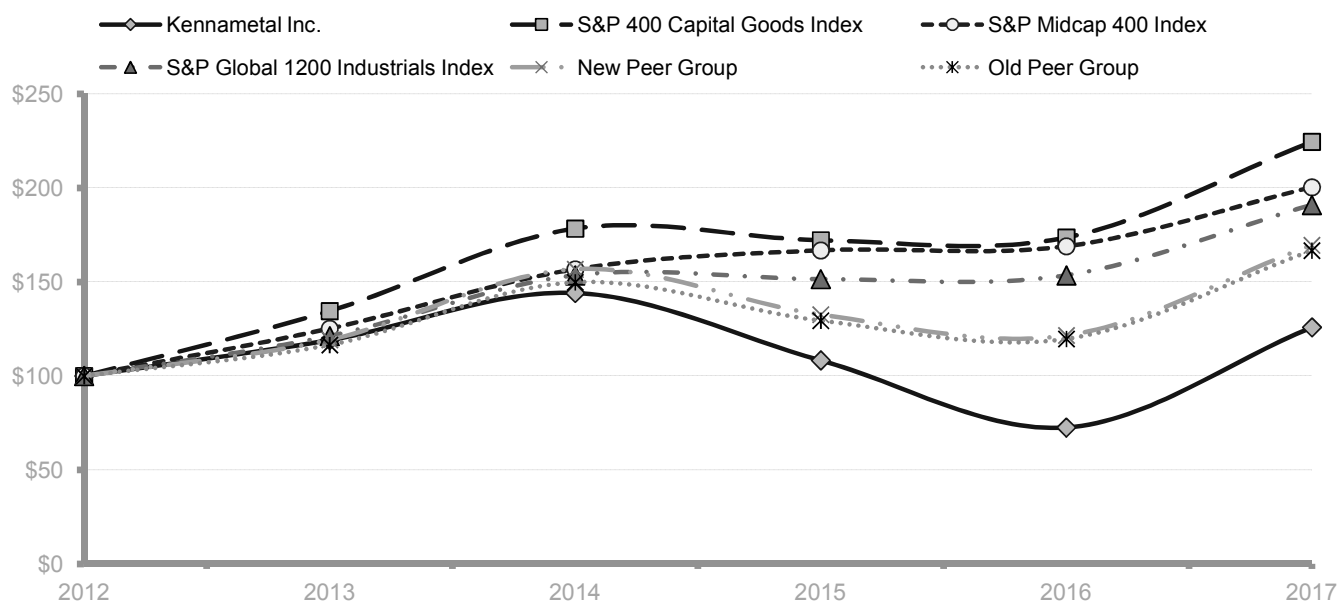
The following graph compares cumulative total shareholder return on our capital stock with the cumulative total shareholder return on the common stock of the companies in the Standard & Poor's Mid-Cap 400 Market Index (S&P Midcap 400), the Standard & Poor's 400 Capital Goods (S&P 400 Capital Goods), the Standard & Poor's Global 1200 Industrials Index (S&P Global 1200 Industrials) and the peer groups of companies determined by us (New Peer Group and Old Peer Group) for the period from July 1, 2012 to June 30, 2017.

In fiscal 2017, we established a New Peer Group to better align with how we evaluate our executive compensation, and we believe this group is more representative of Kennametal's peers. We have included both this New Peer Group as well as the Old Peer Group in the comparisons below. The peer groups were created to benchmark our sales and earnings growth, return on invested capital, profitability and asset management.

The New Peer Group consists of the following companies: Actuant Corporation; Allegheny Technologies Incorporated; Ametek, Inc.; Barnes Group Inc.; Carpenter Technology Corporation; Crane Co.; Donaldson Company, Inc.; Flowserve Corporation; Graco Inc.; Harsco Corporation; IDEX Corporation; ITT Inc.; Lincoln Electric Holdings, Inc.; The Manitowoc Company, Inc.; Nordson Corporation; Rexnord Corporation; Sandvik AB, Corp.; SPX Corporation; SPX FLOW, Inc.; The Timken Company; and Woodward, Inc.

The Old Peer Group consists of the following companies: Actuant Corporation; Allegheny Technologies Incorporated; Ametek, Inc.; Carpenter Technology Corporation; Crane Co.; Donaldson Company, Inc.; Flowserve Corporation; Greif; Harsco Corporation; IDEX Corporation; Joy Global Inc.; Lincoln Electric Holdings, Inc.; Parker Hannifin Corporation; Sandvik AB, Corp.; Teleflex Incorporated; The Timken Company; and Woodward, Inc.

Comparison of 5 - Year Cumulative Total Return



Assumes \$100 Invested on July 1, 2012 and All Dividends Reinvested

	2012	2013	2014	2015	2016	2017
Kennametal	\$ 100.00	\$ 119.09	\$ 144.21	\$ 108.31	\$ 72.58	\$ 125.87
New Peer Group Index	100.00	119.24	156.74	132.62	121.53	169.52
Old Peer Group Index	100.00	116.52	149.79	129.46	119.70	166.71
S&P Midcap 400	100.00	125.18	156.78	166.81	169.03	200.41
S&P 400 Capital Goods	100.00	134.53	178.41	172.21	173.65	224.62
S&P Global 1200 Industrials	100.00	121.24	153.58	151.56	153.55	191.02

ISSUER PURCHASES OF EQUITY SECURITIES

Period	Total Number of Shares Purchased ⁽¹⁾	Average Price Paid per Share	Total Number of Shares Purchased as Part of Publicly Announced Plans or Programs	Maximum Number of Shares that May Yet Be Purchased Under the Plans or Programs ⁽²⁾
April 1 through April 30, 2017	316	\$ 41.58	—	10,100,100
May 1 through May 31, 2017	6,443	40.56	—	10,100,100
June 1 through June 30, 2017	1,257	41.03	—	10,100,100
Total	8,016	\$ 40.68	—	

(1) During the fourth quarter of 2017, 1,462 shares were purchased on the open market on behalf of Kennametal to fund the Company's dividend reinvestment program. Also, during the current period employees delivered 6,554 shares of restricted stock to Kennametal, upon vesting, to satisfy tax withholding requirements.

(2) On July 25, 2013, the Company publicly announced an open-ended, amended repurchase program for up to 17 million shares of its outstanding capital stock outside of the Company's dividend reinvestment program.

UNREGISTERED SALES OF EQUITY SECURITIES

None.

ITEM 6 - SELECTED FINANCIAL DATA

	2017	2016	2015	2014	2013
OPERATING RESULTS (in thousands)					
Sales	\$2,058,368	\$2,098,436	\$2,647,195	\$ 2,837,190	\$2,589,373
Cost of goods sold	1,400,661	1,482,369	1,841,202	1,940,187	1,744,369
Operating expense	463,167	494,975	554,895	589,768	527,850
Restructuring and asset impairment charges	(1) 65,018	143,810	582,235	17,608	—
Loss on divestiture	(2) —	131,463	—	—	—
Interest expense	28,842	27,752	31,466	32,451	27,472
Provision (benefit) for income taxes	29,895	25,313	(16,654)	66,611	59,693
Income (loss) from continuing operations attributable to Kennametal	49,138	(225,968)	(373,896)	158,366	203,265
Net income (loss) attributable to Kennametal	49,138	(225,968)	(373,896)	158,366	203,265
FINANCIAL POSITION (in thousands)					
Working capital	\$ 652,423	\$ 648,066	\$ 775,802	\$ 962,440	\$1,031,880
Total assets	(3) 2,415,496	2,362,783	2,843,655	3,860,726	3,292,192
Long-term debt, including capital leases, excluding current maturities	(3) 694,991	693,548	730,011	974,306	694,779
Total debt, including capital leases and notes payable	(3) 695,916	695,443	745,713	1,054,423	739,098
Total Kennametal shareholders' equity	1,017,294	964,323	1,345,807	1,929,256	1,781,826
PER SHARE DATA ATTRIBUTABLE TO KENNAMETAL SHAREHOLDERS					
Basic earnings (loss) from continuing operations	(4) \$ 0.61	\$ (2.83)	\$ (4.71)	\$ 2.01	\$ 2.56
Basic earnings (loss)	(4) 0.61	(2.83)	(4.71)	2.01	2.56
Diluted earnings (loss) from continuing operations	(4) 0.61	(2.83)	(4.71)	1.99	2.52
Diluted earnings (loss)	(4) 0.61	(2.83)	(4.71)	1.99	2.52
Dividends	0.80	0.80	0.72	0.72	0.64
Book value (at June 30)	12.61	12.10	16.96	24.52	22.89
Market Price (at June 30)	37.42	22.11	34.12	46.28	38.83
OTHER DATA (in thousands, except number of employees)					
Capital expenditures	\$ 118,018	\$ 110,697	\$ 100,939	\$ 117,376	\$ 82,835
Number of employees (at June 30)	10,744	11,178	12,718	13,521	12,648
Basic weighted average shares outstanding	80,351	79,835	79,342	78,678	79,463
Diluted weighted average shares outstanding	81,169	79,835	79,342	79,667	80,612
KEY RATIOS					
Sales (decline) growth	(5) (1.9)%	(20.7)%	(6.7)%	9.6%	(5.4)%
Gross profit margin	32.0	29.4	30.4	31.6	32.6
Operating margin	(6) 5.5	(8.3)	(13.5)	9.3	11.4

- (1) In 2017 & 2014, all charges were related to restructuring. In 2016, the charges related to intangible asset impairment charges of \$108.5 million, restructuring charges of \$30.0 million & fixed asset disposal charges of \$5.4 million. In 2015, the charges related to intangible asset impairment charges of \$541.7 million & restructuring charges of \$40.5 million.
- (2) In 2016, the charge related to the loss on divestiture of non-core businesses.
- (3) Comparative prior periods restated to reflect adoption of FASB guidance on debt issuance costs. Debt issuance costs of \$4.7 million, \$6.0 million, \$5.9 million, \$7.4 million & \$8.8 million are reported as direct reductions of the carrying amounts of debt liabilities in the balance sheet as of June 30, 2017, 2016, 2015, 2014 & 2013, respectively.
- (4) 2017 included restructuring & related charges of \$0.89 & Australia deferred tax valuation allowance of \$0.02. 2016 included U.S. deferred tax valuation allowance of \$1.02, divestiture & related charges of \$1.39, intangible asset impairment charges of \$0.96, restructuring & related charges of \$0.50, fixed asset disposal charges of \$0.05 & operations of divested businesses of \$0.02. 2015 included intangible asset impairment charges of \$6.13 & restructuring & related charges of \$0.56.
- (5) Divestiture impact of sales decline was negative 4 percent & negative 5 percent in 2017 & 2016, respectively.
- (6) Included restructuring & related charges of \$76.2 million, \$53.5 million & \$58.1 million in 2017, 2016 & 2015, respectively. Included intangible asset impairment charges of \$108.5 million & \$541.7 million in 2016 & 2015, respectively. Included divestiture & related charges of \$131.5 million in 2016.

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

The following discussion should be read in connection with the consolidated financial statements of Kennametal Inc. and the related financial statement notes. Unless otherwise specified, any reference to a "year" is to our fiscal year ended June 30. Additionally, when used in this annual report on Form 10-K, unless the context requires otherwise, the terms "we," "our" and "us" refer to Kennametal Inc. and its subsidiaries.

OVERVIEW Kennametal Inc. was incorporated in Pennsylvania in 1943 as a manufacturer of tungsten carbide metal cutting tooling. From this beginning, the Company has grown into a global leader in the development and application of tungsten carbides, ceramics, super-hard materials and solutions used in metal cutting and mission-critical wear applications to combat extreme conditions associated with wear fatigue, corrosion and high temperatures. The Company's reputation for material technology, metal cutting application knowledge, as well as expertise and innovation in the development of custom solutions and services, contributes to its leading position in its primary markets.

Our product offering includes a wide selection of standard and customized technologies for metalworking applications, such as turning, milling, hole making, tooling systems and services. End users of the Company's metalworking products include manufacturers engaged in a diverse array of industries including: the manufacturers of transportation vehicles and components, machine tools and light and heavy machinery; airframe and aerospace components; and energy-related components for the oil and gas industry, as well as power generation.

In addition, we produce specialized wear components and metallurgical powders that are used for custom-engineered and challenging applications. End users of the Company's products include producers and suppliers in equipment-intensive operations such as coal mining, road construction, quarrying, oil and gas exploration, refining, production and supply.

Fiscal 2017 was a year of substantial change on many levels. After re-organizing the company to allow positive transformation, we focused on simplifying the company, improving sales execution and cost reduction. We have made significant achievements in each of these areas. The markets improved steadily through the year. Total year organic growth was 4 percent, with year-over-year organic growth in all segments. Furthermore, our cost reduction achievements were significant and we believe we are well-positioned to improve further as we move steadily forward with our multi-year plans.

For 2017, sales were \$2,058.4 million, a decrease of 2 percent compared to prior year sales of \$2,098.4 million, driven by prior year divestiture impact and unfavorable currency exchange, partially offset by organic sales growth. Operating income was \$112.9 million compared to an operating loss of \$174.9 million in the prior year. The year-over-year change was driven primarily by the loss on divestiture and goodwill and other intangible asset impairment charges in the prior year. Other drivers include incremental restructuring benefits, better absorption and productivity, organic sales growth, lower raw material costs and prior year fixed asset disposal charges and the impact of divestiture, partially offset by higher restructuring and related charges, unfavorable mix and higher employment-related costs. The Company reported earnings per diluted share of \$0.61 in 2017.

The permanent savings that we are realizing from restructuring are the result of all programs that we have undertaken over the past 30 months. Pre-tax benefits from these restructuring actions were approximately \$110 million in 2017, of which \$72 million were incremental to the prior year. All restructuring actions are currently anticipated to deliver annual ongoing pre-tax savings of \$165 million to \$180 million once completed. Of this total amount, \$90 million of annualized savings are associated with our headcount reduction initiative, and we anticipate reaching that run rate by December 31, 2017. The remaining \$75 million to \$90 million relates to our other restructuring programs, which we expect to complete by December 31, 2018. Refer to the Results of Continuing Operations section of Item 7 for further discussion and analysis of our restructuring programs.

The cost savings we achieved in fiscal 2017 include only a small amount of the anticipated benefits from the modernization and End-to-End initiatives that we have planned, and the benefits from our ongoing product and process simplification initiatives. The results of those programs are anticipated to accrue to the Company over the next two to three years.

We generated cash flow from operating activities of \$192.2 million in the current year, driven primarily by cash earnings. We have actively managed our capital structure and returned \$64.1 million to shareholders through dividends. In addition, we made capital expenditures of \$118.0 million during the year.

We invested further in technology and innovation to continue delivering a high level of new products to our customers. Research and development expenses included in operating expense totaled \$38.0 million for 2017.

Throughout the MD&A, we refer to measures used by management to evaluate performance. We also refer to a number of financial measures that are not defined under accounting principles generally accepted in the United States of America (U.S. GAAP), including organic sales growth (decline). The explanation at the end of the MD&A provides the definition of this non-GAAP measures as well as details on the use and the derivation of these measures.

NEW OPERATING STRUCTURE IMPLEMENTED IN FISCAL 2017 In order to take advantage of the growth opportunities of our WIDIA brand, we implemented a new operating structure in fiscal 2017.

A key attribute of the new structure is the establishment of the Widia operating segment, which we separated out from our 2016 Industrial segment. In order to better leverage the opportunities in our Widia business, and be more agile and competitive in the marketplace, we are placing higher levels of focus, determination and leadership in this business. Beginning in fiscal 2017, we had three global reportable operating segments: Industrial, Widia and Infrastructure. We restated our segment financial information for the years ended June 30, 2016 and 2015, respectively, to reflect the change in reportable operating segments.

RESULTS OF CONTINUING OPERATIONS

SALES Sales of \$2,058.4 million in 2017 decreased 2 percent from \$2,098.4 million in 2016 reflecting a 4 percent divestiture impact and a 2 percent unfavorable currency exchange impact, partially offset by 4 percent organic sales growth. Sales increased by 4 percent in the Widia segment and 3 percent in the Industrial segment, while sales decreased by 9 percent in the Infrastructure segment. Drivers of the organic sales growth were increases of approximately 9 percent in energy, 6 percent in general engineering, 4 percent in aerospace and defense and 2 percent in transportation, offset partially by a decrease of 4 percent in earthworks.

Sales of \$2,098.4 million in 2016 decreased 21 percent from \$2,647.2 million in 2015 reflecting an 11 percent organic sales decline, a 5 percent divestiture impact and a 5 percent unfavorable currency exchange impact. Sales decreased by 30 percent in the Infrastructure segment, 13 percent in the Industrial segment and 11 percent in the Widia segment. Drivers of the organic sales decrease were decreases of approximately 28 percent in energy, 15 percent in earthworks, 11 percent in general engineering and 4 percent in transportation, while aerospace and defense remained flat.

GROSS PROFIT Gross profit increased \$41.6 million to \$657.7 million in 2017 from \$616.1 million in 2016. This increase was primarily due to incremental restructuring benefits of approximately \$36 million, better absorption and productivity, organic sales growth and lower raw material costs, partially offset by unfavorable currency exchange impact of \$12.6 million, unfavorable business mix and divestiture impact of \$11.4 million. The gross profit margin for 2017 was 32.0 percent compared to 29.4 percent in 2016.

Gross profit decreased \$189.9 million to \$616.1 million in 2016 from \$806.0 million in 2015. The decrease was primarily due to organic sales decline, unfavorable business mix, lower fixed cost absorption, unfavorable currency exchange and divestiture impact, offset partially by lower raw material costs and restructuring benefits. The gross profit margin for 2016 was 29.4 percent compared to 30.4 percent in 2015.

OPERATING EXPENSE Operating expense in 2017 was \$463.2 million, a decrease of \$31.8 million, or 6.4 percent, compared to \$495.0 million in 2016. The decrease is primarily due to incremental restructuring benefits of approximately \$36 million, divestiture impact of \$10.5 million, \$12.7 million less in restructuring-related charges and favorable foreign currency exchange impacts of \$5.1 million, offset partially by higher performance-based compensation.

Operating expense in 2016 was \$495.0 million, a decrease of \$59.9 million, or 10.8 percent, compared to \$554.9 million in 2015. The decrease is primarily due to divestiture impact of \$18.6 million, favorable foreign currency exchange impacts of \$23.3 million, restructuring benefits and the impact of cost reduction initiatives, offset partially by \$8.3 million higher restructuring related charges.

RESTRUCTURING AND RELATED CHARGES AND ASSET IMPAIRMENT CHARGES

Restructuring and Related Charges

During 2017, we recognized total restructuring and related charges of \$76.2 million. Of this amount, restructuring charges totaled \$65.6 million, of which \$0.6 million were charges related to inventory and were recorded in cost of goods sold. Restructuring-related charges of \$7.1 million were recorded in cost of goods sold and \$3.5 million in operating expense during 2017. Total restructuring and related charges since the inception of our restructuring plans through 2017 were \$147.7 million. See Note 15 in our consolidated financial statements set forth in Item 8 (Note 15).

During 2016, we recognized total restructuring and related charges of \$53.5 million. Of this amount, restructuring charges totaled \$30.0 million. Restructuring-related charges of \$7.3 million were recorded in cost of goods sold and \$16.2 million in operating expense during 2016.

During 2015, we recognized total restructuring and related charges of \$58.1 million. Of this amount, restructuring charges totaled \$42.1 million, of which \$1.5 million were charges related to inventory and were recorded in cost of goods sold. Restructuring-related charges of \$8.2 million were recorded in cost of goods sold and \$7.8 million in operating expense during 2015.

We are implementing restructuring actions to streamline the Company's cost structure. These initiatives are expected to improve the alignment of our cost structure with the current operating environment through headcount reductions, as well as rationalization and consolidation of certain manufacturing facilities. These restructuring actions are currently anticipated to deliver annual ongoing pre-tax savings of \$165 million to \$180 million once completed by December 31, 2018 and are anticipated to be mostly cash expenditures. The total pre-tax charges for these programs are expected to be in the range of \$165 million to \$195 million, which is expected to be approximately 60 percent Industrial, 5 percent Widia, 30 percent Infrastructure and 5 percent Corporate. Total restructuring and related charges since inception of \$147.7 million have been recorded for these programs through June 30, 2017: \$80.5 million in Industrial, \$12.9 million in Widia, \$47.0 million in Infrastructure and \$7.3 million in Corporate.

Asset Impairment Charges

During 2016 and 2015, we recorded non-cash pre-tax goodwill and other intangible asset impairment charges of \$108.5 million and \$541.7 million, respectively. There were no asset impairment charges during 2017. See Note 2 in our consolidated financial statements set forth in Item 8 (Note 2).

During 2016, we identified specific machinery and equipment that was no longer being utilized in the manufacturing organization which we disposed of by abandonment. As a result of this review, we recorded property, plant, and equipment impairment charges of \$5.4 million during 2016, which has been presented as restructuring and asset impairment charges in our consolidated statement of income.

LOSS ON DIVESTITURE We recognized a pre-tax loss on the sale of non-core businesses of \$131.5 million in 2016, which includes the impact of estimated working capital adjustments, deal costs and transaction costs. Of this amount, \$127.9 million and \$3.6 million were recorded in the Infrastructure and Industrial segments, respectively. See Note 4 in our consolidated financial statements set forth in Item 8 (Note 4).

AMORTIZATION OF INTANGIBLES Amortization expense was \$16.6 million, \$20.8 million and \$26.7 million in 2017, 2016 and 2015, respectively. The decrease of \$4.2 million from 2016 to 2017 and the decrease of \$5.9 million from 2015 to 2016 were driven primarily by the impact of divestiture.

INTEREST EXPENSE Interest expense increased \$1.1 million to \$28.8 million in 2017, compared with \$27.8 million in 2016 due to higher average borrowings and a higher credit facility fee. The portion of our debt subject to variable rates of interest was less than 1 percent at June 30, 2017 and 2016.

Interest expense decreased \$3.7 million to \$27.8 million in 2016, compared with \$31.5 million in 2015 due to lower average borrowings in 2016. The portion of our debt subject to variable rates of interest was less than 1 percent and approximately 7 percent at June 30, 2016 and 2015, respectively. The decrease in the portion of our debt subject to variable rates was due to the decrease in the balance outstanding on our revolving credit facility.

OTHER EXPENSE (INCOME), NET In 2017, other expense, net was \$2.2 million compared to other income, net of \$4.1 million in 2016. The year-over-year change was due primarily to foreign currency transaction losses and the prior year reduction of a contingent liability associated with a past acquisition that did not repeat in the current year, partially offset by a prior year loss on sale of assets and income from transition services provided to the acquirer of our non-core businesses.

In 2016, other income, net was \$4.1 million compared to other income, net of \$1.7 million in 2015. The year-over-year increase is due primarily to the reduction of a contingent liability associated with a prior acquisition and income from transition services provided to the acquirer of our non-core businesses, partially offset by a loss on sale of assets and lower interest income.

INCOME TAXES The effective tax rate for 2017 was 36.5 percent (provision on income) compared to 12.7 percent (provision on a loss) for 2016. The change was primarily driven by the 2016 discrete tax charge for a valuation allowance recorded against our net deferred tax assets in the U.S., primarily related to asset impairment charges and the loss on divestiture in the prior year.

The effective tax rate for 2016 was 12.7 percent (provision on a loss) compared to 4.3 percent (benefit on a loss) for 2015. The change in the effective rate from 2015 to 2016 was primarily driven by a 2016 discrete tax charge for a valuation allowance recorded against our net deferred tax assets in the U.S., primarily related to asset impairment charges and restructuring charges in both periods and the loss on divestiture in 2016, as well as an overall decrease in demand in U.S. operations.

In 2012, we received an assessment from the Italian tax authority that denied certain tax deductions primarily related to our 2008 tax return. Attempts at negotiating a reasonable settlement with the tax authority were unsuccessful; and as a result, we decided to litigate the matter. The outcome of the litigation is still pending; however, we continue to believe that the assessment is baseless, and do not anticipate making a payment in connection with this assessment. Accordingly, no income tax liability has been recorded in connection with this assessment in any period. However, if the Italian tax authority were to be successful in litigation, settlement of the amount alleged by the Italian tax authority at its face value would result in an approximate €22 million, or \$25 million, increase to income tax expense.

INCOME (LOSS) ATTRIBUTABLE TO KENNAMETAL SHAREHOLDERS Income attributable to Kennametal Shareholders was \$49.1 million, or \$0.61 earnings per diluted share, in 2017, compared to a loss of \$226.0 million, or \$2.83 loss per diluted share, in 2016. The year-over-year change is a result of the factors previously discussed.

Loss from continuing operations attributable to Kennametal Shareholders was \$226.0 million or \$2.83 per diluted share, in 2016, compared to \$373.9 million, or \$4.71 per diluted share, in 2015. The decrease in loss from continuing operations is a result of the factors previously discussed.

BUSINESS SEGMENT REVIEW We operate three reportable operating segments consisting of Industrial, Widia and Infrastructure. Corporate expenses that are not allocated are reported in Corporate. Segment determination is based upon internal organizational structure, the manner in which we organize segments for making operating decisions and assessing performance and the availability of separate financial results.

Amounts for 2016 and 2015 for Industrial and Widia have been restated to reflect the change in reportable operating segments.

INDUSTRIAL

(in thousands)	2017	2016	2015
Sales	\$ 1,126,309	\$ 1,098,439	\$ 1,269,786
Operating income	82,842	90,324	165,434

Sales growth (decline), in percentages	2017	2016
Organic	5%	(7)%
Currency exchange	(2)	(6)
Divestiture	—	—
Business days	—	—
Total	3%	(13)%
<i>By region ⁽¹⁾:</i>		
Asia	11%	(9)%
Americas	5	(11)
Europe	2	(2)
<i>By end market ⁽¹⁾:</i>		
General engineering	7%	(8)%
Aerospace and defense	6	1
Energy	5	(27)
Transportation	2	(4)

(1) Excluding the impact of currency exchange and divestiture

In 2017, Industrial sales of \$1,126.3 million increased by \$27.9 million, or 3 percent, from 2016. General engineering sales have benefited globally from growth in the indirect channel, supported by increasing demand in the U.S. energy markets and China transportation markets, and to a lesser extent the addition of new distributors. Sales to airplane engine manufacturers globally was the primary driver of the sales growth in aerospace. In addition, we experienced growth in frame-related sales in Europe and Asia that were offset by declines in the Americas. Oil and gas drilling and power generation in the Americas contributed to the growth in energy sales while energy-related sales were down in Europe and Asia. Transportation performance was mixed for the fiscal year with overall growth coming from Asia. Sales to tier suppliers were up, as strong Asia growth was offset by declines in Europe and the Americas. Similarly, growth in sales to OEMs in Asia was offset by declines in the other regions. In addition, railroad-related sales declined primarily in the Americas. The sales increase in Asia was driven by transportation, general engineering and aerospace and defense. The sales increase in the Americas was driven by general engineering and energy and to a lesser extent aerospace and defense, offset partially by decreases in transportation. The sales increase in Europe was driven by general engineering and aerospace and defense, offset partially by decreases in transportation and energy.

In 2017, Industrial operating income was \$82.8 million, a \$7.5 million decrease from 2016. The primary drivers of the decrease in operating income were \$20.6 million more in restructuring charges, unfavorable currency exchange, unfavorable business mix, higher performance-based compensation and higher raw material costs, partially offset by \$40 million incremental restructuring benefits, organic sales growth and prior period loss on divestiture and fixed asset disposal charges of \$3.6 million and \$2.6 million, respectively. Industrial operating margin was 7.4 percent compared with 8.2 percent in the prior year.

In 2016, Industrial sales of \$1,098.4 million decreased by \$171.3 million, or 13 percent, from 2015. Industrial sales growth was impacted by the oil and gas downturn, which caused a decline in the energy market, most acutely in the Americas, where there was spillover into the broader general engineering market. The downturn was somewhat amplified as inventory levels in the indirect channel were lowered. Sales in the transportation market benefited from strong global unit sales offset by lower sales in Asia in part due to fewer tooling package sales in the current year. Aerospace sales increased modestly as favorable developments in Europe and Asia where somewhat offset by our decision to exit certain low margin business. The sales decrease in the Americas was driven by general engineering and energy and to a lesser extent transportation. The sales decrease in Asia was driven by transportation, general engineering and energy, offset partially by an increase in aerospace and defense. The sales decrease in Europe was driven by energy and aerospace and defense, offset partially by an increase in transportation.

In 2016, Industrial operating income was \$90.3 million and decreased by \$75.1 million from 2015. The primary drivers of the decrease in operating income were organic sales decline, unfavorable currency exchange, lower fixed cost absorption, unfavorable business mix, loss on divestiture of \$3.6 million and fixed asset disposal charges of \$2.6 million, offset partially by incremental restructuring program benefits of approximately \$17 million and lower raw material costs. Industrial operating margin was 8.2 percent compared with 13.0 percent in the prior year.

WIDIA

(in thousands)	2017	2016	2015
Sales	\$ 177,662	\$ 170,723	\$ 191,958
Operating loss	(9,606)	(9,081)	(4,540)

Sales growth (decline), in percentages	2017	2016
Organic	6%	(6)%
Business days	(2)	—
Currency exchange	—	(5)
Divestiture	—	—
Total	4%	(11)%

By region ⁽²⁾:

Asia	12%	(11)%
Americas	4	(11)
Europe	(2)	4

By end market ⁽²⁾:

General Engineering	6%	(6)%
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(2) Excluding the impact of currency exchange

In 2017, Widia sales of \$177.7 million increased by \$6.9 million, or 4 percent, from 2016. Sales have benefited globally from growth in the indirect channel, supported by increasing demand in the U.S. energy markets and China transportation markets, and to a lesser extent the addition of new distributors. Unlike the prior year, for those indirect lines where we have visibility, we believe that we did not experience destocking in the indirect channel, as sales were generally consistent with end-user purchases.

In 2017, Widia operating loss was \$9.6 million and increased by \$0.5 million from 2016. The primary drivers of the increase in operating loss were \$3.6 million higher restructuring and related charges, unfavorable mix and unfavorable currency exchange, partially offset by incremental restructuring benefits of approximately \$6 million, organic sales growth, a prior period other intangible asset impairment charge of \$2.3 million, lower raw material costs, higher absorption and productivity and prior period fixed asset disposal charges of \$0.7 million. Widia operating loss margin was 5.4 percent compared with 5.3 percent in the prior year.

In 2016, Widia sales of \$170.7 million decreased by \$21.2 million, or 11 percent, from 2015. Widia sales were impacted by the oil and gas downturn, which caused a decline in the energy market, most acutely in the Americas, where there was spillover into the broader general engineering market which Widia serves. Widia also experienced challenges in the supply chain, which led to more instances of quality and delivery issues that had an unfavorable impact on sales.

In 2016, Widia operating loss was \$9.1 million and increased by \$4.5 million from 2015. The primary drivers of the increase in operating loss were organic sales decline, intangible asset impairment of \$2.3 million and fixed asset disposal charges of \$0.7 million, offset partially by \$2.2 million less restructuring and related charges and incremental restructuring program benefits of approximately \$2 million. Widia operating loss margin was 5.3 percent compared with 2.4 percent in the prior year.

INFRASTRUCTURE

(in thousands)	2017	2016	2015
Sales	\$ 754,397	\$ 829,274	\$ 1,185,451
Operating income (loss)	40,011	(246,306)	(509,381)

Sales growth (decline), in percentages	2017	2016
Divestiture	(9)%	(11)%
Currency exchange	(1)	(3)
Organic	1	(16)
Business days	—	—
Total	(9)%	(30)%
<i>By region ⁽¹⁾:</i>		
Americas	3 %	(25)%
Asia	2	(10)
Europe	(6)	(1)
<i>By end market ⁽¹⁾:</i>		
Energy	11 %	(28)%
General Engineering	6	(21)
Earthworks	(6)	(15)

(1) Excluding the impact of divestiture and currency exchange

In 2017, Infrastructure sales of \$754.4 million decreased by \$74.9 million, or 9 percent, from 2016. Excluding the impact of divestiture and unfavorable currency exchange, sales grew 1 percent organically. Beginning in 2017, the segment reported year-over-year quarterly sales declines. However, during the year, sales improved sequentially and the year ended with two consecutive quarters of organic sales growth after two and a half years of organic sales declines. For the year, sales were positively impacted by the energy markets which have continued to strengthen during 2017. Challenging conditions in underground mining continued to drive sales declines, particularly in North America and Asia, and construction sales primarily in Europe. The sales increase in the Americas was driven by oil and gas and general engineering, partially offset by a decrease in earthworks. The sales increase in Asia was driven by general engineering and to a lesser extent energy, partially offset by a decrease in earthworks. The sales decrease in Europe was driven primarily by a decrease in construction, offset partially by an increase in mining.

In 2017, Infrastructure operating income in 2017 was \$40.0 million, compared to operating loss of \$246.3 million in 2016. The year-over-year change in operating results was due primarily to a prior period \$127.9 million loss on divestiture and prior period goodwill and other intangible asset impairment charges of \$106.1 million. Additionally, comparative operating results were impacted by incremental restructuring benefits of approximately \$26 million, lower raw material costs, higher absorption and productivity and prior year divestiture impact of \$1.9 million, offset partially by \$4.2 million increase in restructuring and related charges and the negative impacts of unfavorable price and mix.

In 2016, Infrastructure sales of \$829.3 million decreased by \$356.2 million, or 30 percent, from 2015. Infrastructure sales decline was impacted by persistent weak demand in oil and gas, mining, industrial applications and processing end markets in 2016. The sales decrease in the Americas was driven by energy, earthworks and general engineering. The sales decrease in Asia was driven by earthworks and general engineering, offset partially by an increase in energy. The sales decrease in Europe was driven primarily by energy, while general engineering remained flat and earthworks increased.

In 2016, Infrastructure operating loss in 2016 was \$246.3 million, a decrease of \$263.1 million from 2015 operating income of \$509.4 million. The decrease in operating loss was primarily driven by lower impairment charges in 2016 compared to 2015. See Note 2 and see Note 8 in our consolidated financial statements set forth in Item 8 (Note 8). Year 2016 also includes a loss on divestiture for the sale of non-core businesses of \$127.9 million, see Note 4. In addition to the aforementioned impairment charge and loss on divestiture, operating results for 2016 were negatively impacted by lower organic sales, lower fixed cost absorption and unfavorable mix, offset partially by an increase in lower raw material costs and incremental restructuring program benefits of approximately \$18 million.

CORPORATE

(in thousands)	2017	2016	2015
Corporate unallocated expense	\$ (303)	\$ (9,880)	\$ (9,336)

In 2017, Corporate unallocated expense decreased \$9.6 million, or 96.9 percent, from 2016, primarily due to \$5.7 million lower restructuring-related charges during this year and lower professional fees. In 2016, Corporate unallocated expense increased \$0.5 million, or 5.8 percent, from 2015, primarily due to higher restructuring-related charges in 2016 compared to 2015.

LIQUIDITY AND CAPITAL RESOURCES Cash flow from operations is the primary source of funding for our capital expenditures and organic growth. During the year ended June 30, 2017, cash flow provided by operating activities was \$192.2 million.

Our five-year, multi-currency, revolving credit facility, as amended and restated in April 2016 (Credit Agreement) is used to augment cash from operations and as an additional source of funds. The Credit Agreement permits revolving credit loans of up to \$600.0 million for working capital, capital expenditures and general corporate purposes. The Credit Agreement allows for borrowings in U.S. dollars, euro, Canadian dollars, pound sterling and Japanese yen. Interest payable under the Credit Agreement is based upon the type of borrowing under the facility and may be (1) LIBOR plus an applicable margin, (2) the greater of the prime rate or the Federal Funds effective rate plus an applicable margin or (3) fixed as negotiated by us. The Credit Agreement matures in April 2021. We had no outstanding borrowings on our Credit Agreement as of June 30, 2017.

The Credit Agreement requires us to comply with various restrictive and affirmative covenants, including two financial covenants: a maximum leverage ratio and a minimum consolidated interest coverage ratio (as those terms are defined in the agreement). We were in compliance with all covenants as of June 30, 2017. For the year ended June 30, 2017, average daily borrowings outstanding under the Credit Agreement were approximately \$29.1 million. We had no borrowings outstanding under the Credit Agreement as of June 30, 2017 and 2016. Borrowings under the Credit Agreement are guaranteed by our significant domestic subsidiaries.

Additionally, we obtain local financing through credit lines with commercial banks in the various countries in which we operate. At June 30, 2017, these borrowings amounted to \$0.7 million of notes payable and \$0.2 million of capital leases. We believe that cash flow from operations and the availability under our credit lines will be sufficient to meet our cash requirements over the next 12 months.

Based upon our debt structure at June 30, 2017 and 2016, less than 1 percent of our debt was exposed to variable rates of interest.

We consider substantially all of the unremitted earnings of our non-U.S. subsidiaries that have not previously been taxed in the U.S. to be permanently reinvested. As of June 30, 2017, cash and cash equivalents of \$115.4 million would not be available for use in the U.S. on a long-term basis without incurring U.S. federal and state income tax consequences. We have not repatriated, nor do we anticipate the need to repatriate, funds to the U.S. to satisfy domestic liquidity needs arising in the ordinary course of business or associated with our domestic debt service requirements. The undistributed earnings of our foreign subsidiaries continue to be indefinitely reinvested and would not be available for use in the U.S. on a long term basis without incurring U.S. federal and state income tax consequences.

At June 30, 2017, we had cash and cash equivalents of \$190.6 million. Total Kennametal Shareholders' equity was \$1,017.3 million and total debt was \$695.9 million. Our current senior credit ratings are at investment grade levels. We believe that our current financial position, liquidity and credit ratings provide us access to the capital markets. We continue to closely monitor our liquidity position and the condition of the capital markets, as well as the counterparty risk of our credit providers.

The following is a summary of our contractual obligations and other commercial commitments as of June 30, 2017 (in thousands):

Contractual Obligations	Total	2018	2019-2020	2021-2022	Thereafter
Long-term debt	(3) \$ 789,925	\$ 22,225	\$ 444,450	\$ 323,250	\$ —
Notes payable	(4) 835	835	—	—	—
Pension benefit payments	(5)	47,497	99,002	103,498	(5)
Postretirement benefit payments	(5)	1,876	3,430	3,067	(5)
Capital leases	(6) 199	199	—	—	—
Operating leases	76,686	19,340	26,332	15,725	15,289
Purchase obligations	(7) 180,043	85,139	57,313	37,591	—
Unrecognized tax benefits	(8) 3,232	596	2,221	—	415
Total		\$ 177,707	\$ 632,748	\$ 483,131	

- (3) Long-term debt includes interest obligations of \$89.9 million and excludes debt issuance costs of \$4.7 million. Interest obligations were determined assuming interest rates as of June 30, 2017 remain constant.
- (4) Notes payable includes interest obligations of \$0.1 million. Interest obligations were determined assuming interest rates as of June 30, 2017 remain constant.
- (5) Annual payments are expected to continue into the foreseeable future at the amounts noted in the table.
- (6) Capital leases include interest obligations of an immaterial amount.
- (7) Purchase obligations consist of purchase commitments for materials, supplies and machinery and equipment as part of the ordinary conduct of business. Purchase obligations with variable price provisions were determined assuming market prices as of June 30, 2017 remain constant.
- (8) Unrecognized tax benefits are positions taken or expected to be taken on an income tax return that may result in additional payments to tax authorities. These amounts include interest of \$0.5 million and penalty of \$0.1 million accrued related to such positions as of June 30, 2017. Positions for which we are not able to reasonably estimate the timing of potential future payments are included in the 'Thereafter' column. If a tax authority agrees with the tax position taken or expected to be taken or the applicable statute of limitations expires, then additional payments will not be necessary.

Other Commercial Commitments	Total	2018	2019-2020	2021-2022	Thereafter
Standby letters of credit	\$ 4,176	\$ 1,326	\$ 2,850	\$ —	\$ —
Guarantees	20,845	14,535	1,173	234	4,903
Total	\$ 25,021	\$ 15,861	\$ 4,023	\$ 234	\$ 4,903

The standby letters of credit relate to insurance and other activities. The guarantees are non-debt guarantees with financial institutions, which are required primarily for security deposits, product performance guarantees and advances.

Cash Flow Provided by Operating Activities

During 2017, cash flow provided by operating activities was \$192.2 million, compared to \$219.3 million in 2016. During 2017, cash flow provided by operating activities consisted of net income and non-cash items amounting to \$188.9 million and changes in certain assets and liabilities netting to \$3.3 million. Contributing to the changes in certain assets and liabilities were an increase in accounts payable and accrued liabilities of \$51.4 million and an increase in accrued income taxes of \$6.9 million. Partially offsetting these inflows were a decrease in accrued pension and postretirement benefits of \$27.8 million, an increase in inventories of \$24.3 million and an increase in accounts receivable of \$7.6 million. The increases in inventories, accounts payable and accounts receivable is due in part to higher demand trends in most of our end markets.

During 2016, cash flow provided by operating activities was \$219.3 million, compared to \$351.4 million in 2015. Cash flow provided by operating activities consisted of net income and non-cash items amounting to \$163.8 million and changes in certain assets and liabilities netting to \$55.5 million. These changes were primarily driven by a decrease in inventory of \$69.6 million due to our continued focus on working capital management and a decrease in accounts receivable of \$32.7 million due to lower sales volume. Partially offsetting these inflows were a decrease in accrued income taxes of \$25.2 million driven by payment of a capital gains tax related to a prior period tax reorganization and a decrease in accounts payable and accrued liabilities of \$2.2 million.

During 2015, cash flow provided by operating activities was \$351.4 million. Cash flow provided by operating activities consisted of net income and non-cash items amounting to \$279.1 million, offset by changes in certain assets and liabilities netting to \$72.4 million. These changes were primarily driven by a decrease in inventory of \$70.9 million due to improved working capital management, a decrease in accounts receivable of \$46.6 million due to lower sales volumes and a decrease in accounts payable and accrued liabilities of \$8.2 million.

Cash Flow Used for Investing Activities

Cash flow used for investing activities was \$112.7 million for 2017, an increase of \$64.8 million, compared to \$47.9 million in 2016. During 2017, cash flow used for investing activities included capital expenditures, net of \$113.0 million, which consisted primarily of equipment upgrades.

Cash flow used for investing activities was \$47.9 million for 2016, a decrease of \$36.6 million, compared to \$84.6 million in 2015. During 2016, cash flow used for investing activities included capital expenditures, net of \$104.7 million, which consisted primarily of equipment upgrades. Partially offsetting this outflow was an inflow of \$56.1 million of proceeds from the divestiture of non-core businesses.

Cash flow used for investing activities was \$84.6 million for 2015. During 2015, cash flow used for investing activities included capital expenditures, net of \$84.8 million, which consisted primarily of equipment upgrades.

Cash Flow Used for Financing Activities

Cash flow used for financing activities was \$50.1 million for 2017, compared to \$110.5 million in 2016. During 2017, cash flow used for financing activities included \$64.1 million of cash dividends paid to Shareholders, a \$6.6 million payment on the remaining contingent consideration related to a prior acquisition and \$0.9 million net decrease in borrowings, partially offset by \$21.5 million of dividend reinvestment and the effect of employee benefit and stock plans.

Cash flow used for financing activities was \$110.5 million for 2016, compared to \$333.0 million in 2015. During 2016, cash flow used for financing activities included \$63.7 million of cash dividends paid to Shareholders and \$50.8 million net decrease in borrowings, partially offset by \$4.5 million of dividend reinvestment and the effect of employee benefit and stock plans.

Cash flow used for financing activities was \$333.0 million in 2015. During 2015, cash flow used for financing activities included \$282.5 million net decrease in borrowings and \$57.0 million of cash dividends paid to Shareholders, partially offset by \$13.8 million of dividend reinvestment and the effect of employee benefit and stock plans.

FINANCIAL CONDITION At June 30, 2017, total assets were \$2,415.5 million, an increase of \$52.7 million from \$2,362.8 million at June 30, 2016. Total liabilities decreased \$4.1 million from \$1,367.0 million at June 30, 2016 to \$1,362.8 million at June 30, 2017.

Working capital was \$652.4 million at June 30, 2017, an increase of \$4.4 million from \$648.1 million at June 30, 2016. Cash and cash equivalents increased \$29.1 million, inventory increased \$28.9 million and accounts receivable increased \$9.5 million due to higher demand trends, accrued income taxes decreased \$10.4 million due primarily to reduced taxable income in tax-paying jurisdictions from higher restructuring and related charges, and accrued vacation pay decreased \$6.6 million. Partially offsetting these items were an increase in accounts payable of \$33.7 million due to higher demand trends, a decrease in deferred income taxes of \$26.7 million due to the impact of prospective adoption of a new accounting standard requiring all deferred tax assets and liabilities to be classified as long-term and an increase in accrued payroll of \$17.8 million due to timing of payroll. Currency exchange rate effects accounted for \$3.7 million of the increase in working capital, the impact of which is included in the aforementioned changes.

Property, plant and equipment, net increased \$13.7 million from \$730.6 million at June 30, 2016 to \$744.4 million at June 30, 2017, primarily due to capital expenditures of \$118.0 million, which includes a net \$3.9 million change which was included in accounts payable at June 30, 2017 related to purchases of property, plant and equipment, and favorable currency exchange impacts of \$4.2 million. This increase was partially offset by depreciation expense of \$91.1 million and capital disposals of \$5.0 million.

At June 30, 2017, other assets were \$557.2 million, an increase of \$0.4 million from \$556.8 million at June 30, 2016. The primary driver for the increase was an increase in deferred income taxes of \$13.9 million due in part to the impact of prospective adoption of a new accounting standard requiring all deferred tax assets and liabilities to be classified as long-term, an increase in assets held for sale of \$7.0 million due to certain properties meeting held for sale criteria at June 30, 2017 and an increase in goodwill of \$2.9 million due to favorable currency exchange effects. This increase was offset by a decrease in other intangible assets of \$16.7 million which was primarily due to amortization expense of \$16.6 million.

Long-term debt and capital leases increased \$1.4 million to \$695.0 million at June 30, 2017 from \$693.5 million at June 30, 2016, and accrued pension benefits decreased \$38.6 million to \$144.0 million, driven primarily by net periodic pension income.

Kennametal Shareholders' equity was \$1,017.3 million at June 30, 2017, an increase of \$53.0 million from \$964.3 million in the prior year. The increase was primarily due to net income attributable to Kennametal of \$49.1 million, capital stock issued under employee benefit and stock plans of \$39.1 million, unrecognized net pension and other postretirement benefit gain of \$15.6 million, reclassification of net pension and other postretirement benefit loss of \$7.6 million and favorable currency exchange of \$4.6 million, partially offset by cash dividends paid to Shareholders of \$64.1 million.

ENVIRONMENTAL MATTERS The operation of our business has exposed us to certain liabilities and compliance costs related to environmental matters. We are involved in various environmental cleanup and remediation activities at certain locations in the countries in which we operate.

Superfund Sites Among other environmental laws, we are subject to the Comprehensive Environmental Response, Compensation, and Liability Act of 1980 (CERCLA), under which we have been designated by the United States Environmental Protection Agency (USEPA) as a Potentially Responsible Party (PRP) with respect to environmental remedial costs at certain Superfund sites. We have evaluated our claims and liabilities associated with these Superfund sites based upon best currently available information. We believe our environmental accruals are adequate to cover our portion of the environmental remedial costs at the Superfund sites where we have been designated a PRP, to the extent these expenses are probable and reasonably estimable.

Other Environmental Issues We establish and maintain reserves for other potential environmental issues. At June 30, 2017 and 2016, the total of accruals for these reserves was \$12.4 million and \$12.5 million, respectively. These reserves represent anticipated costs associated with the remediation of these issues.

The reserves we have established for environmental liabilities represent our best current estimate of the costs of addressing all identified environmental situations, based on our review of currently available evidence, and taking into consideration our prior experience in remediation and that of other companies, as well as public information released by the USEPA, other governmental agencies, and by the PRP groups in which we are participating. Although the reserves currently appear to be sufficient to cover these environmental liabilities, there are uncertainties associated with environmental liabilities, and we can give no assurance that our estimate of any environmental liability will not increase or decrease in the future. The reserved and unreserved liabilities for all environmental concerns could change substantially due to factors such as the nature and extent of contamination, changes in remedial requirements, technological changes, discovery of new information, the financial strength of other PRPs, the identification of new PRPs and the involvement of and direction taken by the government on these matters.

We maintain a Corporate EHS Department to monitor compliance with environmental regulations and to oversee remediation activities. In addition, we have designated EHS analysts who are responsible for each of our global manufacturing facilities. Our financial management team periodically meets with members of the Corporate EHS Department and the Corporate Legal Department to review and evaluate the status of environmental projects and contingencies. On a quarterly basis, we review financial provisions and reserves for environmental contingencies and adjust these reserves when appropriate.

EFFECTS OF INFLATION Despite modest inflation in recent years, rising costs, including the cost of certain raw materials, continue to affect our operations throughout the world. We strive to minimize the effects of inflation through cost containment, productivity improvements and price increases.

DISCUSSION OF CRITICAL ACCOUNTING POLICIES In preparing our financial statements in conformity with accounting principles generally accepted in the U.S., we make judgments and estimates about the amounts reflected in our financial statements. As part of our financial reporting process, our management collaborates to determine the necessary information on which to base our judgments and develops estimates used to prepare the financial statements. We use historical experience and available information to make these judgments and estimates. However, different amounts could be reported using different assumptions and in light of different facts and circumstances. Therefore, actual amounts could differ from the estimates reflected in our financial statements. Our significant accounting policies are described in Note 2. We believe that the following discussion addresses our critical accounting policies.

Revenue Recognition We recognize revenue for our products and assembled machines when title and all risks of loss and damages pass to the buyer. Our general conditions of sale explicitly state that the delivery of our products and assembled machines is freight on board shipping point and that title and all risks of loss and damages pass to the buyer upon delivery of the sold products or assembled machines to the common carrier.

Our general conditions of sale explicitly state that acceptance of the conditions of shipment is considered to have occurred unless written notice of objection is received by Kennametal within 10 calendar days of the date specified on the invoice. We do not ship products or assembled machines unless we have documentation authorizing shipment to our customers. Our products are consumed by our customers in the manufacture of their products. Historically, we have experienced very low levels of returned products and assembled machines and do not consider the effect of returned products and assembled machines to be material. We have recorded an estimated returned goods allowance to provide for any potential returns.

We warrant that products and services sold are free from defects in material and workmanship under normal use and service when correctly installed, used and maintained. This warranty terminates 30 days after delivery of the product to the customer and does not apply to products that have been subjected to misuse, abuse, neglect or improper storage, handling or maintenance. Products may be returned to Kennametal only after inspection and approval by Kennametal and upon receipt by the customer of shipping instructions from Kennametal. We have included an estimated allowance for warranty returns in our returned goods allowance discussed above.

We recognize revenue related to the sale of specialized assembled machines upon customer acceptance and installation, as installation is deemed essential to the functionality of a specialized assembled machine. Sales of specialized assembled machines were immaterial for 2017, 2016 and 2015.

Stock-Based Compensation We recognize stock-based compensation expense for all stock options, restricted stock awards and restricted stock units over the period from the date of grant to the date when the award is no longer contingent on the employee providing additional service (substantive vesting period). We utilize the Black-Scholes valuation method to establish the fair value of all stock option awards. Time vesting stock units are valued at the market value of the stock on the grant date. Performance vesting stock units with a market condition are valued using a Monte Carlo model.

Accounting for Contingencies We accrue for contingencies when it is probable that a liability or loss has been incurred and the amount can be reasonably estimated. Contingencies by their nature relate to uncertainties that require the exercise of judgment in both assessing whether or not a liability or loss has been incurred and estimating the amount of probable loss. The significant contingencies affecting our financial statements include environmental, health and safety matters and litigation.

Long-Lived Assets We evaluate the recoverability of property, plant and equipment and intangible assets that are amortized whenever events or changes in circumstances indicate the carrying amount of such assets may not be fully recoverable. Changes in circumstances include technological advances, changes in our business model, capital structure, economic conditions or operating performance. Our evaluation is based upon, among other things, our assumptions about the estimated future undiscounted cash flows these assets are expected to generate. When the sum of the undiscounted cash flows is less than the carrying value, we will recognize an impairment loss to the extent that carrying value exceeds fair value. We apply our best judgment when performing these evaluations to determine if a triggering event has occurred, the undiscounted cash flows used to assess recoverability and the fair value of the asset.

Goodwill and Indefinite-Lived Intangible Assets We evaluate the recoverability of goodwill of each of our reporting units by comparing the fair value of each reporting unit with its carrying value. The fair values of our reporting units are determined using a combination of a discounted cash flow analysis and market multiples based upon historical and projected financial information. We apply our best judgment when assessing the reasonableness of the financial projections used to determine the fair value of each reporting unit. We evaluate the recoverability of indefinite-lived intangible assets using a discounted cash flow analysis based on projected financial information. We perform our annual impairment tests during the June quarter in connection with our annual planning process, unless there are impairment indicators based on the results of an ongoing cumulative qualitative assessment that warrant a test prior to that.

The \$273.5 million of goodwill allocated to the Industrial reporting unit and the \$27.9 million of goodwill allocated to the Widia reporting unit are not at risk of failing Step 1 of the impairment test since fair value substantially exceeded the carrying value as of the date of the last impairment test. There is no goodwill allocated to the Infrastructure reporting unit.

Pension and Other Postretirement Benefits We sponsor pension and other postretirement benefit plans for certain employees and retirees. Accounting for the cost of these plans requires the estimation of the cost of the benefits to be provided well into the future and attributing that cost over either the expected work life of employees or over average life of participants participating in these plans, depending on plan status and on participant population. This estimation requires our judgment about the discount rate used to determine these obligations, expected return on plan assets, rate of future compensation increases, rate of future health care costs, withdrawal and mortality rates and participant retirement age. Differences between our estimates and actual results may significantly affect the cost of our obligations under these plans.

In the valuation of our pension and other postretirement benefit liabilities, management utilizes various assumptions. Our discount rates are derived by identifying a theoretical settlement portfolio of high quality corporate bonds sufficient to provide for a plan's projected benefit payments. This rate can fluctuate based on changes in the corporate bond yields. At June 30, 2017, a hypothetical 25 basis point increase in our discount rates would increase our pre-tax income by approximately \$0.1 million, and a hypothetical 25 basis point decrease in our discount rates would decrease our pre-tax income by approximately \$0.1 million.

The long-term rate of return on plan assets is estimated based on an evaluation of historical returns for each asset category held by the plans, coupled with the current and short-term mix of the investment portfolio. The historical returns are adjusted for expected future market and economic changes. This return will fluctuate based on actual market returns and other economic factors.

The rate of future health care cost increases is based on historical claims and enrollment information projected over the next fiscal year and adjusted for administrative charges. This rate is expected to decrease until 2027. At June 30, 2017, a hypothetical 1 percent increase or decrease in our health care cost trend rates would be immaterial to our pre-tax income.

Future compensation rates, withdrawal rates and participant retirement age are determined based on historical information. These assumptions are not expected to significantly change. Mortality rates are determined based on a review of published mortality tables.

We expect to contribute approximately \$7.9 million and \$1.9 million to our pension and other postretirement benefit plans, respectively, in 2018.

In 2016, substantially all plan participants of the U.S. Retirement Income Plan (RIP) became inactive. As a result, the average remaining life expectancy of the inactive participants was used to amortize the unrecognized net gain or loss instead of the average remaining service period of active plan participants in future periods.

Allowance for Doubtful Accounts We record allowances for estimated losses resulting from the inability of our customers to make required payments. We assess the creditworthiness of our customers based on multiple sources of information and analyze additional factors such as our historical bad debt experience, industry and geographic concentrations of credit risk, current economic trends and changes in customer payment terms. This assessment requires significant judgment. If the financial condition of our customers was to deteriorate, additional allowances may be required, resulting in future operating losses that are not included in the allowance for doubtful accounts at June 30, 2017.

Inventories Inventories are stated at the lower of cost or market. We use the last-in, first-out method for determining the cost of a significant portion of our U.S. inventories. The cost of the remainder of our inventories is measured using approximate costs determined on the first-in, first-out basis or using the average cost method. When market conditions indicate an excess of carrying costs over market value, a lower-of-cost-or-market provision is recorded. Excess and obsolete inventory reserves are established based upon our evaluation of the quantity of inventory on hand relative to demand.

Income Taxes Realization of our deferred tax assets is primarily dependent on future taxable income, the timing and amount of which are uncertain, in part, due to the expected profitability of certain foreign subsidiaries. A valuation allowance is recognized if it is "more likely than not" that some or all of a deferred tax asset will not be realized. As of June 30, 2017, the deferred tax assets net of valuation allowances relate primarily to net operating loss carryforwards, pension benefits, accrued employee benefits and inventory reserves. In the event that we were to determine that we would not be able to realize our deferred tax assets in the future, an increase in the valuation allowance would be required. In the event we were to determine that we are able to use our deferred tax assets and a valuation allowance had been recorded against the deferred tax assets, a decrease in the valuation allowance would be required.

NEW ACCOUNTING STANDARDS

Adopted

In January 2017, the Financial Accounting Standards Board (FASB) issued guidance to simplify the test for goodwill impairment by removing step two of the test. Step two measures a goodwill impairment loss by comparing the implied fair value of a reporting unit's goodwill with the carrying amount of that goodwill. The new guidance requires an entity to perform its goodwill impairment test by comparing the fair value of a reporting unit with its carrying amount, including goodwill. This standard is effective for Kennametal beginning July 1, 2020; however, early adoption is permitted for goodwill impairment tests performed on testing dates after January 1, 2017. The Company has chosen to early adopt this guidance effective with the annual goodwill impairment test for 2017. The adoption did not have a material impact on our consolidated financial position, results of operations and cash flows.

In November 2015, the FASB issued guidance on balance sheet classification of deferred taxes. The amendments in this guidance require that deferred tax liabilities and assets be classified as noncurrent in a classified statement of financial position, in comparison to the previous practice of separating deferred income tax liabilities and assets into current and noncurrent amounts on the balance sheet. We adopted this guidance July 1, 2016 on a prospective basis. Therefore, prior period balance sheets were not retrospectively adjusted. Current deferred tax assets of \$26.7 million and current deferred tax liabilities of \$0.6 million are reported in the June 30, 2016 balance sheet.

In May 2015, the FASB issued guidance on disclosures for investments measured using the net asset value per share practical expedient. The guidance 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 practical expedient. This guidance was effective for Kennametal for 2017 and was applied retrospectively. See Note 13 in our consolidated financial statements set forth in Item 8.

In April 2015, the FASB issued guidance on the presentation of debt issuance costs. The guidance requires that debt issuance costs related to a recognized debt liability be presented in the balance sheet as a direct reduction from the carrying amount of that debt liability, consistent with debt discounts. This guidance was effective for Kennametal beginning July 1, 2016 and was retrospectively applied to all periods presented. Debt issuance costs of \$4.7 million and \$6.0 million are reported as direct reductions of the carrying amounts of debt liabilities in the balance sheet as of June 30, 2017 and 2016, respectively.

In April 2015, the FASB issued guidance on accounting for fees paid in a cloud computing arrangement. The amendments in this update provide guidance to customers about treatment of costs as either capitalized and amortized as an intangible asset or expensed as incurred as a service contract. The amendments provide clarification that costs in arrangements that include software license should be capitalized and amortized, and costs in arrangements that do not include a software license should be expensed as incurred. This standard was effective for Kennametal beginning July 1, 2016 and was applied prospectively. The adoption of this guidance did not have a material impact on our condensed consolidated financial position, results of operations and cash flows.

Issued

In May 2017, the FASB issued guidance which clarifies when to account for a change to the terms or conditions of a share-based payment award as a modification. Under the new guidance, modification accounting is required only if the fair value, the vesting conditions, or the classification of the award (as equity or liability) changes as a result of the change in terms or conditions. This guidance is effective for Kennametal beginning July 1, 2018. We are in the process of assessing the impact the adoption of this guidance will have on our condensed consolidated financial statements.

In March 2017, the FASB issued guidance on the presentation of net periodic pension cost and net periodic postretirement benefit cost. The guidance requires that an employer report the service cost component in the same line item or items as other compensation costs arising from services rendered by the pertinent employees during the period. The other components of net benefit cost are required to be presented in the income statement separately from the service cost component and outside a subtotal of income from operations. This guidance is effective for Kennametal beginning July 1, 2018. We are in the process of assessing the impact the adoption of this guidance will have on our condensed consolidated financial statements.

In October 2016, the FASB issued guidance on the accounting for income tax consequences of intra-entity transfers of assets other than inventory. The guidance clarifies that an entity should recognize the income tax consequences of an intra-entity transfer of an asset other than inventory when the transfer occurs. This guidance is effective for Kennametal beginning July 1, 2018. We are in the process of assessing the impact the adoption of this guidance will have on our condensed consolidated financial statements.

In August 2016, the FASB issued guidance on classification of certain cash receipts and cash payments in the statement of cash flow. The guidance addresses eight specific cash flow issues with the objective of reducing the existing diversity in practice. This guidance is effective for Kennametal beginning July 1, 2018. We are in the process of assessing the impact the adoption of this guidance will have on our condensed consolidated financial statements.

In June 2016, the FASB issued guidance on measurement of credit losses on financial instruments. The new guidance introduces an approach based on expected losses to estimate credit losses on certain types of financial instruments. It also modifies the impairment model for available-for-sale debt securities and provides for a simplified accounting model for purchased financial assets with credit deterioration since their origination. The scope of this amendment includes valuation of trade receivables. This standard is effective for Kennametal beginning July 1, 2020. We are in the process of assessing the impact the adoption of this guidance will have on our consolidated financial statements.

In May 2016, the FASB issued guidance on narrow scope improvements and practical expedients as part of Topic 606: Revenue from Contracts with Customers. The amendments address collectability criterion and accounting for contracts that do not meet the criteria, presentation of sales taxes and other similar taxes collected from customers, noncash consideration, contract modifications at transition and completed contracts at transition, in addition to a technical correction. This standard is effective for Kennametal beginning July 1, 2018, in conjunction with the adoption of Accounting Standards Update 2014-09, "Revenue from Contracts with Customers: Topic 606." We are in the process of assessing the impact the adoption of this guidance will have on our consolidated financial statements.

In April 2016, the FASB issued guidance on identifying performance obligations and licensing as part of Topic 606: Revenue from Contracts with Customers. The amendments in this update clarify identifying performance obligations and the licensing implementation guidance, while retaining the related principles for those areas. This standard is effective for Kennametal beginning July 1, 2018, in conjunction with the adoption of Accounting Standards Update 2014-09, "Revenue from Contracts with Customers: Topic 606." We are in the process of assessing the impact the adoption of this guidance will have on our consolidated financial statements.

In March 2016, the FASB issued guidance intended to simplify equity-based award accounting and presentation. The guidance impacts income tax accounting related to equity-based awards, the classification of awards as either equity or liabilities, and the classification on the statement of cash flows. We will adopt the standard effective July 1, 2017. The increase to deferred tax assets of \$1.4 million related to cumulative excess tax benefits previously unrecognized will be offset by valuation allowance, due to the valuation allowance position of our U.S. entity. We will also reclassify excess tax benefits on the statement of cash flows from financing activities to operating activities, and employee taxes paid when Kennametal withholds shares for tax withholding purposes from operating activities to financing activities, on the consolidated statement of cash flows. See Note 12 in our consolidated financial statements set forth in Item 8.

In March 2016, the FASB issued guidance on principal versus agent considerations in reporting revenue gross versus net. This guidance is intended to improve the operability and understandability of the implementation guidance on principal versus agent considerations. As this update serves to clarify existing guidance, it is not expected to have a material impact on our consolidated financial statements.

In February 2016, the FASB issued guidance on lease accounting, which replaces the existing guidance in ASC 840, Leases. The standard establishes a right-of-use (ROU) model that requires a lessee to record a ROU asset and a lease liability on the balance sheet for all leases with terms longer than 12 months. Leases will be classified as either finance or operating, with classification affecting the pattern of expense recognition in the income statement. This standard is effective for Kennametal beginning July 1, 2019. We are in the process of assessing the impact the adoption of this guidance will have on our consolidated financial statements.

In August 2015, the FASB issued guidance that defers the effective date of previously issued ASU 2014-09, "Revenue from Contracts with Customers: Topic 606." Under this guidance, the effective date for Kennametal was deferred from July 1, 2017 to July 1, 2018. We are in the process of assessing the impact the adoption of this ASU will have on our consolidated financial statements.

In July 2015, the FASB issued guidance on subsequent measurement of inventory. The amendments in this update require that inventory other than LIFO be subsequently measured at the lower of cost and net realizable value, as opposed to the current practice of lower of cost or market. Subsequent measurement is unchanged for inventory measured using LIFO. This standard is effective for Kennametal beginning July 1, 2017. We do not expect this guidance to have a material impact on our consolidated financial statements.

In May 2014, the FASB issued ASU 2014-09, "Revenue from Contracts with Customers: Topic 606." This ASU replaces nearly all existing U.S. GAAP guidance on revenue recognition. The standard prescribes a five-step model for recognizing revenue, the application of which will require significant judgment. This standard is effective for Kennametal July 1, 2018. Currently, we are analyzing the standard's impact on our customer arrangements and evaluating the new standard against our historical accounting policies and practices, including the timing of revenue recognition. In particular, we are assessing the identification of performance obligations and the impact of variable consideration on the transaction price determination. We have not determined the complete impact of adoption on our condensed consolidated financial statements.

RECONCILIATION OF MEASURES NOT DEFINED BY U.S. GAAP In accordance with the SEC's Regulation G, the following provides definitions of the non-GAAP measures and the reconciliation to the most closely related GAAP measure. We believe that these measures provide useful perspective on underlying business trends and results and provide a supplemental measure of year-over-year results. The non-GAAP measures described below are used by management in making operating decisions, allocating financial resources and for business strategy purposes. These measures may be useful to investors as they provide supplemental information about business performance and provide investors a view of our business results through the eyes of management. These non-GAAP measures are not intended to be considered by the user in place of the related GAAP measure, but rather as supplemental information to our business results. These non-GAAP measures may not be the same as similar measures used by other companies due to possible differences in method and in the items or events being adjusted.

Organic sales growth (decline) Organic sales growth (decline) is a non-GAAP measure of sales growth (decline) excluding the impacts of acquisitions, divestitures, business days and foreign currency exchange from year-over-year comparisons. Management believes this measure provides investors with a supplemental understanding of underlying sales trends by providing sales growth (decline) on a consistent basis.

Reconciliations of organic sales growth (decline) to the most closely related GAAP measure, sales growth (decline), is as follows:

Year ended June 30, 2017	Sales Growth (Decline)	Foreign Currency Exchange Impact	Divestiture Impact	Business Days Impact	Organic Sales Growth
Industrial	3%	(2)%	—%	—%	5%
Widia	4%	—%	—%	(2)%	6%
Infrastructure	(9)%	(1)%	(9)%	—%	1%
Total Kennametal	(2)%	(2)%	(4)%	—%	4%

Year ended June 30, 2016	Sales Decline	Foreign Currency Exchange Impact	Divestiture Impact	Business Days Impact	Organic Sales Decline
Industrial	(13)%	(6)%	—%	—%	(7)%
Widia	(11)%	(5)%	—%	—%	(6)%
Infrastructure	(30)%	(3)%	(11)%	—%	(16)%
Total Kennametal	(21)%	(5)%	(5)%	—%	(11)%

Total Kennametal, three months ended June 30,	Sales Growth (Decline)	Foreign Currency Exchange Impact	Divestiture Impact	Business Days Impact	Organic Sales Growth (Decline)
2017	8%	(2)%	—%	(2)%	12%
2016	(18)%	(1)%	(9)%	1%	(9)%

ITEM 7A - QUANTITATIVE AND QUALITATIVE DISCLOSURES ABOUT MARKET RISK

MARKET RISK We are exposed to certain market risks arising from transactions that are entered into in the normal course of business. As part of our financial risk management program, we use certain derivative financial instruments to manage these risks. We do not enter into derivative transactions for speculative purposes and, therefore, hold no derivative instruments for trading purposes. We use derivative financial instruments to provide predictability to the effects of changes in foreign exchange rates on our consolidated results and to achieve our targeted mix of fixed and floating interest rates on our outstanding debt. Our objective in managing foreign exchange exposures with derivative instruments is to reduce volatility in cash flow, allowing us to focus more of our attention on business operations. With respect to interest rate management, these derivative instruments allow us to achieve our targeted fixed-to-floating interest rate mix as a separate decision from funding arrangements in the bank and public debt markets. We measure hedge effectiveness by assessing the changes in the fair value or expected future cash flows of the hedged item. The ineffective portions are recorded in other expense (income), net. See Notes 2 and 16 of our consolidated financial statements set forth in Item 8.

We are exposed to counterparty credit risk for nonperformance of derivative contracts and, in the event of nonperformance, to market risk for changes in interest and currency exchange rates, as well as settlement risk. We manage exposure to counterparty credit risk through credit standards, diversification of counterparties and procedures to monitor concentrations of credit risk. We do not anticipate nonperformance by any of the counterparties.

The following provides additional information on our use of derivative instruments. Included below is a sensitivity analysis that is based upon a hypothetical 10 percent weakening or strengthening in the U.S. dollar and its effects on the June 30, 2017 currency exchange rates and the effective interest rates under our current borrowing arrangements. We compared our contractual derivative and borrowing arrangements in effect at June 30, 2017 to the hypothetical foreign exchange or interest rates in the sensitivity analysis to determine the effect on interest expense, pre-tax income and accumulated other comprehensive (loss) income. Our analysis takes into consideration the different types of derivative instruments and the applicability of hedge accounting.

CASH FLOW HEDGES *Currency* A portion of our operations consists of investments in foreign subsidiaries. Our exposure to market risk from changes in foreign exchange rates arises from these investments, intercompany loans utilized to finance these subsidiaries, trade receivables and payables and firm commitments arising from international transactions. We manage our foreign exchange transaction risk to reduce the volatility of cash flows caused by currency exchange rate fluctuations through natural offsets where appropriate and through foreign exchange contracts. These contracts are designated as hedges of forecasted transactions that will settle in future periods and that would otherwise expose us to currency risk.

Our foreign exchange hedging program is intended to mitigate our exposure to currency exchange rate movements. This exposure arises largely from anticipated cash flows from cross-border intercompany sales of products and services. This program utilizes range forwards and forward contracts primarily to sell foreign currency. The notional amounts of the contracts translated into U.S. dollars at June 30, 2017 and 2016 were \$75.3 million and \$53.3 million, respectively. We would have paid \$0.8 million and would have received \$0.3 million at June 30, 2017 and 2016, respectively, to settle these contracts representing the fair value of these agreements. At June 30, 2017, a hypothetical 10 percent strengthening or weakening of the U.S. dollar would have changed accumulated other comprehensive (loss) income, net of tax, by \$2.4 million.

In addition, we may enter into forward contracts to hedge transaction exposures or significant cross-border intercompany loans by either purchasing or selling specified amounts of foreign currency at a specified date. At June 30, 2017 and 2016, we had outstanding forward contracts to purchase and sell foreign currency with notional amounts, translated into U.S. dollars at June 30, 2017 and 2016 rates, of \$13.7 million in a sell position and \$57.5 million in a buy position, respectively. At June 30, 2017, a hypothetical 10 percent change in the year-end exchange rates would have resulted in a \$4.1 million increase or decrease in pre-tax income and a \$1.2 million increase or decrease in accumulated other comprehensive (loss) income, net of tax, related to these positions.

Interest Rate Our exposure to market risk for changes in interest rates relates primarily to our long-term debt obligations. We seek to manage our interest rate risk in order to balance our exposure between fixed and floating rates, while attempting to minimize our borrowing costs. To achieve these objectives, we primarily use interest rate swap contracts to manage exposure to interest rate changes related to these borrowings. We had no swaps in place as of June 30, 2017 and 2016.

DEBT AND NOTES PAYABLE At June 30, 2017 and 2016, we had \$695.9 million and \$695.4 million, respectively, of outstanding debt, including capital leases and notes payable. Effective interest rates as of June 30, 2017 and 2016 were 3.5 percent and 3.6 percent, respectively. A hypothetical change of 10 percent in market interest rates from June 30, 2017 levels would have an immaterial impact on our interest expense.

CURRENCY EXCHANGE RATE FLUCTUATIONS Currency exchange rate fluctuations decreased diluted earnings per share by \$0.08 in 2017, increased diluted earnings per share by \$0.08 in 2016 and did not have a material impact in 2015. Currency exchange rate fluctuations may have a material impact on future earnings in the short term and long term.

ITEM 8 - FINANCIAL STATEMENTS AND SUPPLEMENTARY DATA

MANAGEMENT'S REPORT ON INTERNAL CONTROL OVER FINANCIAL REPORTING

Management is responsible for establishing and maintaining adequate internal control over financial reporting. Management has conducted an assessment of the Company's internal controls over financial reporting as of June 30, 2017 using the criteria in *Internal Control – Integrated Framework (2013)*, issued by the Committee of Sponsoring Organizations of the Treadway Commission (COSO). The Company's internal control over financial reporting is designed to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with accounting principles generally accepted in the United States of America. Because of its inherent limitations, internal control over financial reporting may not prevent or detect misstatements. Also, projections of any evaluation of effectiveness to future periods are subject to the risk that controls may become inadequate because of changes in conditions, or that the degree of compliance with the policies or procedures may deteriorate.

Based on its assessment, management has concluded that the Company maintained effective internal control over financial reporting as of June 30, 2017, based on the criteria in *Internal Control – Integrated Framework (2013)* issued by the COSO. The effectiveness of the Company's internal control over financial reporting as of June 30, 2017 has been audited by PricewaterhouseCoopers LLP, an independent registered public accounting firm, as stated in their report which is included in this Annual Report on Form 10-K.

Report of Independent Registered Public Accounting Firm

To the Shareholders of Kennametal Inc.

In our opinion, the accompanying consolidated balance sheets and the related consolidated statements of income, comprehensive income, cash flow and shareholders' equity present fairly, in all material respects, the financial position of Kennametal Inc. and its subsidiaries as of June 30, 2017 and 2016, and the results of their operations and their cash flows for each of the three years in the period ended June 30, 2017 in conformity with accounting principles generally accepted in the United States of America. In addition, in our opinion, the financial statement schedule listed in the index appearing under Item 15(a)(2) presents fairly, in all material respects, the information set forth therein when read in conjunction with the related consolidated financial statements. Also in our opinion, the Company maintained, in all material respects, effective internal control over financial reporting as of June 30, 2017, based on criteria established in Internal Control - Integrated Framework (2013) issued by the Committee of Sponsoring Organizations of the Treadway Commission (COSO). The Company's management is responsible for these financial statements and financial statement schedule, for maintaining effective internal control over financial reporting and for its assessment of the effectiveness of internal control over financial reporting, included in Management's Report on Internal Control over Financial Reporting appearing under Item 8. Our responsibility is to express opinions on these financial statements, on the financial statement schedule, and on the Company's internal control over financial reporting based on our integrated audits. We conducted our audits in accordance with the standards of the Public Company Accounting Oversight Board (United States). Those standards require that we plan and perform the audits to obtain reasonable assurance about whether the financial statements are free of material misstatement and whether effective internal control over financial reporting was maintained in all material respects. Our audits of the financial statements included 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, and evaluating the overall financial statement presentation. Our audit of internal control over financial reporting included obtaining an understanding of internal control over financial reporting, assessing the risk that a material weakness exists, and testing and evaluating the design and operating effectiveness of internal control based on the assessed risk. Our audits also included performing such other procedures as we considered necessary in the circumstances. We believe that our audits provide a reasonable basis for our opinions.

As discussed in Note 2 to the consolidated financial statements, the Company changed the manner in which it accounts for the presentation of deferred income taxes and debt issuance costs in fiscal year 2017.

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

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

/s/ PricewaterhouseCoopers LLP
PricewaterhouseCoopers LLP
Pittsburgh, Pennsylvania
August 14, 2017

CONSOLIDATED STATEMENTS OF INCOME

Year ended June 30 (in thousands, except per share data)	2017	2016	2015
Sales	\$ 2,058,368	\$ 2,098,436	\$ 2,647,195
Cost of goods sold	1,400,661	1,482,369	1,841,202
Gross profit	657,707	616,067	805,993
Operating expense	463,167	494,975	554,895
Restructuring and asset impairment charges (Notes 2 and 15)	65,018	143,810	582,235
Loss on divestiture (Note 4)	—	131,463	—
Amortization of intangibles	16,578	20,762	26,686
Operating income (loss)	112,944	(174,943)	(357,823)
Interest expense	28,842	27,752	31,466
Other expense (income), net	2,227	(4,124)	(1,674)
Income (loss) before income taxes	81,875	(198,571)	(387,615)
Provision (benefit) for income taxes	29,895	25,313	(16,654)
Net income (loss)	51,980	(223,884)	(370,961)
Less: Net income attributable to noncontrolling interests	2,842	2,084	2,935
Net income (loss) attributable to Kennametal	\$ 49,138	\$ (225,968)	\$ (373,896)
PER SHARE DATA ATTRIBUTABLE TO KENNAMETAL SHAREHOLDERS			
Basic earnings (loss) per share	\$ 0.61	\$ (2.83)	\$ (4.71)
Diluted earnings (loss) per share	\$ 0.61	\$ (2.83)	\$ (4.71)
Dividends per share	\$ 0.80	\$ 0.80	\$ 0.72
Basic weighted average shares outstanding	80,351	79,835	79,342
Diluted weighted average shares outstanding	81,169	79,835	79,342

CONSOLIDATED STATEMENTS OF COMPREHENSIVE INCOME

(in thousands)	2017	2016	2015
Net income (loss)	\$ 51,980	\$ (223,884)	\$ (370,961)
Other comprehensive income (loss), net of tax			
Unrealized (loss) gain on derivatives designated and qualified as cash flow hedges	(471)	(150)	6,652
Reclassification of unrealized loss (gain) on expired derivatives designated and qualified as cash flow hedges	1,557	(1,563)	(2,873)
Unrecognized net pension and other postretirement benefit gain (loss)	15,559	(78,295)	(47,982)
Reclassification of net pension and other postretirement benefit loss	7,566	4,925	2,931
Foreign currency translation adjustments	5,888	(52,695)	(139,465)
Reclassification of foreign currency translation adjustment loss realized upon sale	—	15,088	—
Total other comprehensive income (loss), net of tax	30,099	(112,690)	(180,737)
Total comprehensive income (loss)	82,079	(336,574)	(551,698)
Less: comprehensive income (loss) attributable to noncontrolling interests	4,124	896	(410)
Comprehensive income (loss) attributable to Kennametal Shareholders	\$ 77,955	\$ (337,470)	\$ (551,288)

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

CONSOLIDATED BALANCE SHEETS

As of June 30 (in thousands, except per share data)	2017	2016
ASSETS		
Current assets:		
Cash and cash equivalents	\$ 190,629	\$ 161,579
Accounts receivable, less allowance for doubtful accounts of \$13,693 and \$12,724 respectively	380,425	370,916
Inventories (Note 7)	487,681	458,830
Deferred income taxes (Notes 2 and 12)	—	26,713
Other current assets	55,166	57,303
Total current assets	1,113,901	1,075,341
Property, plant and equipment:		
Land and buildings	350,002	353,789
Machinery and equipment	1,577,776	1,511,462
Less accumulated depreciation	(1,183,390)	(1,134,611)
Property, plant and equipment, net	744,388	730,640
Other assets:		
Assets held for sale (Note 15)	6,980	—
Goodwill (Notes 2 and 8)	301,367	298,487
Other intangible assets, less accumulated amortization of \$129,981 and \$114,093, respectively (Notes 2 and 8)	190,527	207,208
Deferred income taxes (Notes 2 and 12)	28,349	14,459
Other	29,984	36,648
Total other assets	557,207	556,802
Total assets	\$ 2,415,496	\$ 2,362,783
LIABILITIES		
Current liabilities:		
Current maturities of long-term debt and capital leases (Note 10)	\$ 190	\$ 732
Notes payable to banks (Note 11)	735	1,163
Accounts payable	215,722	182,039
Accrued income taxes	6,202	16,602
Accrued vacation pay	18,108	24,709
Accrued payroll	67,574	49,761
Other current liabilities (Note 9)	152,947	152,269
Total current liabilities	461,478	427,275
Long-term debt and capital leases, less current maturities (Note 10)	694,991	693,548
Deferred income taxes (Notes 2 and 12)	14,883	17,126
Accrued postretirement benefits (Note 13)	16,906	18,876
Accrued pension benefits (Note 13)	143,954	182,597
Accrued income taxes	2,636	3,100
Other liabilities	27,995	24,460
Total liabilities	1,362,843	1,366,982
Commitments and contingencies (Note 19)		
EQUITY		
Kennametal Shareholders' Equity:		
Preferred stock, no par value; 5,000 shares authorized; none issued	—	—
Capital stock, \$1.25 par value; 120,000 shares authorized; 80,665 and 79,694 shares issued, respectively	100,832	99,618
Additional paid-in capital	474,547	436,617
Retained earnings	765,607	780,597
Accumulated other comprehensive loss (Note 14)	(323,692)	(352,509)
Total Kennametal Shareholders' Equity	1,017,294	964,323
Noncontrolling interests	35,359	31,478
Total equity	1,052,653	995,801
Total liabilities and equity	\$ 2,415,496	\$ 2,362,783

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

CONSOLIDATED STATEMENTS OF CASH FLOW

Year ended June 30 (in thousands)	2017	2016	2015
OPERATING ACTIVITIES			
Net income (loss)	\$ 51,980	\$ (223,884)	\$ (370,961)
Adjustments for non-cash items:			
Depreciation	91,078	96,704	104,978
Amortization	16,578	20,762	26,686
Stock-based compensation expense	21,065	18,129	16,827
Restructuring and asset impairment charges (Notes 2 and 15)	1,802	118,779	548,028
Loss on divestiture (Note 4)	—	131,124	—
Deferred income tax provision	6,267	8,328	(48,575)
Other	94	(6,113)	2,098
Changes in certain assets and liabilities:			
Accounts receivable	(7,606)	32,661	46,552
Inventories	(24,300)	69,552	70,874
Accounts payable and accrued liabilities	51,418	(2,180)	(8,218)
Accrued income taxes	6,873	(25,247)	(10,163)
Accrued pension and postretirement benefits	(27,818)	(15,013)	4,863
Other	4,771	(4,280)	(31,552)
Net cash flow provided by operating activities	192,202	219,322	351,437
INVESTING ACTIVITIES			
Purchases of property, plant and equipment	(118,018)	(110,697)	(100,939)
Disposals of property, plant and equipment	5,023	5,978	16,122
Proceeds from divestiture (Note 4)	—	56,127	—
Other	247	659	263
Net cash flow used for investing activities	(112,748)	(47,933)	(84,554)
FINANCING ACTIVITIES			
Net decrease in notes payable	(317)	(6,288)	(63,647)
Net increase in short-term revolving and other lines of credit	—	—	200
Term debt borrowings	25,298	50,070	89,712
Term debt repayments	(25,899)	(94,577)	(308,736)
Purchase of capital stock	(241)	(295)	(318)
Dividend reinvestment and the effect of employee benefit and stock plans	21,455	4,519	13,844
Cash dividends paid to Shareholders	(64,128)	(63,717)	(56,979)
Other	(6,317)	(181)	(7,039)
Net cash flow used for financing activities	(50,149)	(110,469)	(332,963)
Effect of exchange rate changes on cash and cash equivalents	(255)	(4,835)	(6,355)
CASH AND CASH EQUIVALENTS			
Net increase (decrease) in cash and cash equivalents	29,050	56,085	(72,435)
Cash and cash equivalents, beginning of year	161,579	105,494	177,929
Cash and cash equivalents, end of year	\$ 190,629	\$ 161,579	\$ 105,494

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

CONSOLIDATED STATEMENTS OF SHAREHOLDERS' EQUITY

Year ended June 30 (in thousands)	2017		2016		2015	
	Shares	Amount	Shares	Amount	Shares	Amount
CAPITAL STOCK						
Balance at beginning of year	79,694	\$ 99,618	79,375	\$ 99,219	78,672	\$ 98,340
Dividend reinvestment	7	9	12	15	7	9
Capital stock issued under employee benefit and stock plans	971	1,214	319	399	703	879
Purchase of capital stock	(7)	(9)	(12)	(15)	(7)	(9)
Balance at end of year	80,665	100,832	79,694	99,618	79,375	99,219
ADDITIONAL PAID-IN CAPITAL						
Balance at beginning of year		436,617		419,829		395,890
Dividend reinvestment		235		279		311
Capital stock issued under employee benefit and stock plans		37,930		14,271		23,939
Sale of subsidiary stock to noncontrolling interests		—		2,517		—
Purchase of capital stock		(235)		(279)		(311)
Balance at end of year		474,547		436,617		419,829
RETAINED EARNINGS						
Balance at beginning of year		780,597		1,070,282		1,501,157
Net income (loss)		49,138		(225,968)		(373,896)
Cash dividends paid to Shareholders		(64,128)		(63,717)		(56,979)
Balance at end of year		765,607		780,597		1,070,282
ACCUMULATED OTHER COMPREHENSIVE (LOSS) INCOME						
Balance at beginning of year		(352,509)		(243,523)		(66,131)
Unrealized (loss) gain on derivatives designated and qualified as cash flow hedges		(471)		(150)		6,652
Reclassification of unrealized loss (gain) on expired derivatives designated and qualified as cash flow hedges		1,557		(1,563)		(2,873)
Unrecognized net pension and other postretirement benefit gain (loss)		15,559		(78,295)		(47,982)
Reclassification of net pension and other postretirement benefit loss		7,566		4,925		2,931
Foreign currency translation adjustments		4,606		(51,508)		(136,120)
Reclassification of foreign currency translation adjustment loss realized upon sale		—		15,088		—
Other comprehensive income (loss), net of tax		28,817		(111,503)		(177,392)
Sale of subsidiary stock to noncontrolling interests		—		2,517		—
Balance at end of year		(323,692)		(352,509)		(243,523)
NONCONTROLLING INTERESTS						
Balance at beginning of year		31,478		29,628		32,352
Net income		2,842		2,084		2,935
Other comprehensive income (loss), net of tax		1,282		(1,188)		(3,345)
Sale of subsidiary stock to noncontrolling interests		—		2,566		—
Cash dividends paid to noncontrolling interests		(243)		(1,612)		(2,314)
Balance at end of year		35,359		31,478		29,628
Total equity, June 30		\$ 1,052,653		\$ 995,801		\$ 1,375,435

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

NOTES TO CONSOLIDATED FINANCIAL STATEMENTS

NOTE 1 — NATURE OF OPERATIONS

Kennametal Inc. is a global leader in the development and application of tungsten carbides, ceramics, super-hard materials and solutions used in metal cutting and mission-critical wear applications to combat extreme conditions associated with wear fatigue, corrosion and high temperatures. The Company's reputation for material technology, metal cutting application knowledge, as well as expertise and innovation in the development of custom solutions and services, contributes to its leading position in its primary markets.

Our product offering includes a wide selection of standard and customized technologies for metalworking applications, such as turning, milling, hole making, tooling systems and services. End users of the Company's metalworking products include manufacturers engaged in a diverse array of industries including: the manufacturers of transportation vehicles and components, machine tools and light and heavy machinery; airframe and aerospace components; and energy-related components for the oil and gas industry, as well as power generation.

In addition, we produce specialized wear components and metallurgical powders that are used for custom-engineered and challenging applications. End users of the Company's products include producers and suppliers in equipment-intensive operations such as coal mining, road construction, quarrying, oil and gas exploration, refining, production and supply.

Unless otherwise specified, any reference to a "year" is to a fiscal year ended June 30. When used in this Annual Report on Form 10-K, unless the context requires otherwise, the terms "we," "our" and "us" refer to Kennametal Inc. and its subsidiaries.

NOTE 2 — SUMMARY OF SIGNIFICANT ACCOUNTING POLICIES

The summary of our significant accounting policies is presented below to assist in evaluating our consolidated financial statements.

PRINCIPLES OF CONSOLIDATION The consolidated financial statements include our accounts and those of our majority-owned subsidiaries. All significant intercompany balances and transactions are eliminated. Investments in entities of less than 50 percent of the voting stock over which we have significant influence are accounted for on an equity basis. The factors used to determine significant influence include, but are not limited to, our management involvement in the investee, such as hiring and setting compensation for management of the investee, the ability to make operating and capital decisions of the investee, representation on the investee's board of directors and purchase and supply agreements with the investee. Investments in entities of less than 50 percent of the voting stock in which we do not have significant influence are accounted for on the cost basis.

USE OF ESTIMATES IN THE PREPARATION OF FINANCIAL STATEMENTS In preparing our consolidated financial statements in conformity with accounting principles generally accepted in the United States of America (U.S. GAAP), we make judgments and estimates about the amounts reflected in our financial statements. As part of our financial reporting process, our management collaborates to determine the necessary information on which to base our judgments and develop estimates used to prepare the financial statements. We use historical experience and available information to make these judgments and estimates. However, different amounts could be reported using different assumptions and in light of different facts and circumstances. Therefore, actual amounts could differ from the estimates reflected in our financial statements.

CASH AND CASH EQUIVALENTS Cash investments having original maturities of three months or less are considered cash equivalents. Cash equivalents principally consist of investments in money market funds and bank deposits at June 30, 2017.

ACCOUNTS RECEIVABLE We market our products to a diverse customer base throughout the world. Trade credit is extended based upon periodically updated evaluations of each customer's ability to satisfy its obligations. We make judgments as to our ability to collect outstanding receivables and provide allowances for the portion of receivables when collection becomes doubtful. Accounts receivable reserves are determined based upon an aging of accounts and a review of specific accounts.

INVENTORIES Inventories are stated at the lower of cost or market. We use the last-in, first-out (LIFO) method for determining the cost of a significant portion of our United States (U.S.) inventories. The cost of the remainder of our inventories is measured using approximate costs determined on the first-in, first-out basis or using the average cost method. When market conditions indicate an excess of carrying costs over market value, a lower-of-cost-or-market provision is recorded. Excess and obsolete inventory reserves are established based upon our evaluation of the quantity of inventory on hand relative to demand. The excess and obsolete inventory reserve at June 30, 2017 and 2016 was \$32.1 million and \$36.7 million, respectively.

PROPERTY, PLANT AND EQUIPMENT Property, plant and equipment are carried at cost. Major improvements are capitalized, while maintenance and repairs are expensed as incurred. Retirements and disposals are removed from cost and accumulated depreciation accounts, with the gain or loss reflected in operating income. Interest related to the construction of major facilities is capitalized as part of the construction costs and is depreciated over the facilities' estimated useful lives.

Depreciation for financial reporting purposes is computed using the straight-line method over the following estimated useful lives: building and improvements over 15-40 years; machinery and equipment over 4-15 years; furniture and fixtures over 5-10 years and computer hardware and software over 3-5 years.

Leased property and equipment under capital leases are depreciated using the straight-line method over the terms of the related leases.

LONG-LIVED ASSETS We evaluate the recoverability of property, plant and equipment and intangible assets that are amortized, whenever events or changes in circumstances indicate the carrying amount of any such assets may not be fully recoverable. Changes in circumstances include technological advances, changes in our business model, capital structure, economic conditions or operating performance. Our evaluation is based upon, among other things, our assumptions about the estimated future undiscounted cash flows these assets are expected to generate. When the sum of the undiscounted cash flows is less than the carrying value of the asset or asset group, we will recognize an impairment loss to the extent that carrying value exceeds fair value. We apply our best judgment when performing these evaluations to determine if a triggering event has occurred, the undiscounted cash flows used to assess recoverability and the fair value of the asset.

GOODWILL AND OTHER INTANGIBLE ASSETS Goodwill represents the excess of cost over the fair value of the net assets of acquired companies. Goodwill and other intangible assets with indefinite lives are tested at least annually for impairment. We perform our annual impairment tests during the June quarter in connection with our annual planning process, unless there are impairment indicators based on the results of an ongoing cumulative qualitative assessment that warrant a test prior to that. We evaluate the recoverability of goodwill for each of our reporting units by comparing the fair value of each reporting unit with its carrying value. The fair values of our reporting units are determined using a combination of a discounted cash flow analysis and market multiples based upon historical and projected financial information. We apply our best judgment when assessing the reasonableness of the financial projections used to determine the fair value of each reporting unit. We evaluate the recoverability of indefinite-lived intangible assets using a discounted cash flow analysis based on projected financial information. This evaluation is sensitive to changes in market interest rates and other external factors.

Identifiable assets with finite lives are reviewed for impairment when events or circumstances indicate that the carrying value may not be recoverable.

2015 December Quarter Impairment Charge

As previously disclosed, we recorded a non-cash pre-tax impairment charge during the three months ended December 31, 2014 of \$376.5 million in the Infrastructure segment, of which \$375.0 million was for goodwill and \$1.5 million was for an indefinite-lived trademark intangible asset.

2015 March Quarter Impairment Charge

As previously disclosed, we recorded an additional non-cash pre-tax impairment charge during the three months ended March 31, 2015 of \$152.9 million in the Infrastructure reporting unit, of which \$152.5 million was for goodwill and \$0.4 million was for an indefinite-lived trademark intangible asset.

In addition, we recorded a \$6.8 million charge during the three months ended March 31, 2015 for an indefinite-lived trademark intangible asset based upon completion of the 2015 December valuation.

During 2015, an impairment charge of \$10.5 million was recorded for a contract-based technology intangible asset that was part of the Infrastructure segment, resulting in a non-cash impairment charge of \$5.5 million and a reduction in a liability of \$5.0 million.

2016 December Quarter Impairment Charge

As previously disclosed, we recorded a preliminary non-cash pre-tax impairment charge during the three months ended December 31, 2015 of \$106.1 million in the Infrastructure segment, of which \$105.7 million was for goodwill and \$0.4 million was for an indefinite-lived trademark intangible asset. We also recorded a preliminary non-cash pre-tax impairment charge during the three months ended December 31, 2015 of \$2.3 million in the Widia segment for an indefinite-lived trademark intangible asset. These impairment charges are recorded in restructuring and asset impairment charges in our consolidated statements of income.

The further acceleration or extended persistence of the current downturn in the global end markets could have a further negative impact on our business and financial performance. We cannot provide assurance that we will achieve all of the anticipated benefits from restructuring actions we have taken and expect to continue to take. If we are unable to effectively restructure our operations in the light of evolving market conditions, it could have a material adverse effect on our business, financial condition, results of operations and cash flows.

2016 Divestiture Impact on Goodwill

During 2016, we completed the sale of non-core businesses, see Note 4. As a result of this transaction, goodwill decreased by \$1.1 million and \$6.5 million in our Industrial and Infrastructure segments, respectively. These decreases are recorded in loss on divestiture in our consolidated statements of income.

2016 Divestiture Impact on Other Intangible Assets

The divestiture of non-core businesses completed during 2016 resulted in a reduction of \$30.0 million in customer-related, \$15.4 million in unpatented technology, \$5.0 million in indefinite-lived trademarks, \$1.1 million in definite-lived trademarks, \$0.8 million in technology-based and other and \$0.5 million in contract-based.

2017 Reorganization Impact on Goodwill

At the beginning of fiscal 2017, we reorganized our operating structure in a manner that changed the composition of our reporting units. The Industrial and Widia reporting units in fiscal 2017 were formed from the fiscal 2016 Industrial reporting unit. In connection with this reporting unit realignment, during the first quarter of fiscal 2017 we updated our goodwill impairment assessment based on a quantitative analysis. We allocated our goodwill from the former Industrial segment to the current Industrial and Widia segments using a relative fair value approach. We evaluated the goodwill of our reporting units immediately prior to and after the realignment and concluded in both cases that there was no impairment.

We performed our annual impairment test during the June quarter of fiscal 2017 and concluded that there was no impairment.

PENSION AND OTHER POSTRETIREMENT BENEFITS We sponsor these types of benefit plans for certain employees and retirees. Accounting for the cost of these plans requires the estimation of the cost of the benefits to be provided well into the future and attributing that cost over either the expected work life of employees or over average life of participants participating in these plans, depending on plan status and on participant population. This estimation requires our judgment about the discount rate used to determine these obligations, expected return on plan assets, rate of future compensation increases, rate of future health care costs, withdrawal and mortality rates and participant retirement age. Differences between our estimates and actual results may significantly affect the cost of our obligations under these plans.

In the valuation of our pension and other postretirement benefit liabilities, management utilizes various assumptions. Discount rates are derived by identifying a theoretical settlement portfolio of high quality corporate bonds sufficient to provide for a plan's projected benefit payments. This rate can fluctuate based on changes in the corporate bond yields.

The long-term rate of return on plan assets is estimated based on an evaluation of historical returns for each asset category held by the plans, coupled with the current and short-term mix of the investment portfolio. The historical returns are adjusted for expected future market and economic changes. This return will fluctuate based on actual market returns and other economic factors.

The rate of future health care costs is based on historical claims and enrollment information projected over the next year and adjusted for administrative charges. This rate is expected to decrease until 2027.

Future compensation rates, withdrawal rates and participant retirement age are determined based on historical information. These assumptions are not expected to significantly change. Mortality rates are determined based on a review of published mortality tables.

EARNINGS PER SHARE Basic earnings per share is computed using the weighted average number of shares outstanding during the period, while diluted earnings per share is calculated to reflect the potential dilution that occurs related to the issuance of capital stock under stock option grants, restricted stock awards and restricted stock units. The difference between basic and diluted earnings per share relates solely to the effect of capital stock options, restricted stock awards and restricted stock units.

For purposes of determining the number of diluted shares outstanding at June 30, 2017, weighted average shares outstanding for basic earnings per share calculations were increased due solely to the dilutive effect of unexercised capital stock options, unvested restricted stock awards and unvested restricted stock units by 0.8 million shares. Unexercised capital stock options, unvested restricted stock awards and restricted stock units of 1.4 million shares at June 30, 2017 were not included in the computation of diluted earnings per share because the option exercise price was greater than the average market price, and therefore the inclusion would have been anti-dilutive. In 2016 and 2015, the effect of unexercised capital stock options and unvested restricted stock units was anti-dilutive as a result of a net loss in the periods and therefore has been excluded from diluted shares outstanding as well as from the diluted earnings per share calculation.

REVENUE RECOGNITION We recognize revenue for our products and assembled machines when title and all risks of loss and damages pass to the buyer. Our general conditions of sale explicitly state that the delivery of our products and assembled machines is freight on board shipping point and that title and all risks of loss and damage pass to the buyer upon delivery of the sold products or assembled machines to the common carrier.

Our general conditions of sale explicitly state that acceptance of the conditions of shipment are considered to have occurred unless written notice of objection is received by Kennametal within 10 calendar days of the date specified on the invoice. We do not ship products or assembled machines unless we have documentation from our customers authorizing shipment. Our products are consumed by our customers in the manufacture of their products. Historically, we have experienced very low levels of returned products and assembled machines and do not consider the effect of returned products and assembled machines to be material. We have recorded an estimated returned goods allowance to provide for any potential returns.

We warrant that products and services sold are free from defects in material and workmanship under normal use and service when correctly installed, used and maintained. This warranty terminates 30 days after delivery of the product to the customer and does not apply to products that have been subjected to misuse, abuse, neglect or improper storage, handling or maintenance. Products may be returned to Kennametal, only after inspection and approval by Kennametal and upon receipt by the customer of shipping instructions from Kennametal. We have included an estimated allowance for warranty returns in our returned goods allowance.

We recognize revenue related to the sale of specialized assembled machines upon customer acceptance and installation, as installation is deemed essential to the functionality of a specialized assembled machine. Sales of specialized assembled machines were immaterial for 2017, 2016 and 2015.

STOCK-BASED COMPENSATION We recognize stock-based compensation expense for all stock options, restricted stock awards and restricted stock units over the period from the date of grant to the date when the award is no longer contingent on the employee providing additional service (substantive vesting period). We utilize the Black-Scholes valuation method to establish the fair value of all stock option awards. Time vesting stock units are valued at the market value of the stock on the grant date. Performance vesting stock units with a market condition are valued using a Monte Carlo model.

Capital stock options are granted to eligible employees at fair market value at the date of grant. Capital stock options are exercisable under specified conditions for up to 10 years from the date of grant. The Kennametal Inc. Stock and Incentive Plan of 2010, as Amended and Restated on October 22, 2013, and as further amended January 27, 2015 (A/R 2010 Plan) and the Kennametal Inc. 2016 Stock and Incentive Plan (2016 Plan) authorize the issuance of up to 9,500,000 shares of the Company's capital stock plus any shares remaining unissued under the Kennametal Inc. Stock and Incentive Plan of 2002, as amended (2002 Plan). Under the provisions of the A/R 2010 Plan and 2016 Plan participants may deliver stock, owned by the holder for at least six months, in payment of the option price and receive credit for the fair market value of the shares on the date of delivery. The fair market value of shares delivered during 2017, 2016 and 2015 was immaterial. In addition to stock option grants, the A/R 2010 Plan and the 2016 Plan permit the award of stock appreciation rights, performance share awards, performance unit awards, restricted stock awards, restricted unit awards and share awards to directors, officers and key employees.

RESEARCH AND DEVELOPMENT COSTS Research and development costs of \$38.0 million, \$39.4 million and \$45.1 million in 2017, 2016 and 2015, respectively, were expensed as incurred. These costs are included in operating expense in the consolidated statements of income.

SHIPPING AND HANDLING FEES AND COSTS All fees billed to customers for shipping and handling are classified as a component of sales. All costs associated with shipping and handling are classified as a component of cost of goods sold.

INCOME TAXES Deferred income taxes are recognized based on the future income tax effects (using enacted tax laws and rates) of differences in the carrying amounts of assets and liabilities for financial reporting and tax purposes. A valuation allowance is recognized if it is "more likely than not" that some or all of a deferred tax asset will not be realized.

DERIVATIVE INSTRUMENTS AND HEDGING ACTIVITIES As part of our financial risk management program, we use certain derivative financial instruments. We do not enter into derivative transactions for speculative purposes and, therefore, hold no derivative instruments for trading purposes. We use derivative financial instruments to provide predictability to the effects of changes in foreign exchange rates on our consolidated results, achieve our targeted mix of fixed and floating interest rates on our outstanding debt. Our objective in managing foreign exchange exposures with derivative instruments is to reduce volatility in cash flow, allowing us to focus more of our attention on business operations. With respect to interest rate management, these derivative instruments allow us to achieve our targeted fixed-to-floating interest rate mix, as a separate decision from funding arrangements, in the bank and public debt markets.

We account for derivative instruments as a hedge of the related asset, liability, firm commitment or anticipated transaction, when the derivative is specifically designated as a hedge of such items. We measure hedge effectiveness by assessing the changes in the fair value or expected future cash flows of the hedged item. The ineffective portions are recorded in other expense (income), net. Certain currency forward contracts hedging significant cross-border intercompany loans are considered other derivatives and, therefore, do not qualify for hedge accounting. These contracts are recorded at fair value in the balance sheet, with the offset to other expense (income), net.

CASH FLOW HEDGES *Currency* Forward contracts and range forward contracts (a transaction where both a put option is purchased and a call option is sold) are designated as cash flow hedges and hedge anticipated cash flows from cross-border intercompany sales of products and services. Gains and losses realized on these contracts are recorded in accumulated other comprehensive (loss) income, and are recognized as a component of other expense (income), net when the underlying sale of products or services is recognized into earnings.

Interest Rate Floating-to-fixed interest rate swap contracts, designated as cash flow hedges, are entered into from time to time to hedge our exposure to interest rate changes on a portion of our floating rate debt. These interest rate swap contracts convert a portion of our floating rate debt to fixed rate debt. We record the fair value of these contracts as an asset or a liability, as applicable, in the balance sheet, with the offset to accumulated other comprehensive (loss) income.

FAIR VALUE HEDGES *Interest Rate* Fixed-to-floating interest rate swap contracts, designated as fair value hedges, are entered into from time to time to hedge our exposure to fair value fluctuations on a portion of our fixed rate debt. These interest rate swap contracts convert a portion of our fixed rate debt to floating rate debt. When in place, these contracts require periodic settlement, and the difference between amounts to be received and paid under the contracts is recognized in interest expense.

NET INVESTMENT HEDGES We designate financial instruments as net investment hedges from time to time to hedge the foreign exchange exposure of our net investment in foreign currency-based subsidiaries. The remeasurements of these non-derivatives designated as net investment hedges are calculated each period with changes reported in foreign currency translation adjustment within accumulated other comprehensive loss. Such amounts will remain in accumulated other comprehensive loss unless we complete or substantially complete liquidation or disposal of our investment in the underlying foreign operations.

CURRENCY TRANSLATION Assets and liabilities of international operations are translated into U.S. dollars using year-end exchange rates, while revenues and expenses are translated at average exchange rates throughout the year. The resulting net translation adjustments are recorded as a component of accumulated other comprehensive (loss) income. The local currency is the functional currency of most of our locations. A loss of \$6.7 million and gains of \$1.6 million and \$1.7 million from currency transactions were included in other expense (income), net in 2017, 2016 and 2015, respectively.

NEW ACCOUNTING STANDARDS

Adopted

In January 2017, the Financial Accounting Standards Board (FASB) issued guidance to simplify the test for goodwill impairment by removing step two of the test. Step two measures a goodwill impairment loss by comparing the implied fair value of a reporting unit's goodwill with the carrying amount of that goodwill. The new guidance requires an entity to perform its goodwill impairment test by comparing the fair value of a reporting unit with its carrying amount, including goodwill. This standard is effective for Kennametal beginning July 1, 2020; however, early adoption is permitted for goodwill impairment tests performed on testing dates after January 1, 2017. The Company has chosen to early adopt this guidance effective with the annual goodwill impairment test for 2017. The adoption did not have a material impact on our consolidated financial position, results of operations and cash flows.

In November 2015, the FASB issued guidance on balance sheet classification of deferred taxes. The amendments in this guidance require that deferred tax liabilities and assets be classified as noncurrent in a classified statement of financial position, in comparison to the previous practice of separating deferred income tax liabilities and assets into current and noncurrent amounts on the balance sheet. We adopted this guidance July 1, 2016 on a prospective basis. Therefore, prior period balance sheets were not retrospectively adjusted. Current deferred tax assets of \$26.7 million and current deferred tax liabilities of \$0.6 million are reported in the June 30, 2016 balance sheet.

In May 2015, the FASB issued guidance on disclosures for investments measured using the net asset value per share practical expedient. The guidance 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 practical expedient. This guidance was effective for Kennametal for 2017 and was applied retrospectively. See Note 13 in our consolidated financial statements set forth in Item 8 (Note 13).

In April 2015, the FASB issued guidance on the presentation of debt issuance costs. The guidance requires that debt issuance costs related to a recognized debt liability be presented in the balance sheet as a direct reduction from the carrying amount of that debt liability, consistent with debt discounts. This guidance was effective for Kennametal beginning July 1, 2016 and was retrospectively applied to all periods presented. Debt issuance costs of \$4.7 million and \$6.0 million are reported as direct reductions of the carrying amounts of debt liabilities in the balance sheet as of June 30, 2017 and 2016, respectively.

In April 2015, the FASB issued guidance on accounting for fees paid in a cloud computing arrangement. The amendments in this update provide guidance to customers about treatment of costs as either capitalized and amortized as an intangible asset or expensed as incurred as a service contract. The amendments provide clarification that costs in arrangements that include software license should be capitalized and amortized, and costs in arrangements that do not include a software license should be expensed as incurred. This standard was effective for Kennametal beginning July 1, 2016 and was applied prospectively. The adoption of this guidance did not have a material impact on our condensed consolidated financial position, results of operations and cash flows.

Issued

In May 2017, the FASB issued guidance which clarifies when to account for a change to the terms or conditions of a share-based payment award as a modification. Under the new guidance, modification accounting is required only if the fair value, the vesting conditions, or the classification of the award (as equity or liability) changes as a result of the change in terms or conditions. This guidance is effective for Kennametal beginning July 1, 2018. We are in the process of assessing the impact the adoption of this guidance will have on our condensed consolidated financial statements.

In March 2017, the FASB issued guidance on the presentation of net periodic pension cost and net periodic postretirement benefit cost. The guidance requires that an employer report the service cost component in the same line item or items as other compensation costs arising from services rendered by the pertinent employees during the period. The other components of net benefit cost are required to be presented in the income statement separately from the service cost component and outside a subtotal of income from operations. This guidance is effective for Kennametal beginning July 1, 2018. We are in the process of assessing the impact the adoption of this guidance will have on our condensed consolidated financial statements.

In October 2016, the FASB issued guidance on the accounting for income tax consequences of intra-entity transfers of assets other than inventory. The guidance clarifies that an entity should recognize the income tax consequences of an intra-entity transfer of an asset other than inventory when the transfer occurs. This guidance is effective for Kennametal beginning July 1, 2018. We are in the process of assessing the impact the adoption of this guidance will have on our condensed consolidated financial statements.

In August 2016, the FASB issued guidance on classification of certain cash receipts and cash payments in the statement of cash flow. The guidance addresses eight specific cash flow issues with the objective of reducing the existing diversity in practice. This guidance is effective for Kennametal beginning July 1, 2018. We are in the process of assessing the impact the adoption of this guidance will have on our condensed consolidated financial statements.

In June 2016, the FASB issued guidance on measurement of credit losses on financial instruments. The new guidance introduces an approach based on expected losses to estimate credit losses on certain types of financial instruments. It also modifies the impairment model for available-for-sale debt securities and provides for a simplified accounting model for purchased financial assets with credit deterioration since their origination. The scope of this amendment includes valuation of trade receivables. This standard is effective for Kennametal beginning July 1, 2020. We are in the process of assessing the impact the adoption of this guidance will have on our consolidated financial statements.

In May 2016, the FASB issued guidance on narrow scope improvements and practical expedients as part of Topic 606: Revenue from Contracts with Customers. The amendments address collectability criterion and accounting for contracts that do not meet the criteria, presentation of sales taxes and other similar taxes collected from customers, noncash consideration, contract modifications at transition and completed contracts at transition, in addition to a technical correction. This standard is effective for Kennametal beginning July 1, 2018, in conjunction with the adoption of Accounting Standards Update 2014-09, "Revenue from Contracts with Customers: Topic 606." We are in the process of assessing the impact the adoption of this guidance will have on our consolidated financial statements.

In April 2016, the FASB issued guidance on identifying performance obligations and licensing as part of Topic 606: Revenue from Contracts with Customers. The amendments in this update clarify identifying performance obligations and the licensing implementation guidance, while retaining the related principles for those areas. This standard is effective for Kennametal beginning July 1, 2018, in conjunction with the adoption of Accounting Standards Update 2014-09, "Revenue from Contracts with Customers: Topic 606." We are in the process of assessing the impact the adoption of this guidance will have on our consolidated financial statements.

In March 2016, the FASB issued guidance intended to simplify equity-based award accounting and presentation. The guidance impacts income tax accounting related to equity-based awards, the classification of awards as either equity or liabilities, and the classification on the statement of cash flows. We will adopt the standard effective July 1, 2017. The increase to deferred tax assets of \$1.4 million related to cumulative excess tax benefits previously unrecognized will be offset by valuation allowance, due to the valuation allowance position of our U.S. entity. We will also reclassify excess tax benefits on the statement of cash flows from financing activities to operating activities, and employee taxes paid when Kennametal withholds shares for tax withholding purposes from operating activities to financing activities, on the consolidated statement of cash flows. See Note 12.

In March 2016, the FASB issued guidance on principal versus agent considerations in reporting revenue gross versus net. This guidance is intended to improve the operability and understandability of the implementation guidance on principal versus agent considerations. As this update serves to clarify existing guidance, it is not expected to have a material impact on our consolidated financial statements.

In February 2016, the FASB issued guidance on lease accounting, which replaces the existing guidance in ASC 840, Leases. The standard establishes a right-of-use (ROU) model that requires a lessee to record a ROU asset and a lease liability on the balance sheet for all leases with terms longer than 12 months. Leases will be classified as either finance or operating, with classification affecting the pattern of expense recognition in the income statement. This standard is effective for Kennametal beginning July 1, 2019. We are in the process of assessing the impact the adoption of this guidance will have on our consolidated financial statements.

In August 2015, the FASB issued guidance that defers the effective date of previously issued ASU 2014-09, "Revenue from Contracts with Customers: Topic 606." Under this guidance, the effective date for Kennametal was deferred from July 1, 2017 to July 1, 2018. We are in the process of assessing the impact the adoption of this ASU will have on our consolidated financial statements.

In July 2015, the FASB issued guidance on subsequent measurement of inventory. The amendments in this update require that inventory other than LIFO be subsequently measured at the lower of cost and net realizable value, as opposed to the current practice of lower of cost or market. Subsequent measurement is unchanged for inventory measured using LIFO. This standard is effective for Kennametal beginning July 1, 2017. We do not expect this guidance to have a material impact on our consolidated financial statements.

In May 2014, the FASB issued ASU 2014-09, "Revenue from Contracts with Customers: Topic 606." This ASU replaces nearly all existing U.S. GAAP guidance on revenue recognition. The standard prescribes a five-step model for recognizing revenue, the application of which will require significant judgment. This standard is effective for Kennametal July 1, 2018. Currently, we are analyzing the standard's impact on our customer arrangements and evaluating the new standard against our historical accounting policies and practices, including the timing of revenue recognition. In particular, we are assessing the identification of performance obligations and the impact of variable consideration on the transaction price determination. We have not determined the complete impact of adoption on our condensed consolidated financial statements.

NOTE 3 — SUPPLEMENTAL CASH FLOW DISCLOSURES

Year ended June 30 (in thousands)	2017	2016	2015
Cash paid during the period for:			
Interest	\$ 27,529	\$ 26,250	\$ 30,984
Income taxes	16,755	43,733	40,295
Supplemental disclosure of non-cash information:			
Changes in accounts payable related to purchases of property, plant and equipment	(3,900)	1,000	(9,900)

NOTE 4 — DIVESTITURE

In 2016, Kennametal completed the transaction to sell all of the outstanding capital stock of: Kennametal Extrude Hone LLC and its wholly owned subsidiaries, Kennametal Stellite S.r.l. (Bellusco, Italy), Kennametal Stellite S.p.A. (Milan, Italy), Kennametal Stellite GmbH (Koblenz, Germany); and all of the assets of the businesses of: Tricon (manufacturing operations in Birmingham, Alabama; Chicago, Illinois; and Elko, Nevada), Landis (manufacturing operation in Waynesboro, Pennsylvania); and all of the assets located at the Biel, Switzerland manufacturing facility ("non-core businesses") to Madison Industries for an aggregate price of \$56.1 million cash, net of cash. A portion of the transaction proceeds were used to pay down revolver debt and the remaining balance is being held as cash on hand.

The net book value of these non-core businesses was \$191.9 million. The pre-tax net loss on divestiture recognized in 2016 was \$131.5 million, of which \$127.9 million and \$3.6 million were recorded in the Infrastructure and Industrial segments, respectively. The pre-tax income attributable to the non-core businesses was assessed and determined to be immaterial for disclosure for the periods presented.

NOTE 5 — FAIR VALUE MEASUREMENTS

Fair value is defined as the price that would be received to sell an asset or paid to transfer a liability in an orderly transaction between market participants at the measurement date. The fair value hierarchy consists of three levels to prioritize the inputs used in valuations, as defined below:

Level 1: Unadjusted quoted prices in active markets that are accessible at the measurement date for identical, unrestricted assets or liabilities.

Level 2: Inputs other than quoted prices included within Level 1 that are observable for the asset or liability, either directly or indirectly, including quoted prices for similar assets or liabilities in active markets; quoted prices for identical or similar assets or liabilities in markets that are not active; inputs other than quoted prices that are observable for the asset or liability (e.g., interest rates); and inputs that are derived principally from or corroborated by observable market data by correlation or other means.

Level 3: Inputs that are unobservable.

As of June 30, 2017, the fair values of the Company's financial assets and financial liabilities measured at fair value on a recurring basis are categorized as follows:

(in thousands)	Level 1	Level 2	Level 3	Total
Assets:				
Derivatives ⁽¹⁾	\$ —	\$ 359	\$ —	\$ 359
Total assets at fair value	\$ —	\$ 359	\$ —	\$ 359
Liabilities:				
Derivatives ⁽¹⁾	\$ —	\$ 910	\$ —	\$ 910
Total liabilities at fair value	\$ —	\$ 910	\$ —	\$ 910

As of June 30, 2016, the fair value of the Company's financial assets and financial liabilities measured at fair value on a recurring basis are categorized as follows:

(in thousands)	Level 1	Level 2	Level 3	Total
Assets:				
Derivatives ⁽¹⁾	\$ —	\$ 334	\$ —	\$ 334
Total assets at fair value	\$ —	\$ 334	\$ —	\$ 334
Liabilities:				
Derivatives ⁽¹⁾	\$ —	\$ 763	\$ —	\$ 763
Contingent consideration	—	—	6,600	6,600
Total liabilities at fair value	\$ —	\$ 763	\$ 6,600	\$ 7,363

⁽¹⁾ Currency derivatives are valued based on observable market spot and forward rates and are classified within Level 2 of the fair value hierarchy.

There have been no changes in classification and transfers between levels in the fair value hierarchy in the current period. The fair value of contingent consideration payable that was classified as Level 3 at June 30, 2016 related to our probability assessments of expected future milestone targets, primarily associated with product delivery, for a previous acquisition. During 2017, the Company paid the remaining \$6.6 million in conjunction with achieved milestone targets. The payment is recorded in the financing activities section of our condensed consolidated statement of cash flow for 2017 under the caption "other." The contingent consideration was recorded in other current liabilities in our condensed consolidated balance sheet at June 30, 2016. No other changes in the expected outcome have occurred during 2017.

NOTE 6 — DERIVATIVE INSTRUMENTS AND HEDGING ACTIVITIES

As part of our financial risk management program, we use certain derivative financial instruments. See Note 2 for discussion on our derivative instruments and hedging activities policy.

The fair value of derivatives designated and not designated as hedging instruments in the consolidated balance sheet are as follows:

(in thousands)	2017	2016
Derivatives designated as hedging instruments		
Other current assets - range forward contracts	\$ 1	\$ 323
Other current liabilities - range forward contracts	(671)	—
Other liabilities - range forward contracts	(101)	—
Total derivatives designated as hedging instruments	(771)	323
Derivatives not designated as hedging instruments		
Other current assets - currency forward contracts	358	11
Other current liabilities - currency forward contracts	(138)	(763)
Total derivatives not designated as hedging instruments	220	(752)
Total derivatives	\$ (551)	\$ (429)

Certain currency forward contracts that hedge significant cross-border intercompany loans are considered as other derivatives and therefore do not qualify for hedge accounting. These contracts are recorded at fair value in the consolidated balance sheet, with the offset to other expense (income), net. Gains related to derivatives not designated as hedging instruments have been recognized as follows:

(in thousands)	2017	2016	2015
Other expense (income), net - currency forward contracts	\$ (873)	\$ 719	\$ (1,026)

FAIR VALUE HEDGES

Fixed-to-floating interest rate swap contracts, designated as fair value hedges, are entered into from time to time to hedge our exposure to fair value fluctuations on a portion of our fixed rate debt. We had no such contracts outstanding at June 30, 2017 and June 30, 2016.

CASH FLOW HEDGES

Currency forward contracts and range forward contracts (a transaction where both a put option is purchased and a call option is sold) are designated as cash flow hedges and hedge anticipated cash flows from cross-border intercompany sales of products and services. Gains and losses realized on these contracts are recorded in accumulated other comprehensive (loss) income, and are recognized as a component of other expense (income), net when the underlying sale of products or services is recognized into earnings. The notional amount of the contracts translated into U.S. dollars at June 30, 2017 and 2016 was \$75.3 million and \$53.3 million, respectively. The time value component of the fair value of range forward contracts is excluded from the assessment of hedge effectiveness. Assuming the market rates remain constant with the rates at June 30, 2017, we expect to recognize into earnings in the next 12 months \$1.1 million of losses on outstanding derivatives.

Floating-to-fixed interest rate swap contracts, designated as cash flow hedges, are entered into from time to time to hedge our exposure to interest rate changes on a portion of our floating rate debt. These interest rate swap contracts convert a portion of our floating rate debt to fixed rate debt. We record the fair value of these contracts as an asset or a liability, as applicable, in the balance sheet, with the offset to accumulated other comprehensive (loss) income, net of tax. We had no such contracts outstanding at June 30, 2017 or 2016, respectively.

The following represents gains and losses related to cash flow hedges:

(in thousands)	2017	2016	2015
(Losses) gains recognized in other comprehensive loss (income), net	\$ (471)	\$ (297)	\$ 6,651
Losses (gains) reclassified from accumulated other comprehensive loss into other expense (income), net	\$ 1,557	\$ 381	\$ (250)

No portion of the gains or losses recognized in earnings was due to ineffectiveness and no amounts were excluded from our effectiveness testing for the years ended June 30, 2017, 2016 and 2015.

NET INVESTMENT HEDGES

As of June 30, 2017, we had certain foreign currency-denominated intercompany loans payable with total aggregate principal amounts of €33.0 million designated as net investment hedges to hedge the foreign exchange exposure of our net investment in Euro-based subsidiaries. A loss of \$4.5 million was recorded as a component of foreign currency translation adjustments in other comprehensive income (loss) during 2017. We did not have net investment hedges during 2016 and 2015.

As of June 30, 2017, the foreign currency-denominated intercompany loans payable designated as net investment hedges consisted of:

Instrument	Notional (EUR in thousands) ⁽²⁾	Notional (USD in thousands) ⁽²⁾	Maturity
Foreign currency-denominated intercompany loan payable	€ 26,526	\$ 30,273	June 26, 2022
Foreign currency-denominated intercompany loan payable	8,632	9,851	November 20, 2018
Foreign currency-denominated intercompany loan payable	2,036	2,324	October 11, 2017

⁽²⁾ Includes principal and accrued interest.

NOTE 7 — INVENTORIES

Inventories consisted of the following at June 30:

(in thousands)	2017	2016
Finished goods	\$ 290,817	\$ 284,054
Work in process and powder blends	166,857	166,274
Raw materials	87,627	68,472
Inventories at current cost	545,301	518,800
Less: LIFO valuation	(57,620)	(59,970)
Total inventories	\$ 487,681	\$ 458,830

We used the LIFO method of valuing inventories for approximately 43 percent and 44 percent of total inventories at June 30, 2017 and 2016, respectively.

NOTE 8 — GOODWILL AND OTHER INTANGIBLE ASSETS

A summary of the carrying amount of goodwill attributable to each segment, as well as the changes in such, is as follows:

(in thousands)	Industrial	Widia	Infrastructure	Total
Gross goodwill	\$ 414,298	\$ 41,073	\$ 640,360	\$ 1,095,731
Accumulated impairment losses	(137,204)	(13,638)	(527,500)	(678,342)
Balance as of June 30, 2015	\$ 277,094	\$ 27,435	\$ 112,860	\$ 417,389
Activity for 2016:				
Divestiture	(1,075)	—	(6,461)	(7,536)
Translation	(4,518)	(449)	(688)	(5,655)
Change in gross goodwill	(5,593)	(449)	(7,149)	(13,191)
Impairment charges	—	—	(105,711)	—
Gross goodwill	408,705	40,624	633,211	1,082,540
Accumulated impairment losses	(137,204)	(13,638)	(633,211)	(784,053)
Balance as of June 30, 2016	\$ 271,501	\$ 26,986	\$ —	\$ 298,487
Activity for 2017:				
Change in gross goodwill due to translation	1,989	891	—	2,880
Gross goodwill	410,694	41,515	633,211	1,085,420
Accumulated impairment losses	(137,204)	(13,638)	(633,211)	(784,053)
Balance as of June 30, 2017	\$ 273,490	\$ 27,877	\$ —	\$ 301,367

The components of our other intangible assets were as follows:

(in thousands)	Estimated Useful Life (in years)	June 30, 2017		June 30, 2016	
		Gross Carrying Amount	Accumulated Amortization	Gross Carrying Amount	Accumulated Amortization
Contract-based	3 to 15	\$ 7,064	\$ (7,014)	\$ 7,152	\$ (6,886)
Technology-based and other	4 to 20	46,461	(29,061)	47,323	(27,011)
Customer-related	10 to 21	205,502	(74,669)	205,471	(66,938)
Unpatented technology	10 to 30	31,754	(10,589)	31,837	(4,614)
Trademarks	5 to 20	12,401	(8,648)	12,668	(8,644)
Trademarks	Indefinite	17,326	—	16,850	—
Total		\$ 320,508	\$ (129,981)	\$ 321,301	\$ (114,093)

Amortization expense for intangible assets was \$16.6 million, \$20.8 million and \$26.7 million for 2017, 2016 and 2015, respectively. Estimated amortization expense for 2018 through 2022 is \$14.5 million, \$14.1 million, \$13.8 million, \$13.5 million, and \$13.1 million, respectively.

NOTE 9 — OTHER CURRENT LIABILITIES

Other current liabilities consisted of the following at June 30:

(in thousands)	2017	2016
Accrued employee benefits	\$ 39,478	\$ 33,754
Accrued restructuring (Note 15)	27,294	15,703
Payroll, state and local taxes	9,943	12,983
Accrued legal and professional fees	10,741	12,112
Accrued interest	7,048	7,079
Other	58,443	70,638
Total other current liabilities	\$ 152,947	\$ 152,269

NOTE 10 — LONG-TERM DEBT AND CAPITAL LEASES

Long-term debt and capital lease obligations consisted of the following at June 30:

(in thousands)	2017	2016
2.65% Senior Unsecured Notes due 2019 net of discount of \$0.2 million for 2017 and \$0.3 million for 2016	\$ 399,823	\$ 399,748
3.875% Senior Unsecured Notes due 2022 net of discount of \$0.2 million for 2017 and 2016	299,831	299,794
Capital leases with terms expiring through 2018 at 3.9% in 2017 and 2016	190	748
Total debt and capital leases	699,844	700,290
Less unamortized debt issuance costs	(4,663)	(6,010)
Less current maturities of capital leases	(190)	(732)
Total long-term debt	\$ 694,991	\$ 693,548

Senior Unsecured Notes On November 7, 2012, we issued \$400.0 million of 2.65 percent Senior Unsecured Notes due in 2019. Interest is paid semi-annually on May 1 and November 1 of each year. We used the net proceeds from this notes offering to repay outstanding indebtedness under our credit facility and for general corporate purposes. On February 14, 2012, we issued \$300 million of 3.875 percent Senior Unsecured Notes due in 2022. Interest is paid semi-annually on February 15 and August 15 of each year.

Credit Agreement The five-year, multi-currency, revolving credit facility, as amended and restated in April 2016 (Credit Agreement) permits revolving credit loans of up to \$600 million for working capital, capital expenditures and general corporate purposes. The Credit Agreement matures in April 2021 and allows for borrowings in U.S. dollars, euro, Canadian dollars, pound sterling and Japanese yen. Interest payable under the Credit Agreement is based upon the type of borrowing under the facility and may be (1) LIBOR plus an applicable margin, (2) the greater of the prime rate or the Federal Funds effective rate plus an applicable margin, or (3) fixed as negotiated by us.

The Credit Agreement requires us to comply with various restrictive and affirmative covenants, including two financial covenants: a maximum leverage ratio and a minimum consolidated interest coverage ratio (as those terms are defined in the agreement). We were in compliance with all covenants as of June 30, 2017. We had no borrowings outstanding under the Credit Agreement as of June 30, 2017 and 2016. Borrowings under the Credit Agreement are guaranteed by our significant domestic subsidiaries.

Future principal maturities of long-term debt are \$400 million in 2020 and \$300 million in 2022.

Future minimum lease payments under capital leases for the next five years and thereafter in total are as follows:

(in thousands)	
2018	\$ 199
2019	—
2020	—
2021	—
2022	—
After 2022	—
Total future minimum lease payments	199
Less amount representing interest	(9)
Amount recognized as capital lease obligations	\$ 190

At June 30, 2017 and 2016 our collateralized debt consisted of capitalized lease obligations of \$0.2 million and \$0.7 million, respectively. The underlying assets collateralize these obligations.

NOTE 11 — NOTES PAYABLE AND LINES OF CREDIT

Notes payable to banks of \$0.7 million and \$1.2 million at June 30, 2017 and 2016, respectively, represents short-term borrowings under credit lines with commercial banks. These credit lines, translated into U.S. dollars at June 30, 2017 exchange rates, totaled \$152.3 million at June 30, 2017, of which \$151.6 million was unused. The weighted average interest rate for notes payable and lines of credit was 13.8 percent and 9.0 percent at June 30, 2017 and 2016, respectively.

NOTE 12 — INCOME TAXES

Income (loss) before income taxes consisted of the following for the years ended June 30:

(in thousands)	2017	2016	2015
Income (loss) before income taxes:			
United States	\$ (23,055)	\$ (228,667)	\$ (323,299)
International	104,930	30,096	(64,316)
Total income (loss) before income taxes	\$ 81,875	\$ (198,571)	\$ (387,615)
Current income taxes:			
Federal	\$ (1,455)	\$ (15,039)	\$ (9,328)
State	172	454	816
International	24,911	31,570	40,433
Total current income taxes	23,628	16,985	31,921
Deferred income taxes:			
Federal	\$ 298	\$ 6,786	\$ (38,943)
State	(867)	8,407	(8,680)
International	6,836	(6,865)	(952)
Total deferred income taxes:	6,267	8,328	(48,575)
Provision (benefit) for income taxes	\$ 29,895	\$ 25,313	\$ (16,654)
Effective tax rate	36.5%	(12.7)%	4.3%

The reconciliation of income taxes computed using the statutory U.S. income tax rate and the provision for income taxes was as follows for the years ended June 30:

(in thousands)	2017	2016	2015
Income taxes at U.S. statutory rate	\$ 28,656	\$ (69,500)	\$ (135,665)
State income taxes, net of federal tax benefits	(306)	859	(1,748)
U.S. income taxes provided on international income	10,273	2,364	3,679
Combined tax effects of international income	(11,530)	(25,469)	(21,560)
Impact of goodwill impairment charges	—	6,439	134,657
Impact of divestiture	—	27,790	—
Change in valuation allowance and other uncertain tax positions	5,163	84,530	1,530
Impact of domestic production activities deduction	—	(2,072)	—
Research and development credit	(1,895)	(4,351)	(3,087)
Change in permanent reinvestment assertion	—	3,659	2,945
Other	(466)	1,064	2,595
Provision (benefit) for income taxes	\$ 29,895	\$ 25,313	\$ (16,654)

During 2017, we recorded a valuation allowance against the net deferred tax assets of our Australian subsidiary. The impact of the valuation allowance was approximately \$1.3 million and is included in the tax reconciliation table under the caption "change in valuation allowance and other uncertain tax positions."

During 2016, we recorded a valuation allowance against our net domestic deferred tax assets of \$105.9 million, as discussed below. Of this amount, \$81.2 million impacted the effective tax rate and is included in the income tax reconciliation table under the caption "change in valuation allowance and other uncertain tax positions," and \$24.7 million was recorded in other comprehensive income.

During 2016 and 2015, we recorded goodwill impairment charges related to our Infrastructure segment. There was no tax benefit for a portion of charges in 2016. There was no tax benefit for a majority of charges in 2015. The federal effect of these permanent differences is included in the income tax reconciliation table under the caption "impact of goodwill impairment charges."

During 2016, we divested certain non-core businesses as described in Note 4. A portion of the loss from this divestiture was not deductible for tax purposes. The Federal effect of this permanent difference is included in the income tax reconciliation table under the caption "impact of divestiture."

During 2016 we recorded an adjustment of \$3.7 million related to a change in assertion of certain foreign subsidiaries' undistributed earnings primarily related to the transaction described in Note 4, which are no longer considered permanently reinvested. The effect of this charge is included in the income tax reconciliation table under the caption "change in permanent reinvestment assertion."

During 2015, we recorded an adjustment of \$2.9 million related to a change in assertion of certain foreign subsidiaries' undistributed earnings, which are no longer considered permanently reinvested. The effect of this charge is included in the income tax reconciliation table under the caption "change in permanent reinvestment assertion."

The components of net deferred tax assets and (liabilities) were as follows at June 30:

(in thousands)	2017	2016
Deferred tax assets:		
Net operating loss (NOL) carryforwards	\$ 85,659	\$ 77,198
Inventory valuation and reserves	20,428	18,865
Pension benefits	24,824	42,432
Other postretirement benefits	5,959	7,111
Accrued employee benefits	11,234	17,069
Other accrued liabilities	8,609	9,229
Hedging activities	5,409	5,507
Tax credits and other carryforwards	41,039	30,733
Intangible assets	14,947	21,575
Total	218,108	229,719
Valuation allowance	(116,770)	(122,699)
Total deferred tax assets	\$ 101,338	\$ 107,020
Deferred tax liabilities:		
Tax depreciation in excess of book	\$ 83,258	\$ 83,412
Other	4,614	149
Total deferred tax liabilities	\$ 87,872	\$ 83,561
Total net deferred tax assets	\$ 13,466	\$ 23,459

Valuation allowances are recorded to reduce deferred tax assets when it is more likely than not (greater than 50%) that a tax benefit will not be realized. In evaluating the need for a valuation allowance, we consider all potential sources of taxable income, including income available in carryback periods, future reversals of taxable temporary differences, projections of taxable income, and income from tax planning strategies, as well as all available positive and negative evidence. Positive evidence includes factors such as a history of profitable operations, and projections of future profitability within the carry forward period, including taxable income from tax planning strategies. Negative evidence includes items such as cumulative losses, projections of future losses, or carryforward periods that are not long enough to allow for the utilization of the deferred tax asset based on existing projections of income. Upon changes in facts and circumstances, we may conclude that deferred tax assets for which no valuation allowance is currently recorded may not be realized, resulting in a future charge to establish a valuation allowance. Existing valuation allowances are re-examined under the same standards of positive and negative evidence. If it is determined that it is more likely than not that a deferred tax asset will be realized, the appropriate amount of the valuation allowance, if any, is released.

During 2017, we recorded a valuation allowance of \$1.3 million against the net deferred tax assets of our Australian subsidiary.

In 2016, we recorded a valuation allowance of \$105.9 million against our net deferred tax assets in the U.S. Of this amount, \$81.2 million was recorded in the provision for income taxes and \$24.7 million was recorded in other comprehensive income. After weighing all available positive and negative evidence, as previously described, we determined that it was no longer more likely than not that we will realize the tax benefit of these deferred tax assets. This was driven by cumulative pre-tax domestic losses from charges related to asset impairment, restructuring and loss on divestiture, as well as an overall decrease in demand in U.S. operations.

Included in deferred tax assets at June 30, 2017 is \$41.0 million associated with tax credits and other carryforward items primarily in federal and state jurisdictions. Of that amount, \$1.4 million expires through 2022, \$31.1 million expires through 2027, \$0.6 million expires through 2032, \$7.7 million expires through 2037 and the remaining \$0.2 million does not expire.

Included in deferred tax assets at June 30, 2017 is \$85.7 million associated with NOL carryforwards in federal, state and foreign jurisdictions. Of that amount, \$9.5 million expires through 2022, \$2.7 million expires through 2027, \$2.5 million expires through 2032, \$47.3 million expires through 2037, and the remaining \$23.7 million does not expire. The realization of these tax benefits is primarily dependent on future taxable income in these jurisdictions.

We do not recognize the windfall tax benefits related to the exercise of a stock option or the vesting of restricted stock units unless such deduction reduces income taxes payable. As of June 30, 2017, the gross amount of NOL carryforwards is \$3.7 million, and \$1.4 million would be recorded in equity when realized. Effective July 1, 2017, the Company will adopt new FASB guidance on equity-based award accounting. See Note 2.

A valuation allowance of \$116.8 million has been placed against deferred tax assets in the U.S., Brazil, Europe, Australia and Hong Kong, all of which would be allocated to income tax expense upon realization of the deferred tax assets. As the respective operations generate sufficient income, the valuation allowances will be partially or fully reversed at such time we believe it will be more likely than not that the deferred tax assets will be realized. In 2017, the valuation allowance related to these deferred tax assets decreased by \$5.9 million, due primarily to the change in the mix of U.S. deferred tax assets and liabilities.

As of June 30, 2017, unremitted earnings of our non-U.S. subsidiaries and affiliates of \$2,023.4 million, the majority of which have not been previously taxed in the U.S., are considered permanently reinvested, and accordingly, no deferred tax liability has been recorded in connection therewith. It is not practical to estimate the income tax effect that might be incurred if cumulative prior year earnings not previously taxed in the U.S. were remitted to the U.S.

A reconciliation of the beginning and ending amount of unrecognized tax benefits (excluding interest) is as follows as of June 30:

(in thousands)	2017	2016	2015
Balance at beginning of year	\$ 3,106	\$ 14,619	\$ 20,366
Increases for tax positions of prior years	—	1,197	—
Decreases for tax positions of prior years	—	—	(3,188)
Decreases related to settlement with taxing authority	(231)	(11,942)	(348)
Decreases related to lapse of statute of limitations	(184)	(667)	(398)
Foreign currency translation	(59)	(101)	(1,813)
Balance at end of year	\$ 2,632	\$ 3,106	\$ 14,619

The total amount of unrecognized tax benefits that, if recognized, would affect the effective tax rate in 2017, 2016 and 2015 is \$2.6 million, \$3.1 million and \$2.7 million, respectively. Our policy is to recognize interest and penalties related to income taxes as a component of the provision for income taxes in the consolidated statement of income. We recognized an increase in interest of \$0.2 million in 2017, and reduction in interest of \$0.2 million and \$0.7 million in 2016 and 2015, respectively. As of June 30, 2017 and 2016 the amount of interest accrued was \$0.5 million and \$0.3 million, respectively. As of June 30, 2017 and 2016, the amount of penalty accrued was \$0.1 million and \$0.3 million, respectively.

In 2016, decreases for tax positions primarily relate to one foreign tax position. We settled this position with the foreign authority. A corresponding deferred tax asset in the amount of \$11.9 million was released for the position in the U.S. and in the prior year this amount was included in the components of net deferred tax liabilities and assets table under the caption "other."

With few exceptions, we are no longer subject to income tax examinations by tax authorities for years prior to 2011. The Internal Revenue Service has audited all U.S. tax years prior to 2015. Various state and foreign jurisdiction tax authorities are in the process of examining our income tax returns for various tax years ranging from 2011 to 2015. We continue to execute our pan-European business model. As a result of this and other matters, we continuously review our uncertain tax positions and evaluate any potential issues that may lead to an increase or decrease in the total amount of unrecognized tax benefits recorded.

We believe that it is reasonably possible that the amount of unrecognized tax benefits could decrease by approximately \$0.4 million within the next twelve months.

NOTE 13 — PENSION AND OTHER POSTRETIREMENT BENEFITS

We have defined benefit pension plans that cover certain employees in the U.S., Germany, the UK and Canada. Pension benefits under defined benefit pension plans are based on years of service and, for certain plans, on average compensation for specified years preceding retirement. We fund pension costs in accordance with the funding requirements of the Employee Retirement Income Security Act of 1974 (ERISA), as amended, for U.S. plans and in accordance with local regulations or customs for non-U.S. plans. Beginning in 2017, the accrued benefit for all participants in the Kennametal Inc. Retirement Income Plan is frozen as the result of amendment. The majority of our defined benefit pension plans are closed to future participation.

We have an Executive Retirement Plan for various executives and a Supplemental Executive Retirement Plan both of which have been closed to future participation on June 15, 2017 and July 26, 2006, respectively.

We presently provide varying levels of postretirement health care and life insurance benefits to certain employees and retirees. Postretirement health care benefits are available to employees and their spouses retiring on or after age 55 with 10 or more years of service. Beginning with retirements on or after January 1, 1998, our portion of the costs of postretirement health care benefits is capped at 1996 levels. Beginning with retirements on or after January 1, 2009, we have no obligation to provide a company subsidy for retiree medical costs. Postretirement health and life benefits are closed to future participants as of December 31, 2016.

We use a June 30 measurement date for all of our plans.

Defined Benefit Pension Plans

The funded status of our pension plans and amounts recognized in the consolidated balance sheets as of June 30 were as follows:

(in thousands)	2017	2016
Change in benefit obligation:		
Benefit obligation, beginning of year	\$ 1,005,368	\$ 954,454
Service cost	2,908	4,640
Interest cost	31,113	37,726
Participant contributions	8	6
Actuarial (gains) losses	(19,660)	86,425
Benefits and expenses paid	(70,257)	(45,074)
Currency translation adjustments	(1,045)	(19,283)
Plan amendments	—	696
Special termination benefits	98	334
Plan settlements	(7,439)	(7,991)
Plan curtailments	—	(6,565)
Benefit obligation, end of year	\$ 941,094	\$ 1,005,368
Change in plans' assets:		
Fair value of plans' assets, beginning of year	\$ 821,675	\$ 827,337
Actual return on plans' assets	56,818	50,637
Company contributions	11,960	15,876
Participant contributions	8	6
Plan settlements	(7,439)	(7,991)
Benefits and expenses paid	(70,257)	(45,074)
Currency translation adjustments	(4,130)	(19,116)
Fair value of plans' assets, end of year	\$ 808,635	\$ 821,675
Funded status of plans	\$ (132,459)	\$ (183,693)
Amounts recognized in the balance sheet consist of:		
Long-term prepaid benefit	\$ 17,208	\$ 8,941
Short-term accrued benefit obligation	(5,713)	(10,037)
Accrued pension benefits	(143,954)	(182,597)
Net amount recognized	\$ (132,459)	\$ (183,693)

The pre-tax amounts related to our defined benefit pension plans recognized in accumulated other comprehensive (loss) income were as follows at June 30:

(in thousands)	2017	2016
Unrecognized net actuarial losses	\$ 246,428	\$ 272,802
Unrecognized net prior service credits	580	155
Unrecognized transition obligations	622	740
Total	\$ 247,630	\$ 273,697

Prepaid pension benefits are included in other long-term assets. The assets of our U.S. and international defined benefit pension plans consist principally of capital stocks, corporate bonds and government securities.

To the best of our knowledge and belief, the asset portfolios of our defined benefit pension plans do not contain our capital stock. We do not issue insurance contracts to cover future annual benefits of defined benefit pension plan participants. Transactions between us and our defined benefit pension plans include the reimbursement of plan expenditures incurred by us on behalf of the plans. To the best of our knowledge and belief, the reimbursement of cost is permissible under current ERISA rules or local government law. The accumulated benefit obligation for all defined benefit pension plans was \$940.9 million and \$1,003.5 million as of June 30, 2017 and 2016, respectively.

Included in the above information are plans with accumulated benefit obligations exceeding the fair value of plan assets as of June 30 as follows:

(in thousands)	2017	2016
Projected benefit obligation	\$ 156,816	\$ 877,146
Accumulated benefit obligation	156,590	875,233
Fair value of plan assets	7,083	684,512

The components of net periodic pension income include the following as of June 30:

(in thousands)	2017	2016	2015
Service cost	\$ 2,908	\$ 4,640	\$ 5,474
Interest cost	31,113	37,726	39,007
Expected return on plans' assets	(58,781)	(58,523)	(59,698)
Amortization of transition obligation	89	80	78
Amortization of prior service cost	(452)	(417)	(361)
Special termination benefit charge	98	334	459
Curtailement loss	—	—	358
Settlement loss	379	227	261
Recognition of actuarial losses	8,356	7,286	3,671
Net periodic pension income	\$ (16,290)	\$ (8,647)	\$ (10,751)

As of June 30, 2017, the projected benefit payments, including future service accruals for these plans for 2018 through 2022, are \$47.5 million, \$49.0 million, \$50.0 million, \$51.5 million and \$52.0 million, respectively, and \$277.8 million in 2023 through 2027.

The amounts of accumulated other comprehensive loss expected to be recognized in net periodic pension cost during 2018 related to net actuarial losses and transition obligations are \$6.8 million and \$0.1 million, respectively. The amount of accumulated other comprehensive income expected to be recognized in net periodic pension cost during 2018 related to prior service credit is \$0.2 million.

We expect to contribute approximately \$7.9 million to our pension plans in 2018.

Other Postretirement Benefit Plans

The funded status of our other postretirement benefit plans and the related amounts recognized in the consolidated balance sheets were as follows:

(in thousands)	2017	2016
Change in benefit obligation:		
Benefit obligation, beginning of year	\$ 20,542	\$ 21,205
Interest cost	673	840
Actuarial losses	(747)	722
Benefits paid	(2,308)	(2,225)
Benefit obligation, end of year	\$ 18,160	\$ 20,542
Funded status of plan	\$ (18,160)	\$ (20,542)
Amounts recognized in the balance sheet consist of:		
Short-term accrued benefit obligation	\$ (1,254)	\$ (1,666)
Accrued postretirement benefits	(16,906)	(18,876)
Net amount recognized	\$ (18,160)	\$ (20,542)

The pre-tax amounts related to our other postretirement benefit plans which were recognized in accumulated other comprehensive (loss) income were as follows at June 30:

(in thousands)	2017	2016
Unrecognized net actuarial losses	\$ 5,266	\$ 6,368
Unrecognized net prior service credits	(128)	(150)
Total	\$ 5,138	\$ 6,218

The components of net periodic other postretirement benefit cost include the following for the years ended June 30:

(in thousands)	2017	2016	2015
Service cost	\$ —	\$ —	\$ 45
Interest cost	673	840	934
Amortization of prior service credit	(22)	(22)	(59)
Recognition of actuarial loss	355	324	492
Curtailed gain	—	—	(221)
Net periodic other postretirement benefit cost	\$ 1,006	\$ 1,142	\$ 1,191

As of June 30, 2017, the projected benefit payments, including future service accruals for our other postretirement benefit plans for 2018 through 2022, are \$1.9 million, \$1.8 million, \$1.7 million, \$1.6 million and \$1.5 million, respectively, and \$6.2 million in 2023 through 2027.

The amounts of accumulated other comprehensive loss expected to be recognized in net periodic pension cost during 2018 related to net actuarial losses are \$0.3 million. The amount of accumulated other comprehensive income expected to be recognized in net periodic pension cost during 2018 related to prior service credit is less than \$0.1 million.

We expect to contribute approximately \$1.9 million to our postretirement benefit plans in 2018.

Assumptions

The significant actuarial assumptions used to determine the present value of net benefit obligations for our defined benefit pension plans and other postretirement benefit plans were as follows:

	2017	2016	2015
Discount Rate:			
U.S. plans	3.3-3.9%	2.4-3.7%	3.2-4.5%
International plans	2.0-3.3%	0.9-3.2%	2.3-3.8%
Rates of future salary increases:			
U.S. plans	4.0%	3.0-4.0%	3.0-4.0%
International plans	2.5-3.0%	2.5-3.0%	2.5-3.0%

The significant assumptions used to determine the net periodic (income) cost for our pension and other postretirement benefit plans were as follows:

	2017	2016	2015
Discount Rate:			
U.S. plans	2.4-3.7%	3.2-4.5%	4.4%
International plans	0.9-3.2%	2.3-3.8%	2.9-4.3%
Rates of future salary increases:			
U.S. plans	3.0-4.0%	3.0-4.0%	3.0-5.0%
International plans	2.5-3.0%	2.5-3.0%	2.5-3.0%
Rate of return on plans assets:			
U.S. plans	7.5%	7.5%	7.5%
International plans	5.3-5.5%	5.3-5.5%	5.0-6.0%

The rates of return on plan assets are based on historical performance, as well as future expected returns by asset class considering macroeconomic conditions, current portfolio mix, long-term investment strategy and other available relevant information.

The annual assumed rate of increase in the per capita cost of covered benefits (the health care cost trend rate) for our postretirement benefit plans was as follows:

	2017	2016	2015
Health care costs trend rate assumed for next year	8.0%	8.5%	7.3%
Rate to which the cost trend rate gradually declines	5.0%	5.0%	5.0%
Year that the rate reaches the rate at which it is assumed to remain	2027	2027	2024

A change of one percentage point in the assumed health care cost trend rates would have the following effects on the total service and interest cost components of our other postretirement cost and other postretirement benefit obligation at June 30, 2017:

(in thousands)	1% Increase	1% Decrease
Effect on total service and interest cost components	\$ 30	\$ (27)
Effect on other postretirement obligation	735	(655)

Plan Assets

The primary objective of certain of our pension plans' investment policies is to ensure that sufficient assets are available to provide the benefit obligations at the time the obligations come due. The overall investment strategy for the defined benefit pension plans' assets combine considerations of preservation of principal and moderate risk-taking. The assumption of an acceptable level of risk is warranted in order to achieve satisfactory results consistent with the long-term objectives of the portfolio. Fixed income securities comprise a significant portion of the portfolio due to their plan-liability-matching characteristics and to address the plans' cash flow requirements. Additionally, diversification of investments within each asset class is utilized to further reduce the impact of losses in single investments.

Investment management practices must comply with ERISA and all applicable regulations and rulings thereof. The use of derivative instruments is permitted where appropriate and necessary for achieving overall investment policy objectives. Currently, the use of derivative instruments is not significant when compared to the overall investment portfolio.

The Company utilizes a liability driven investment strategy (LDI) for the assets of its U.S. defined benefit pension plans in order to reduce the volatility of the funded status of these plans and to meet the obligations at an acceptable cost over the long term. This LDI strategy entails modifying the asset allocation and duration of the assets of the plans to more closely match the liability profile of these plans. The asset reallocation involves increasing the fixed income allocation, reducing the equity component and adding alternative investments. Longer duration interest rate swaps have been utilized periodically in order to increase the overall duration of the asset portfolio to more closely match the liabilities.

Our defined benefit pension plans' asset allocations as of June 30, 2017 and 2016 and target allocations for 2018, by asset class, were as follows:

	2017	2016	Target %
Equity	27%	23%	22.5%
Fixed Income	63%	67%	70.0%
Other	10%	10%	7.5%

The following sections describe the valuation methodologies used by the trustee to measure the fair value of the defined benefit pension plan assets, including an indication of the level in the fair value hierarchy in which each type of asset is generally classified (see Note 5 for the definition of fair value and a description of the fair value hierarchy).

Corporate fixed income securities Investments in corporate fixed income securities consist of corporate debt and asset backed securities. These investments are classified as level two and are valued using independent observable market inputs such as the treasury curve, swap curve and yield curve.

Common stock Common stocks are classified as level one and are valued at their quoted market price.

Government securities Investments in government securities consist of fixed income securities such as U.S. government and agency obligations and foreign government bonds and asset and mortgage backed securities such as obligations issued by government sponsored organizations. These investments are classified as level two and are valued using independent observable market inputs such as the treasury curve, credit spreads and interest rates.

Other fixed income securities Investments in other fixed income securities are classified as level two and valued based on observable market data.

Other Other investments consist primarily of a hedge fund, in addition to state and local obligations and short term investments including cash, corporate notes, and various short term debt instruments which can be redeemed within a nominal redemption notice period. These investments are primarily classified as level two and are valued using independent observable market inputs.

The fair value methods described may not be reflective of future fair values. Additionally, while the Company believes the valuation methods used by the plans' trustee 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 different fair value measurement at the reporting date.

The following table presents the fair value of the benefit plan assets by asset category as of June 30, 2017:

(in thousands)	Level 1	Level 2	Level 3	NAV ⁽³⁾	Total
Common / collective trusts ⁽³⁾ :					
Value funds	\$ —	\$ —	\$ —	\$ 76,186	\$ 76,186
Growth funds	—	—	—	43,880	43,880
Balanced funds	—	—	—	12,421	12,421
Corporate fixed income securities	—	365,723	—	—	365,723
Common stock	85,138	—	—	—	85,138
Government securities:					
U.S. government securities	—	72,817	—	—	72,817
Foreign government securities	—	45,359	—	—	45,359
Other fixed income securities	—	25,761	—	—	25,761
Other	3,313	78,037	—	—	81,350
Total investments	\$ 88,451	\$ 587,697	\$ —	\$ 132,487	\$ 808,635

The following table presents the fair value of the benefit plan assets by asset category as of June 30, 2016:

(in thousands)	Level 1	Level 2	Level 3	NAV ⁽³⁾	Total
Common / collective trusts ⁽³⁾ :					
Value funds	\$ —	\$ —	\$ —	\$ 68,731	\$ 68,731
Growth funds	—	—	—	38,126	38,126
Balanced funds	—	—	—	8,581	8,581
Corporate fixed income securities	—	395,102	—	—	395,102
Common stock	74,163	—	—	—	74,163
Government securities:					
U.S. government securities	—	79,275	—	—	79,275
Foreign government securities	—	43,729	—	—	43,729
Other fixed income securities	—	31,503	—	—	31,503
Other	3,029	79,436	—	—	82,465
Total investments	\$ 77,192	\$ 629,045	\$ —	\$ 115,438	\$ 821,675

⁽³⁾ Investments in common / collective trusts invest primarily in publicly traded securities and are valued using net asset value (NAV) of units of a bank collective trust. Therefore, these amounts have not been classified in the fair value hierarchy and are presented in the tables to reconcile the fair value hierarchy to the total fair value of plan assets.

Defined Contribution Plans

We sponsor several defined contribution retirement plans. Costs for defined contribution plans were \$15.8 million, \$17.2 million and \$23.1 million in 2017, 2016 and 2015, respectively.

NOTE 14 — ACCUMULATED OTHER COMPREHENSIVE (LOSS) INCOME

Total accumulated other comprehensive loss (AOCL) consists of net income and other changes in equity from transactions and other events from sources other than shareholders. It includes postretirement benefit plan adjustments, currency translation adjustments, and unrealized gains and losses from derivative instruments designated as cash flow hedges.

The components of and changes in AOCL were as follows, net of tax, for the year ended June 30, 2017 (in thousands):

Attributable to Kennametal:	Postretirement benefit plans	Currency translation adjustment	Derivatives	Total
Balance, June 30, 2016	\$ (212,163)	\$ (131,212)	\$ (9,134)	(352,509)
Other comprehensive (loss) income before reclassifications	15,559	4,606	(471)	19,694
Amounts Reclassified from AOCL	7,566	—	1,557	9,123
Net current period other comprehensive loss	23,125	4,606	1,086	28,817
AOCL, June 30, 2017	\$ (189,038)	\$ (126,606)	\$ (8,048)	(323,692)
Attributable to noncontrolling interests:				
Balance, June 30, 2016	\$ —	\$ (3,446)	\$ —	(3,446)
Other comprehensive loss before reclassifications	—	1,282	—	1,282
Net current period other comprehensive loss	—	1,282	—	1,282
AOCL, June 30, 2017	\$ —	\$ (2,164)	\$ —	(2,164)

The components of and changes in AOCL were as follows, net of tax, for the year ended June 30, 2016 (in thousands):

Attributable to Kennametal:	Postretirement benefit plans	Currency translation adjustment	Derivatives	Total
Balance, June 30, 2015	\$ (138,793)	\$ (97,309)	\$ (7,421)	(243,523)
Other comprehensive (loss) income before reclassifications	(78,295)	(51,508)	(150)	(129,953)
Amounts Reclassified from AOCL	4,925	15,088	(1,563)	18,450
Net current period other comprehensive loss	(73,370)	(36,420)	(1,713)	(111,503)
Sale of subsidiary stock to noncontrolling interest	—	2,517	—	2,517
AOCL, June 30, 2016	\$ (212,163)	\$ (131,212)	\$ (9,134)	(352,509)
Attributable to noncontrolling interests:				
Balance, June 30, 2015	\$ —	\$ (2,258)	\$ —	(2,258)
Other comprehensive income before reclassifications	—	(1,188)	—	(1,188)
Net current period other comprehensive loss	—	(1,188)	—	(1,188)
AOCL, June 30, 2016	\$ —	\$ (3,446)	\$ —	(3,446)

The components of and changes in AOCL were as follows, net of tax, for the year ended June 30, 2015 (in thousands):

Attributable to Kennametal:	Postretirement benefit plans	Currency translation adjustment	Derivatives	Total
Balance, June 30, 2014	\$ (93,742)	\$ 38,811	\$ (11,200)	\$ (66,131)
Other comprehensive income (loss) before reclassifications	(47,982)	(136,120)	6,652	(177,450)
Amounts Reclassified from AOCL	2,931	—	(2,873)	58
Net current period other comprehensive loss	(45,051)	(136,120)	3,779	(177,392)
AOCL, June 30, 2015	\$ (138,793)	\$ (97,309)	\$ (7,421)	\$ (243,523)
Attributable to noncontrolling interests:				
Balance, June 30, 2014	\$ —	\$ 1,087	\$ —	\$ 1,087
Other comprehensive loss before reclassifications	—	(3,345)	—	(3,345)
Net current period other comprehensive loss	—	(3,345)	—	(3,345)
AOCL, June 30, 2015	\$ —	\$ (2,258)	\$ —	\$ (2,258)

Reclassifications out of AOCL for the years ended June 30, 2017, 2016 and 2015 consisted of the following:

Details about AOCL components (in thousands)	Year Ended June 30,			Affected line item in the Income Statement
	2017	2016	2015	
Gains and losses on cash flow hedges:				
Forward starting interest rate swaps	\$ 2,180	\$ 2,099	\$ 2,021	Interest expense
Currency exchange contracts	(623)	(4,645)	(6,700)	Other expense (income), net
Total before tax	1,557	(2,546)	(4,679)	
Tax impact	—	983	1,806	Provision (benefit) for income taxes
Net of tax	\$ 1,557	\$ (1,563)	\$ (2,873)	
Postretirement benefit plans:				
Amortization of transition obligations	\$ 89	\$ 80	\$ 78	See Note 13 for further details
Amortization of prior service credit	(474)	(439)	(420)	See Note 13 for further details
Recognition of actuarial losses	8,711	7,610	4,163	See Note 13 for further details
Total before tax	8,326	7,251	3,821	
Tax impact	(760)	(2,326)	(890)	Provision (benefit) for income taxes
Net of tax	\$ 7,566	\$ 4,925	\$ 2,931	
Foreign currency translation adjustments:				
Released due to divestiture	\$ —	\$ 15,088	\$ —	Loss on divestiture
Total before taxes	—	15,088	—	
Tax impact	—	—	—	Provision (benefit) for income taxes
Net of tax	\$ —	\$ 15,088	\$ —	

The amount of income tax allocated to each component of other comprehensive income for the year ended June 30, 2017:

(in thousands)	Pre-tax	Tax impact	Net of tax
Unrealized loss on derivatives designated and qualified as cash flow hedges	\$ (471)	\$ —	\$ (471)
Reclassification of unrealized loss on expired derivatives designated and qualified as cash flow hedges	1,557	—	1,557
Unrecognized net pension and other postretirement benefit gain	18,656	(3,097)	15,559
Reclassification of net pension and other postretirement benefit loss	8,326	(760)	7,566
Foreign currency translation adjustments	6,266	(378)	5,888
Other comprehensive income	\$ 34,334	\$ (4,235)	\$ 30,099

The amount of income tax allocated to each component of other comprehensive loss for the year ended June 30, 2016:

(in thousands)	Pre-tax	Tax impact	Net of tax
Unrealized loss on derivatives designated and qualified as cash flow hedges	\$ (244)	\$ 94	\$ (150)
Reclassification of unrealized gain on expired derivatives designated and qualified as cash flow hedges	(2,546)	983	(1,563)
Unrecognized net pension and other postretirement benefit loss	(84,266)	5,971	(78,295)
Reclassification of net pension and other postretirement benefit loss	7,251	(2,326)	4,925
Foreign currency translation adjustments	(52,699)	4	(52,695)
Reclassification of foreign currency translation adjustment loss realized upon sale	15,088	—	15,088
Other comprehensive loss	\$ (117,416)	\$ 4,726	\$ (112,690)

The amount of income tax allocated to each component of other comprehensive loss for the year ended June 30, 2015:

(in thousands)	Pre-tax	Tax impact	Net of tax
Unrealized gain on derivatives designated and qualified as cash flow hedges	\$ 10,834	\$ (4,182)	\$ 6,652
Reclassification of unrealized gain on expired derivatives designated and qualified as cash flow hedges	(4,679)	1,806	(2,873)
Unrecognized net pension and other postretirement benefit loss	(76,029)	28,047	(47,982)
Reclassification of net pension and other postretirement benefit loss	3,821	(890)	2,931
Foreign currency translation adjustments	(147,172)	7,707	(139,465)
Other comprehensive loss	\$ (213,225)	\$ 32,488	\$ (180,737)

NOTE 15 — RESTRUCTURING AND RELATED CHARGES AND ASSET IMPAIRMENT CHARGES

We are implementing restructuring actions to streamline the Company's cost structure. These initiatives are expected to improve the alignment of our cost structure with the current operating environment through headcount reductions, as well as rationalization and consolidation of certain manufacturing facilities. These restructuring actions are expected to be completed by December 31, 2018 and are anticipated to be mostly cash expenditures.

The total pre-tax charges for these programs are expected to be in the range of \$165 million to \$195 million, which is expected to be approximately 60 percent Industrial, 5 percent Widia, 30 percent Infrastructure and 5 percent Corporate. Total restructuring and related charges since inception of \$147.7 million have been recorded for these programs through June 30, 2017: \$80.5 million in Industrial, \$12.9 million in Widia, \$47.0 million in Infrastructure and \$7.3 million in Corporate.

During 2017, we recognized total restructuring and related charges of \$76.2 million. Of this amount, restructuring charges totaled \$65.6 million, of which \$0.6 million were charges related to inventory and were recorded in cost of goods sold. Restructuring-related charges of \$7.1 million were recorded in cost of goods sold and \$3.5 million in operating expense during 2017.

During 2016, we recognized total restructuring and related charges of \$53.5 million. Of this amount, restructuring charges totaled \$30.0 million. Restructuring-related charges of \$7.3 million were recorded in cost of goods sold and \$16.2 million in operating expense during 2016.

During 2015, we recognized total restructuring and related charges of \$58.1 million. Of this amount, restructuring charges totaled \$42.1 million, of which \$1.5 million were charges related to inventory and were recorded in cost of goods sold. Restructuring-related charges of \$8.2 million were recorded in cost of goods sold and \$7.8 million in operating expense during 2015.

As of June 30, 2017, property, plant, and equipment of \$7.0 million for certain closed manufacturing locations that are part of our restructuring programs met held for sale criteria. We expect to sell these assets within one year from the balance sheet date. These assets are recorded at the lower of carrying amount or fair value less cost to sell. We have also ceased depreciation for these assets.

As of June 30, 2017, \$27.3 million and \$2.5 million of the restructuring accrual is recorded in other current liabilities and other liabilities, respectively, in our condensed consolidated balance sheet. The restructuring accrual of \$15.7 million and \$20.8 million as of June 30, 2016 and 2015, respectively, is recorded in other current liabilities. The amount attributable to each segment is as follows:

(in thousands)	June 30, 2016	Expense	Asset Write-Down	Translation	Cash Expenditures	June 30, 2017
Industrial						
Severance	\$ 8,180	\$ 39,214	\$ —	\$ 229	\$ (29,984)	\$ 17,639
Facilities	—	237	(237)	—	—	—
Other	809	162	—	(8)	(869)	94
Total Industrial	8,989	39,613	(237)	221	(30,853)	17,733
Widia						
Severance	909	6,325	—	37	(4,837)	2,434
Facilities	—	10	(10)	—	—	—
Other	90	26	—	(1)	(115)	—
Total Widia	999	6,361	(10)	36	(4,952)	2,434
Infrastructure						
Severance	5,301	17,710	—	103	(13,541)	9,573
Facilities	33	1,849	(1,849)	—	(12)	21
Other	381	73	—	(4)	(405)	45
Total Infrastructure	5,715	19,632	(1,849)	99	(13,958)	9,639
Total	\$ 15,703	\$ 65,606	\$ (2,096)	\$ 356	\$ (49,763)	\$ 29,806

(in thousands)	June 30, 2015	Expense	Asset Write-Down	Other ⁽⁴⁾	Translation	Cash Expenditures	June 30, 2016
Industrial							
Severance	\$ 12,110	\$ 15,590	\$ —	\$ (312)	\$ (126)	\$ (19,082)	\$ 8,180
Facilities	—	297	(702)	—	—	405	—
Other	25	267	—	—	(4)	521	809
Total Industrial	12,135	16,154	(702)	(312)	(130)	(18,156)	8,989
Widia							
Severance	1,346	1,732	—	(35)	(14)	(2,120)	909
Facilities	—	33	(78)	—	—	45	—
Other	3	30	—	—	(1)	58	90
Total Widia	1,349	1,795	(78)	(35)	(15)	(2,017)	999
Infrastructure							
Severance	7,173	7,424	—	(201)	(60)	(9,035)	5,301
Facilities	131	4,515	(3,914)	—	—	(699)	33
Other	—	127	—	—	(2)	256	381
Total Infrastructure	7,304	12,066	(3,914)	(201)	(62)	(9,478)	5,715
Total	\$ 20,788	\$ 30,015	\$ (4,694)	\$ (548)	\$ (207)	\$ (29,651)	\$ 15,703

⁽⁴⁾ Special termination benefit charge and settlement charge for one of our U.S.-based benefit pension plans resulting from executive retirement - see Note 13.

Asset Impairment Charges

See discussion on goodwill and other intangible asset impairment charges in Note 2.

During 2016, we identified specific machinery and equipment that was no longer being utilized in the manufacturing organization of which we disposed by abandonment. As a result of this review, we recorded property, plant, and equipment impairment charges of \$5.4 million during 2016, which has been presented in restructuring and asset impairment charges in our consolidated statement of income.

NOTE 16 — FINANCIAL INSTRUMENTS

The methods used to estimate the fair value of our financial instruments are as follows:

Cash and Equivalents, Current Maturities of Long-Term Debt and Notes Payable to Banks The carrying amounts approximate their fair value because of the short maturity of the instruments.

Long-Term Debt Fixed rate debt had a fair market value of \$704.0 million at June 30, 2017 and 2016. The fair value is determined based on the quoted market price of this debt as of June 30 and were classified in Level 2 of the fair value hierarchy.

Foreign Exchange Contracts The notional amount of outstanding foreign exchange contracts, translated at current exchange rates, was \$75.3 million and \$53.3 million at June 30, 2017 and 2016, respectively. We would have paid \$0.8 million and would have received \$0.3 million at June 30, 2017 and 2016, respectively, to settle these contracts representing the fair value of these agreements. The carrying value equaled the fair value for these contracts at June 30, 2017 and 2016. Fair value was estimated based on quoted market prices of comparable instruments.

Concentrations of Credit Risk Financial instruments that potentially subject us to concentrations of credit risk consist primarily of temporary cash investments and trade receivables. By policy, we make temporary cash investments with high credit quality financial institutions and limit the amount of exposure to any one financial institution. With respect to trade receivables, concentrations of credit risk are significantly reduced because we serve numerous customers in many industries and geographic areas.

We are exposed to counterparty credit risk for nonperformance of derivatives and, in the unlikely event of nonperformance, to market risk for changes in interest and currency exchange rates, as well as settlement risk. We manage exposure to counterparty credit risk through credit standards, diversification of counterparties and procedures to monitor concentrations of credit risk.

We do not anticipate nonperformance by any of the counterparties. As of June 30, 2017 and 2016, we had no significant concentrations of credit risk.

NOTE 17 — STOCK-BASED COMPENSATION

Stock Options

There were no grants made during 2017. The assumptions used in our Black-Scholes valuation related to grants made during 2016 and 2015 were as follows:

	2016	2015
Risk-free interest rate	1.4%	1.5%
Expected life (years) ⁽⁵⁾	4.5	4.5
Expected volatility ⁽⁶⁾	31.7%	32.5%
Expected dividend yield	2.1%	1.7%

⁽⁵⁾ Expected life is derived from historical experience.

⁽⁶⁾ Expected volatility is based on the implied historical volatility of our stock.

Changes in our stock options for 2017 were as follows:

	Options	Weighted Average Exercise Price	Weighted Average Remaining Life (years)	Aggregate Intrinsic value (in thousands)
Options outstanding, June 30, 2016	2,547,809	\$ 33.72		
Granted	—	—		
Exercised	(637,769)	33.44		
Lapsed and forfeited	(183,249)	31.29		
Options outstanding, June 30, 2017	1,726,791	\$ 34.08	4.7	\$ 9,296
Options vested and expected to vest, June 30, 2017	1,713,555	\$ 34.12	4.6	\$ 9,173
Options exercisable, June 30, 2017	1,260,230	\$ 35.76	3.4	\$ 5,231

During 2017, 2016 and 2015, compensation expense related to stock options was \$1.5 million, \$3.3 million and \$3.2 million, respectively. As of June 30, 2017, the total unrecognized compensation cost related to options outstanding was \$0.9 million and is expected to be recognized over a weighted average period of 1.2 years.

Weighted average fair value of options granted during 2016 and 2015 was \$6.45 and \$10.16 per option, respectively. Fair value of options vested during 2017, 2016 and 2015 was \$3.3 million, \$2.3 million and \$7.6 million, respectively.

Tax benefits relating to excess stock-based compensation deductions, are presented in the statement of cash flow as financing cash inflows. No tax benefits were realized resulting from stock-based compensation deductions for 2017 due to the valuation allowance on U.S. deferred tax assets. Tax benefits resulting from stock-based compensation deductions were less than the amounts reported for financial reporting purposes by \$1.9 million in 2016 and exceeded amounts reported for financial reporting purposes by \$1.3 million in 2015.

The amount of cash received from the exercise of capital stock options during 2017, 2016 and 2015 was \$21.3 million, \$1.0 million and \$11.7 million, respectively. No related tax benefit was realized in 2017 due to the valuation allowance on U.S. deferred tax assets, and the related tax benefit was immaterial in 2016 and \$2.0 million in 2015. The total intrinsic value of options exercised in 2017 and 2015 was \$3.1 million and \$5.3 million, respectively, and was immaterial in 2016.

Under the provisions of the A/R 2010 Plan and the 2016 Plan, participants may deliver stock, owned by the holder for at least six months, in payment of the option price and receive credit for the fair market value of the shares on the date of delivery. The fair market value of shares delivered during 2017, 2016 and 2015 were immaterial.

Restricted Stock Units – Time Vesting and Performance Vesting

Performance vesting restricted stock units are earned pro rata each year if certain performance goals are met over a three-year period, and are also subject to a service condition that requires the individual to be employed by the Company at the payment date after the three-year performance period, with the exception of retirement eligible grantees, who upon retirement are entitled to receive payment for any units that have been earned, including a prorated portion in the partially completed fiscal year in which the retirement occurs. Time vesting stock units are valued at the market value of the stock on the grant date. Performance vesting stock units with a market condition are valued using a Monte Carlo model.

Changes in our time vesting and performance vesting restricted stock units for 2017 were as follows:

	Performance Vesting Stock Units	Performance Vesting Weighted Average Fair Value	Time Vesting Stock Units	Time Vesting Weighted Average Fair Value
Unvested, June 30, 2016	115,467	\$ 36.96	1,014,744	\$ 31.97
Granted	235,241	26.35	610,998	25.46
Vested	(17,124)	45.24	(393,518)	35.37
Performance metric not achieved	(35,980)	26.35	—	—
Forfeited	(17,354)	35.31	(78,780)	27.42
Unvested, June 30, 2017	280,250	\$ 27.62	1,153,444	\$ 27.66

During 2017, 2016 and 2015, compensation expense related to time vesting and performance vesting restricted stock units was \$19.3 million, \$14.6 million and \$13.5 million, respectively. As of June 30, 2017, the total unrecognized compensation cost related to unvested time vesting and performance vesting restricted stock units was \$13.8 million and is expected to be recognized over a weighted average period of 1.8 years.

NOTE 18— ENVIRONMENTAL MATTERS

The operation of our business has exposed us to certain liabilities and compliance costs related to environmental matters. We are involved in various environmental cleanup and remediation activities at certain locations in the countries in which we operate.

Superfund Sites Among other environmental laws, we are subject to the Comprehensive Environmental Response Compensation and Liability Act of 1980 (CERCLA), under which we have been designated by the United States Environmental Protection Agency (USEPA) as a Potentially Responsible Party (PRP) with respect to environmental remedial costs at certain Superfund sites. We have evaluated our claims and liabilities associated with these Superfund sites based upon best currently available information. We believe our environmental accruals are adequate to cover our portion of the environmental remedial costs at the Superfund sites where we have been designated a PRP, to the extent these expenses are probable and reasonably estimable.

Other Environmental Matters We establish and maintain reserves for other potential environmental issues. At June 30, 2017 and 2016, the balance of these reserves was \$12.4 million and \$12.5 million, respectively. These reserves represent anticipated costs associated with the remediation of these issues.

The reserves we have established for environmental liabilities represent our best current estimate of the costs of addressing all identified environmental situations, based on our review of currently available evidence, and taking into consideration our prior experience in remediation and that of other companies, as well as public information released by the USEPA, other governmental agencies and by the PRP groups in which we are participating. Although the reserves currently appear to be sufficient to cover these environmental liabilities, there are uncertainties associated with environmental liabilities, and we can give no assurance that our estimate of any environmental liability will not increase or decrease in the future. The reserved and unreserved liabilities for all environmental concerns could change substantially due to factors such as the nature and extent of contamination, changes in remedial requirements, technological changes, discovery of new information, the financial strength of other PRPs, the identification of new PRPs and the involvement of and direction taken by the government on these matters.

We maintain a Corporate Environmental Health and Safety (EHS) Department to monitor compliance with environmental regulations and to oversee remediation activities. In addition, we have designated EHS analysts who are responsible for each of our global manufacturing facilities. Our financial management team periodically meets with members of the Corporate EHS Department and the Corporate Legal Department to review and evaluate the status of environmental projects and contingencies. On a quarterly basis, we review financial provisions and reserves for environmental contingencies and adjust these reserves when appropriate.

NOTE 19 — COMMITMENTS AND CONTINGENCIES

Legal Matters Various lawsuits arising during the normal course of business are pending against us. In our opinion, the ultimate liability, if any, resulting from these matters will have no significant effect on our consolidated financial positions or results of operations.

Lease Commitments We lease a wide variety of facilities and equipment under operating leases, primarily for warehouses, production and office facilities and equipment. Lease expense under these rentals amounted to \$26.3 million, \$28.6 million and \$29.4 million in 2017, 2016 and 2015, respectively. Future minimum lease payments for non-cancelable operating leases are \$19.3 million, \$14.6 million, \$11.8 million, \$8.5 million and \$7.2 million for the years 2018 through 2022 and \$15.3 million thereafter.

Purchase Commitments We have purchase commitments for materials, supplies and machinery and equipment as part of the ordinary conduct of business. Some of these commitments extend beyond one year and are based on minimum purchase requirements. We believe these commitments are not at prices in excess of current market.

Other Contractual Obligations We do not have material financial guarantees or other contractual commitments that are reasonably likely to adversely affect our liquidity.

Related Party Transactions Sales to affiliated companies were immaterial in 2017, 2016 and 2015. We do not have any other related party transactions that affect our operations, results of operations, cash flow or financial condition.

NOTE 20 — SEGMENT DATA

In order to take advantage of the growth opportunities of our WIDIA brand, we implemented a new operating structure at the beginning of fiscal 2017. A key attribute of the new structure is the establishment of the Widia operating segment, which we separated out from our 2016 Industrial segment. In order to better leverage the opportunities in our Widia business, and be more agile and competitive in the marketplace, we are placing higher levels of focus, determination and leadership in this business.

The Company now manages and reports its business in the following three segments: Industrial, Widia and Infrastructure. The Company's reportable operating segments have been determined in accordance with the Company's internal management structure, which is organized based on operating activities, the manner in which we organize segments for making operating decisions and assessing performance and the availability of separate financial results. We do not allocate certain corporate expenses related to executive retirement plans, the Company's Board of Directors and strategic initiatives, as well as certain other costs and report them in Corporate. None of our reportable operating segments represent the aggregation of two or more operating segments.

Sales to a single customer did not aggregate 4 percent or more of total sales in 2017, 2016 and 2015. Export sales from U.S. operations to unaffiliated customers were \$58.6 million, \$65.3 million and \$71.0 million in 2017, 2016 and 2015, respectively.

INDUSTRIAL The Industrial segment generally serves customers that operate in industrial end markets such as transportation, general engineering, aerospace and defense market sectors, as well as the machine tool industry, delivering high performance metalworking tools for specified purposes. Our customers in these end markets use our products and services in the manufacture of engines, airframes, automobiles, trucks, ships and other various types of industrial equipment. The technology and customization requirements we provide vary by customer, application and industry. Industrial goes to market under the Kennametal® brand through its direct sales force, a network of independent and national chain distributors, integrated supplier channels and via the Internet. Application engineers and technicians are critical to the sales process and directly assist our customers with specified product design, selection, application and support.

WIDIA The Widia segment offers a focused assortment of standard custom metal cutting solutions to general engineering, aerospace, energy and transportation customers. We serve our customers primarily through a network of value added resellers, integrated supplier channels and via the Internet. Widia markets its products under the WIDIA®, WIDIA Hanita® and WIDIA GTD® brands.

INFRASTRUCTURE The Infrastructure segment generally serves customers that operate in the energy and earthworks market sectors that support primary industries such as oil and gas, power generation and chemicals; underground, surface and hard-rock mining; highway construction and road maintenance; and process industries such as food and feed. Our success is determined by our ability to gain an in-depth understanding of our customers' engineering and development needs, to provide complete system solutions and high-performance capabilities to optimize and add value to their operations. Infrastructure markets its products primarily under the Kennametal® brand and sells through a direct sales force as well as distributors.

Segment data is summarized as follows:

(in thousands)	2017	2016	2015
Sales:			
Industrial ⁽⁷⁾	\$ 1,126,309	\$ 1,098,439	\$ 1,269,786
Widia ⁽⁷⁾	177,662	170,723	191,958
Infrastructure	754,397	829,274	1,185,451
Total sales	\$ 2,058,368	\$ 2,098,436	\$ 2,647,195
Operating income (loss):			
Industrial ⁽⁷⁾	\$ 82,842	\$ 90,324	\$ 165,434
Widia ⁽⁷⁾	(9,606)	(9,081)	(4,540)
Infrastructure	40,011	(246,306)	(509,381)
Corporate	(303)	(9,880)	(9,336)
Total operating income (loss)	\$ 112,944	\$ (174,943)	\$ (357,823)
Interest expense	\$ 28,842	\$ 27,752	\$ 31,466
Other expense (income), net	2,227	(4,124)	(1,674)
Income (loss) before income taxes	\$ 81,875	\$ (198,571)	\$ (387,615)
Depreciation and amortization:			
Industrial ⁽⁷⁾	\$ 54,269	\$ 52,523	\$ 54,237
Widia ⁽⁷⁾	10,728	10,419	9,951
Infrastructure	42,596	54,459	67,413
Corporate	63	65	63
Total depreciation and amortization	\$ 107,656	\$ 117,466	\$ 131,664
Total assets:			
Industrial ⁽⁷⁾	\$ 1,103,686	\$ 1,019,887	\$ 1,059,278
Widia ⁽⁷⁾	191,626	195,339	199,992
Infrastructure	813,747	849,447	1,279,608
Corporate ⁽⁸⁾	306,437	298,110	304,777
Total assets	\$ 2,415,496	\$ 2,362,783	\$ 2,843,655
Capital expenditures:			
Industrial ⁽⁷⁾	\$ 70,281	\$ 66,467	\$ 55,301
Widia ⁽⁷⁾	17,853	14,093	9,196
Infrastructure	29,884	30,137	36,442
Total capital expenditures	\$ 118,018	\$ 110,697	\$ 100,939

⁽⁷⁾ Amounts for 2016 and 2015 and as of June 30, 2016 and June 30, 2015 have been restated to reflect the change in reportable operating segments.

⁽⁸⁾ Amounts as of June 30, 2016 and June 30, 2015 have been restated to reflect the adopted of FASB guidance on the presentation of debt issuance costs.

Geographic information for sales, based on country where the sale originated, and assets is as follows:

(in thousands)	2017	2016	2015
Sales:			
United States	\$ 897,326	\$ 897,399	\$ 1,176,622
Germany	282,347	334,366	442,009
China	220,561	210,124	246,953
India	84,769	77,934	85,193
Italy	59,967	69,821	85,530
Canada	56,628	55,812	73,912
France	56,231	56,264	59,772
United Kingdom	39,731	50,723	70,600
Other	360,808	345,993	406,604
Total sales	\$ 2,058,368	\$ 2,098,436	\$ 2,647,195
Total assets:			
United States ⁽⁸⁾	\$ 1,075,444	\$ 1,069,320	\$ 1,332,720
Germany	347,226	327,679	394,491
China	239,908	233,200	274,774
Switzerland	197,783	189,498	194,139
India	98,602	91,544	97,463
Canada	58,337	57,174	60,492
Italy	48,990	50,352	94,978
United Kingdom	48,729	48,507	71,342
Other	300,477	295,509	323,256
Total assets:	\$ 2,415,496	\$ 2,362,783	\$ 2,843,655

⁽⁸⁾ Amounts as of June 30, 2016 and June 30, 2015 have been restated to reflect the adopted of FASB guidance on the presentation of debt issuance costs.

Approximate sales by end markets as a percentage of consolidated sales are as follows:

	2017	2016	2015
End markets:			
General engineering	39%	38%	36%
Transportation	20	21	21
Energy	18	17	19
Earthworks	15	16	17
Aerospace and defense	8	8	7
Total	100%	100%	100%

NOTE 21 — SELECTED QUARTERLY FINANCIAL DATA (UNAUDITED)

For the quarter ended (in thousands, except per share data)	September 30	December 31	March 31	June 30
2017				
Sales	\$ 477,140	\$ 487,573	\$ 528,630	\$ 565,025
Gross profit	143,530	147,623	186,265	180,289
Net (loss) income attributable to Kennametal	(21,656)	7,262	38,890	24,643
Basic (loss) earnings per share attributable to Kennametal ⁽⁹⁾				
Net income	(0.27)	0.09	0.48	0.31
Diluted (loss) earnings per share attributable to Kennametal ⁽⁹⁾				
Net income	(0.27)	0.09	0.48	0.30
2016				
Sales	\$ 555,354	\$ 524,021	\$ 497,837	\$ 521,224
Gross profit	151,224	140,806	157,353	166,684
Net (loss) income attributable to Kennametal	(6,226)	(169,227)	16,000	(66,515)
Basic (loss) earnings per share attributable to Kennametal ⁽⁹⁾				
Net income	(0.08)	(2.12)	0.20	(0.83)
Diluted (loss) earnings per share attributable to Kennametal ⁽⁹⁾				
Net income	(0.08)	(2.12)	0.20	(0.83)

⁽⁹⁾ Earnings per share amounts attributable to Kennametal for each quarter are computed using the weighted average number of shares outstanding during the quarter. Earnings per share amounts attributable to Kennametal for the full year are computed using the weighted average number of shares outstanding during the year. Thus, the sum of the four quarters' earnings per share attributable to Kennametal does not always equal the full-year earnings per share attributable to Kennametal.

NOTE 22 — SUBSEQUENT EVENTS

Effective August 1, 2017, Christopher Rossi was appointed to serve as President and Chief Executive Officer of the Company, and former President and Chief Executive Officer, Ronald M. De Feo, transitioned to the role of Executive Chairman of the Board of Directors.

ITEM 9 — CHANGES IN AND DISAGREEMENTS WITH ACCOUNTANTS ON ACCOUNTING AND FINANCIAL DISCLOSURE

None.

ITEM 9A — CONTROLS AND PROCEDURES

(a) Evaluation of Disclosure Controls and Procedures

The Company's management evaluated, with the participation of the Company's Executive Chairman, Chief Executive Officer and Chief Financial Officer, the effectiveness of the Company's disclosure controls and procedures (as defined in Exchange Act Rules 13a-15(e) and 15d-15(e)) as of June 30, 2017. The Company's disclosure controls were designed to provide a reasonable assurance that information required to be disclosed in reports that we file or submit under the Exchange Act of 1934, as amended, is recorded, processed, summarized and reported within the time periods specified in the rules and forms of the Securities and Exchange Commission. It should be noted that the design of any system of controls is based in part upon certain assumptions about the likelihood of future events, and there can be no assurance that any design will succeed in achieving its stated goals under all potential future conditions, regardless of how remote. However, the controls have been designed to provide reasonable assurance of achieving the controls' stated goals. Based on that evaluation, the Company's Executive Chairman, Chief Executive Officer and Chief Financial Officer have concluded that the Company's disclosure controls and procedures are effective to provide reasonable assurance at June 30, 2017 to ensure that information required to be disclosed in the reports that we file or submit under the Exchange Act is (i) accumulated and communicated to management, including the Company's Executive Chairman, Chief Executive Officer and Chief Financial Officer, to allow timely decisions regarding required disclosure and (ii) recorded, processed, summarized and reported within the time periods specified in the rules and forms of the Securities and Exchange Commission.

(b) Management's Report on Internal Control over Financial Reporting

Management's Report on Internal Control over Financial Reporting is included in Item 8 of this Form 10-K and incorporated herein by reference.

(c) Attestation Report of the Independent Registered Public Accounting Firm

The effectiveness of Kennametal's internal control over financial reporting as of June 30, 2017 has been audited by PricewaterhouseCoopers LLP, an independent registered public accounting firm, as stated in their report included in Item 8 of this annual report on Form 10-K, which is incorporated herein by reference.

(d) Changes in Internal Control over Financial Reporting

There have been no changes in internal control over financial reporting that occurred during the fourth quarter of 2017 that have materially affected, or are reasonably likely to materially affect, the Company's internal control over financial reporting.

ITEM 9B — OTHER INFORMATION

None.

PART III

ITEM 10 — DIRECTORS, EXECUTIVE OFFICERS AND CORPORATE GOVERNANCE

EXECUTIVE OFFICERS OF THE REGISTRANT

Information regarding the executive officers of Kennametal Inc. is as follows: Name, Age, Position, and Experience During the Past Five Years ⁽¹⁾.

Ronald M. De Feo, 65

Executive Chairman

Executive Chairman since August 2017; President and Chief Executive Officer from February 2016 to July 2017; Director since November 2001; Formerly, Chairman of the Board and Chief Executive Officer of Terex Corporation (provides machinery and industrial products), from March 1998 and March 1995, respectively, until December 2015.

Christopher Rossi, 53

President and Chief Executive Officer

President and Chief Executive Officer since August 2017; Formerly, Chief Executive Officer of Dresser-Rand at Siemens Aktiengesellschaft (provides custom-engineered rotating equipment for applications in the oil, gas, process, power, and other industries), from September 2015 to May 2017; Executive Vice President of Global Operations at Dresser-Rand Group Inc. from September 2012 to September 2015.

Judith L. Bacchus, 55

Vice President and Chief Human Resources and Corporate Relations Officer

Vice President and Chief Human Resources and Corporate Relations Officer since December 2015; Vice President and Chief Human Resources Officer from June 2011 to November 2015.

Charles M. Byrnes, Jr., 52

Vice President, Kennametal Inc. and President, Industrial Business Segment

Vice President, Kennametal Inc. and President, Industrial Business Segment since May 2016; Vice President and Executive Vice President, Industrial Business Segment from December 2015 to May 2016; Formerly President at General Bearing Corporation (provides bearing components and bearing products) from March 2014 to December 2015; and Senior Vice President - Sales and Marketing at Accuride Corporation (provides commercial vehicle components) from September 2011 to February 2014.

Robert J. Clemens, 60

Vice President and Chief Technology Officer

Vice President and Chief Technology Officer since March 2013; Formerly, Vice President, Corporate Technology at Eastman Chemical Company (specialty chemical company) from January 2008 to February 2013.

Peter A. Dragich, 54

Vice President, Kennametal Inc. and President, Infrastructure Business Segment

Vice President, Kennametal Inc. and President, Infrastructure Business Segment since May 2016; Vice President and Executive Vice President, Infrastructure Business Segment from October 2015 to May 2016; Vice President Integrated Supply Chain and Logistics from October 2012 to October 2015. Formerly, Vice President, Global Field Operations, Climate, Controls, and Security for United Technologies Corporation (provides products and services to aerospace and building systems industries) from May 2010 to October 2012.

Jan Kees van Gaalen, 60

Vice President and Chief Financial Officer

Vice President and Chief Financial Officer since September 2015; Formerly, Executive Vice President and Chief Financial Officer of Dresser-Rand Group Inc. (provides custom-engineered rotating equipment for applications in the oil, gas, process, power, and other industries) from April 2013 to June 2015; Vice President and Treasurer of Baker Hughes Inc. (oil field services) from January 2008 to April 2013.

Michelle Keating, 41

Vice President, Secretary and General Counsel, Kennametal Inc.

Vice President, Secretary and General Counsel, Kennametal Inc. since December 2016; Vice President, Secretary and Interim General Counsel from July 2016 to December 2016; Vice President, Associate General Counsel & Assistant Secretary from March 2016 to July 2016; Assistant General Counsel & Assistant Secretary from August 2011 to February 2016.

Patrick S. Watson, 44

Vice President Finance and Corporate Controller, Kennametal Inc.

Vice President Finance and Corporate Controller, Kennametal Inc. since March 2017; Vice President Finance - Industrial Business from March 2014 to February 2017; Director Finance, Kennametal EMEA from August 2011 to August 2014.

(1) Each executive officer has been elected by the Board of Directors to serve until removed or until a successor is elected and qualified. Unless otherwise noted, none of the executive officers (i) has an arrangement or understanding with any other person(s) pursuant to which he or she was selected as an officer, (ii) has any family relationship with any director or executive officer of the Company, or (iii) is involved in any legal proceeding which would require disclosure under this item.

Incorporated herein by reference is the information provided under the captions “Proposal I. Election of Directors” and “Section 16(a) Beneficial Ownership Reporting Compliance” in our definitive proxy statement to be filed with the Securities and Exchange Commission within 120 days after June 30, 2017 (2017 Proxy Statement). Also incorporated herein by reference is the information set forth under the caption “Ethics and Corporate Governance-Code Conduct” and “Ethics and Corporate Governance-Corporate Governance” in the 2017 Proxy Statement.

The Company has a separately designated standing Audit Committee established in accordance with Section 3(a) (58) (A) of the Exchange Act. The members of the Audit Committee are: Timothy R. McLevish (Chair); Cindy L. Davis; William M. Lambert; Sagar A. Patel and Steven H. Wunning. Incorporated herein by reference is the information provided under the caption “Board of Directors and Board Committees-Committee Functions-Audit Committee” in the 2017 Proxy Statement.

ITEM 11 — EXECUTIVE COMPENSATION

Incorporated herein by reference is certain information in the “Executive Compensation, Compensation Discussion and Analysis” section of the 2017 Proxy Statement including, without limitation, Compensation Committee Report, Analysis of Risk Inherent in our Compensation Policies and Practices, the Executive Compensation Tables and Potential Payments Upon Termination or Change in Control. Also incorporated herein by reference is certain information in “Board of Directors Compensation and Benefits” and “Board of Directors and Board Committees.”

ITEM 12 — SECURITY OWNERSHIP OF CERTAIN BENEFICIAL OWNERS AND MANAGEMENT AND RELATED STOCKHOLDER MATTERS

Incorporated herein by reference from our 2017 Proxy Statement are: (i) the information set forth under the caption “Equity Compensation Plans” (ii) the information set forth under the caption “Ownership of Capital Stock by Directors, Nominees and Executive Officers” with respect to the directors’ and officers’ shareholdings; and (iii) the information set forth under the caption “Principal Holders of Voting Securities” with respect to other beneficial owners.

ITEM 13 — CERTAIN RELATIONSHIPS AND RELATED TRANSACTIONS, AND DIRECTOR INDEPENDENCE

Incorporated herein by reference is certain information set forth under the captions “Ethics and Corporate Governance-Corporate Governance-Board of Director Review and Approval of Related Person Transactions,” “Executive Compensation,” “Executive Compensation Tables” and “Ethics and Corporate Governance-Corporate Governance-Board Composition and Independence” in the 2017 Proxy Statement.

ITEM 14 — PRINCIPAL ACCOUNTING FEES AND SERVICES

Incorporated herein by reference is the information with respect to pre-approval policies set forth under the caption “Proposal II. Ratification of PricewaterhouseCoopers LLP as our Independent Registered Public Accounting Firm for the Fiscal Year ending June 30, 2018-Audit Committee Pre-Approval Policy” and the information with respect to principal accountant fees and services set forth under “Proposal II. Ratification of PricewaterhouseCoopers LLP as our Independent Registered Public Accounting Firm for the Fiscal Year ending June 30, 2018-Fees and Services” in the 2017 Proxy Statement.

SIGNATURES

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

Date: August 14, 2017

KENNAMETAL INC.

By: /s/ Patrick S. Watson

Patrick S. Watson

Vice President Finance and Corporate Controller

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

SIGNATURE	TITLE	DATE
<u>/s/ RONALD M. DE FEO</u> Ronald M. De Feo	Executive Chairman	August 14, 2017
<u>/s/ CHRISTOPHER ROSSI</u> Christopher Rossi	President and Chief Executive Officer	August 14, 2017
<u>/s/ JAN KEES VAN GAALEN</u> Jan Kees van Gaalen	Vice President and Chief Financial Officer	August 14, 2017
<u>/s/ PATRICK S. WATSON</u> Patrick S. Watson	Vice President Finance and Corporate Controller	August 14, 2017
<u>/s/ LAWRENCE W. STRANGHOENER</u> Lawrence W. Stranghoener	Lead Director	August 14, 2017
<u>/s/ CINDY L. DAVIS</u> Cindy L. Davis	Director	August 14, 2017
<u>/s/ PHILIP A. DUR</u> Philip A. Dur	Director	August 14, 2017
<u>/s/ WILLIAM J. HARVEY</u> William J. Harvey	Director	August 14, 2017
<u>/s/ WILLIAM M. LAMBERT</u> William M. Lambert	Director	August 14, 2017
<u>/s/ TIMOTHY R. MCLEVISH</u> Timothy R. McLevish	Director	August 14, 2017
<u>/s/ SAGAR A. PATEL</u> Sagar A. Patel	Director	August 14, 2017
<u>/s/ STEVEN H. WUNNING</u> Steven H. Wunning	Director	August 14, 2017

PART IV

ITEM 15 — EXHIBITS, FINANCIAL STATEMENT SCHEDULES

(a) Documents filed as part of this Form 10-K report.

1. Financial Statements included in Part II, Item 8
2. Financial Statement Schedule

The financial statement schedule required by Part II, Item 8 of this document is filed as part of this report. All of the other schedules are omitted as the required information is inapplicable or the information is presented in our consolidated financial statements or related notes.

FINANCIAL STATEMENT SCHEDULE

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Schedule II—Valuation and Qualifying Accounts and Reserves for the Years Ended June 30, 2017, 2016 and 2015

3. Exhibits

2 Plan of Acquisition, Reorganization, Arrangement, Liquidation or Succession

- | | | |
|-----|--|---|
| 2.1 | Share Sale and Purchase Agreement relating to Deloro Stellite Holdings 1 Limited dated 2012 | Exhibit 2.1 of the Form 10-Q filed February 8, 2012 (File No. 001-05318) is incorporated herein by reference. |
| 2.2 | Warranty Agreement relating to Deloro Stellite Holdings 1 Limited dated January 13, 2012 | Exhibit 2.2 of the Form 10-Q filed February 8, 2012 (File No. 001-05318) is incorporated herein by reference. |
| 2.3 | Tax Deed Covenant relating to Deloro Stellite Holdings 1 Limited dated March 1, 2012 | Exhibit 2.1 of the Form 10-Q filed May 9, 2012 (File No. 001-05318) is incorporated herein by reference. |
| 2.4 | Purchase Agreement relating to the Tungsten Materials Business of Allegheny Technologies Incorporated dated as of September 13, 2013 | Exhibit 2.1 of the Form 10-Q filed November 7, 2013 (File No. 001-05318) is incorporated herein by reference. |

3 Articles of Incorporation and Bylaws

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|-----|--|--|
| 3.1 | Articles of Incorporation of Kennametal Inc., as amended and restated through October 28, 2014 | Exhibit 3.(i) of the Form 8-K filed October 30, 2014 (File No. 001-05318) is incorporated herein by reference. |
| 3.2 | By-Laws of Kennametal Inc., as amended and restated through July 26, 2016 | Exhibit 10.1 of the Form 8-K filed July 28, 2016 (File No. 001-05318) is incorporated herein by reference. |

4 Instruments Defining the Rights of Security Holders, Including Indentures

- | | | |
|-----|--|---|
| 4.1 | Indenture, dated as of June 19, 2002, by and between the Registrant and Bank One Trust Company, N.A., as trustee | Exhibit 4.1 of the Form 8-K filed June 20, 2002 (File No. 001-05318) is incorporated herein by reference. |
| 4.2 | First Supplemental Indenture, dated as of June 19, 2002, by and between the Registrant and Bank One Trust Company, N.A., as trustee | Exhibit 4.2 of the Form 8-K filed June 20, 2002 (File No. 001-05318) is incorporated herein by reference. |
| 4.3 | Indenture dated February 14, 2012 between Kennametal Inc. and U.S. Bank National Association | Exhibit 4.1 of the Form 8-K filed February 14, 2012 (File No. 001-05318) is incorporated herein by reference. |
| 4.4 | First Supplemental Indenture dated February 14, 2012 between Kennametal Inc. and U.S. Bank National Association (including Form of 3.875% Note due 2022) | Exhibit 4.2 of the Form 8-K filed February 14, 2012 (File No. 001-05318) is incorporated herein by reference. |
| 4.5 | Second Supplemental Indenture dated November 7, 2012 between Kennametal Inc. and U.S. Bank National Association (including Form of 2.65% Note due 2019) | Exhibit 4.4 of the Form 8-K filed November 7, 2012 (File No. 001-05318) is incorporated herein by reference. |

10 Material Contracts

- | | | |
|-------|--|--|
| 10.1* | Kennametal Inc. Management Performance Bonus Plan | Appendix A to the 2011 Proxy Statement filed September 12, 2011 (File No. 001-05318) is incorporated herein by reference. |
| 10.2* | Deferred Fee Plan for Outside Directors, as amended and restated effective December 30, 2008 | Exhibit 10.1 of the December 31, 2008 Form 10-Q filed February 4, 2009 (File No. 001-05318) is incorporated herein by reference. |
| 10.3* | Executive Deferred Compensation Trust Agreement | Exhibit 10.5 of the June 30, 1988 Form 10-K (File No. 001-05318) is incorporated herein by reference. |
| 10.4* | Directors Stock Incentive Plan, as amended and restated effective December 30, 2008 | Exhibit 10.2 of the December 31, 2008 Form 10-Q filed February 4, 2009 (File No. 001-05318) is incorporated herein by reference. |

10.5*	Performance Bonus Stock Plan of 1995, as amended and restated effective December 30, 2008	Exhibit 10.3 of the December 31, 2008 Form 10-Q filed February 4, 2009 (File No. 001-05318) is incorporated herein by reference.
10.6*	Kennametal Inc. Stock and Incentive Plan of 2002 (as amended on October 21, 2008)	Appendix A to the 2008 Proxy Statement filed September 8, 2008 (File No. 001-05318) is incorporated herein by reference.
10.7*	Forms of Award Agreements under the Kennametal Inc. Stock and Incentive Plan of 2002, as amended	Exhibit 10.18 of the June 30, 2004 Form 10-K filed September 10, 2004 (File No. 001-05318) is incorporated herein by reference.
10.8*	Form of Kennametal Inc. Restricted Unit Award (granted under the Kennametal Inc. Stock and Incentive Plan of 2002, as amended)	Exhibit 10.1 of the September 30, 2009 Form 10-Q filed November 5, 2009 (File No. 001-05318) is incorporated herein by reference.
10.9*	Form of Kennametal Inc. Performance Unit Award (granted under the Kennametal Inc. Stock and Incentive Plan of 2002, as amended)	Exhibit 10.1 of Form 10-Q filed November 5, 2010 (File No. 001-05318) is incorporated herein by reference.
10.10*	Form of Officer's Employment Agreement with Ronald M. De Feo	Exhibit 10.1 to Form 8-K filed February 5, 2016 (File No. 001-05318) is incorporated herein by reference.
10.11*	Form of Officer's Employment Agreement with certain Named Executive Officers	Exhibit 10.16 of the Form 10-K filed August 13, 2015 (File No. 001-05318) is incorporated herein by reference.
10.12*	Schedule of Named Executive Officers who have entered into the Form of Officer's Employment Agreement as set forth in Exhibit 10.11	Exhibit 10.17 of the Form 10-K filed August 13, 2015 (File No. 001-05318) is incorporated herein by reference.
10.13*	Form of Indemnification Agreement for Named Executive Officers	Exhibit 10.2 of the Form 8-K filed March 22, 2005 (File No. 001-05318) is incorporated herein by reference.
10.14*	Schedule of Named Executive Officers who have entered into the Form of Indemnification Agreement as set forth in Exhibit 10.13	Filed herewith.
10.15*	Form of Employment Agreement with Donald A. Nolan	Exhibit 10.1 of the Form 8-K filed November 17, 2015 (File No. 001-05318) is incorporated herein by reference.
10.16*	Kennametal Inc. Executive Retirement Plan (for Designated Others) (as amended effective December 30, 2008)	Exhibit 10.8 of the December 31, 2008 Form 10-Q filed February 4, 2009 (File No. 001-05318) is incorporated herein by reference.
10.17*	Amendment No. 1 to Kennametal Inc. Executive Retirement Plan (dated January 27, 2015)	Exhibit 10.2 to the Form 8-K dated February 2, 2015 (File No. 001-05318) is incorporated herein by reference.
10.18*	Amendment No. 2 to Kennametal Inc. Executive Retirement Plan (dated June 18, 2015)	Exhibit 10.1 of the Form 8-K filed June 23, 2015 (File No. 001-05318) is incorporated herein by reference.
10.19*	Kennametal Inc. Supplemental Executive Retirement Plan (as amended effective December 30, 2008)	Exhibit 10.9 of the December 31, 2008 Form 10-Q filed February 4, 2009 (File No. 001-05318) is incorporated herein by reference.
10.20*	Amendment No. 1 to the Kennametal Inc. Supplemental Executive Retirement Plan (as amended effective December 30, 2008) (dated June 18, 2015)	Exhibit 10.2 of the Form 8-K filed June 23, 2015 (File No. 001-05318) is incorporated herein by reference.
10.21*	Description of Compensation Payable to Non-Employee Directors	Exhibit 10.23 of the Form 10-K filed August 11, 2016 (File No. 001-05318) is incorporated herein by reference.
10.22	Third Amended and Restated Credit Agreement dated as of June 25, 2010 among Kennametal Inc., Kennametal Europe GmbH, Bank of America, N.A., London Branch (as Euro Swingline Lender), PNC Bank, National Association and JPMorgan Chase Bank, N.A. (as Co-Syndication Agents), Citizens Bank of Pennsylvania and Bank of Tokyo- Mitsubishi UFJ Trust Company (as Co-Documentation Agents), Bank of America, N.A. (as the Administrative Agent), and the following lenders: Bank of America, N.A., PNC Bank, National Association, JPMorgan Chase Bank, N.A., Bank of Tokyo- Mitsubishi UFJ Trust Company, Citizens Bank of Pennsylvania, Mizuho Corporate Bank, Ltd., Comerica Bank, Commerzbank AG New York and Grand Cayman Branches, HSBC Bank USA, National Association, Intesa Sanpaolo S.p.A New York Branch, U.S. Bank National Association, First Commonwealth Bank and TriState Capital Bank	Exhibit 10.1 of Form 8-K filed June 30, 2010 (File No. 001-05318) is incorporated herein by reference.
10.23	Amendment No. 1, dated as of October 21, 2011, to the Third Amended and Restated Credit Agreement by and among Kennametal Inc., Kennametal Europe GmbH, Bank of America, N.A., Bank of America, N.A., London Branch, PNC Bank, National Association, JPMorgan Chase Bank, N.A., The Bank of Tokyo- Mitsubishi UFJ, Ltd., Citizens Bank of Pennsylvania, Mizuho Corporate Bank, Ltd., HSBC Bank USA, N.A., U.S. Bank National Association, Comerica Bank, Commerzbank AG New York and Grand Cayman Branches, The Huntington National Bank, First Commonwealth Bank and Intesa Sanpaolo S.p.A	Exhibit 10.1 of Form 8-K filed October 27, 2011 (File No. 001-05318) is incorporated herein by reference.

10.24	Amendment No. 2, dated as of April 5, 2013, to the Third Amended and Restated Credit Agreement by and among Kennametal Inc., Kennametal Europe GmbH, Bank of America, N.A., Bank of America, N.A., London Branch, PNC Bank, National Association, JPMorgan Chase Bank, N.A., The Bank of Tokyo-Mitsubishi UFJ, Ltd., Citizens Bank of Pennsylvania, Mizuho Corporate Bank, Ltd., HSBC Bank USA, N.A., U.S. Bank National Association, Commerzbank AG New York and Grand Cayman Branches, The Huntington National Bank, Compass Bank and First Commonwealth Bank.	Exhibit 10.1 of Form 8-K filed April 11, 2013 (File No. 001-05318) is incorporated herein by reference.
10.25	Form of Third Amended and Restated Guarantee (in connection with the Third Amended and Restated Credit Agreement)	Exhibit 10.26 of Form 10-K filed August 12, 2010 (File No. 001-05318) is incorporated herein by reference.
10.26	Fourth Amended and Restated Credit Agreement dated as of April 15, 2016 among Kennametal Inc. and Kennametal Europe GmbH (the "Borrowers"), the several banks and other financial institutions or entities from time to time parties to the Agreement ("Lenders"), Bank of America, N.A., London Branch (as Euro Swingline Lender), PNC Bank, National Association and JPMorgan Chase Bank, N.A. (as Co-Syndication Agents), Citizens Bank of Pennsylvania, The Bank of Tokyo-Mitsubishi UFJ Trust Company and Mizuho Bank, Ltd. (as Co-Documentation Agents), Bank of America, N.A. (as the Administrative Agent).	Exhibit 10.1 of Form 8-K filed April 19, 2016 (File No. 001-05318) is incorporated herein by reference.
10.27*	Stock and Incentive Plan of 2010	Exhibit A of the 2010 Proxy Statement filed September 13, 2010 (File No. 001-05318) is incorporated herein by reference.
10.28*	Form of Kennametal Inc. Performance Unit Award (granted under the Kennametal Inc. Stock and Incentive Plan of 2010)	Exhibit 10.2 of Form 10-Q filed February 8, 2011 (File No. 001-05318) is incorporated herein by reference.
10.29*	Form of Kennametal Inc. Restricted Unit Award (granted under the Kennametal Inc. Stock and Incentive Plan of 2010)	Exhibit 10.3 of Form 10-Q filed February 8, 2011 (File No. 001-05318) is incorporated herein by reference.
10.30*	Form of Kennametal Inc. Restricted Unit Award for Non-Employee Directors (granted under the Kennametal Inc. Stock and Incentive Plan of 2010)	Exhibit 10.4 of Form 10-Q filed February 8, 2011 (File No. 001-05318) is incorporated herein by reference.
10.31*	Form of Kennametal Inc. Nonstatutory Stock Option Award (granted under the Kennametal Inc. Stock and Incentive Plan of 2010)	Exhibit 10.5 of Form 10-Q filed February 8, 2011 (File No. 001-05318) is incorporated herein by reference.
10.32*	Form of Kennametal Inc. Nonstatutory Stock Option Award for Non-Employee Directors (granted under the Kennametal Inc. Stock and Incentive Plan of 2010)	Exhibit 10.6 of Form 10-Q filed February 8, 2011 (File No. 001-05318) is incorporated herein by reference
10.33*	Form of Performance Unit Award (granted under Kennametal Inc. Stock and Incentive Plan 2010)	Exhibit 10.2 of Form 10-Q filed November 8, 2011 (File No. 001-05318) is incorporated herein by reference
10.34*	Form of Officer's Employment Agreement with certain Named Executive Officers	Exhibit 10.1 of Form 8-K filed May 13, 2011 (File No. 001-05318) is incorporated herein by reference.
10.35*	Schedule of Executive Officers who have entered into the Form of Officer's Employment Agreement as set forth in Exhibit 10.34	Filed herewith.
10.36*	Form of Kennametal Inc. Restricted Unit Award - President and CEO (granted under Amendment No. 1 to the Kennametal Inc. Stock and Incentive Plan of 2010 (As Amended and Restated October 22, 2013))	Exhibit 10.3 to Form 8-K filed February 5, 2016 (File No. 001-05318) is incorporated herein by reference
10.37*	Form of Kennametal Inc. Nonstatutory Stock Option Award - President and CEO (granted under Amendment No. 1 to the Kennametal Inc. Stock and Incentive Plan of 2010 (As Amended and Restated October 22, 2013))	Exhibit 10.2 to Form 8-K filed February 5, 2016 (File No. 001-05318) is incorporated herein by reference
10.38*	Form of Kennametal Inc. Restricted Unit Award - President and CEO (granted under Amendment No. 1 to the Kennametal Inc. Stock and Incentive Plan of 2010 (As Amended and Restated October 22, 2013))	Exhibit 10.40 of the Form 10-K filed August 11, 2016 (File No. 001-05318) is incorporated herein by reference.
10.39*	Form of Kennametal Inc. Performance Unit Award - President and CEO (granted under Amendment No. 1 to the Kennametal Inc. Stock and Incentive Plan of 2010 (As Amended and Restated October 22, 2013))	Exhibit 10.41 of the Form 10-K filed August 11, 2016 (File No. 001-05318) is incorporated herein by reference.
10.40*	Stock and Incentive Plan of 2010 (As Amended and Restated October 22, 2013)	Appendix A of the 2013 Proxy Statement filed September 17, 2013 (File No. 001-05318) is incorporated herein by reference.
10.41*	Form of Kennametal Inc. Performance Unit Award (granted under the Kennametal Inc. Stock and Incentive Plan of 2010 (As Amended and Restated October 22, 2013))	Exhibit 10.38 of Form 10-K filed August 13, 2014 (File No. 001-05318) is incorporated herein by reference.
10.42*	Form of Kennametal Inc. Restricted Unit Award (granted under the Kennametal Inc. Stock and Incentive Plan of 2010 (As Amended and Restated October 22, 2013))	Exhibit 10.39 of Form 10-K filed August 13, 2014 (File No. 001-05318) is incorporated herein by reference.

10.43*	Form of Kennametal Inc. Restricted Unit Award for Non-Employee Directors (granted under the Kennametal Inc. Stock and Incentive Plan of 2010 (As Amended and Restated October 22, 2013))	Exhibit 10.40 of Form 10-K filed August 13, 2014 (File No. 001-05318) is incorporated herein by reference.
10.44*	Form of Kennametal Inc. Nonstatutory Stock Option Award (granted under the Kennametal Inc. Stock and Incentive Plan of 2010 (As Amended and Restated October 22, 2013))	Exhibit 10.41 of Form 10-K filed August 13, 2014 (File No. 001-05318) is incorporated herein by reference.
10.45*	Form of Kennametal Inc. Nonstatutory Stock Option Award for Non-Employee Directors (granted under the Kennametal Inc. Stock and Incentive Plan of 2010 (As Amended and Restated October 22, 2013))	Exhibit 10.42 of Form 10-K filed August 13, 2014 (File No. 001-05318) is incorporated herein by reference.
10.46*	Form of Kennametal Inc. Cash Settled Share-Based Award for China-based Employees (granted under the Kennametal Inc. Stock and Incentive Plan of 2010 (As Amended and Restated October 22, 2013))	Exhibit 10.43 of Form 10-K filed August 13, 2014 (File No. 001-05318) is incorporated herein by reference.
10.47*	Form of Kennametal Inc. Stock Appreciation Right Award for China-based Employees (granted under the Kennametal Inc. Stock and Incentive Plan of 2010 (As Amended and Restated October 22, 2013))	Exhibit 10.44 of Form 10-K filed August 13, 2014 (File No. 001-05318) is incorporated herein by reference.
10.48*	Form of Kennametal Inc. Restricted Unit Award - Alternate Form (granted under the Kennametal Inc. Stock and Incentive Plan of 2010 (As Amended and Restated October 22, 2013))	Exhibit 10.45 of Form 10-K filed August 13, 2014 (File No. 001-05318) is incorporated herein by reference.
10.49*	Form of Kennametal Inc. Nonstatutory Stock Option Award - Alternate Form (granted under the Kennametal Inc. Stock and Incentive Plan of 2010 (As Amended and Restated October 22, 2013))	Exhibit 10.46 of Form 10-K filed August 13, 2014 (File No. 001-05318) is incorporated herein by reference.
10.50*	Amendment No. 1 to the Kennametal Inc. Stock and Incentive Plan of 2010 (As Amended and Restated October 22, 2013)	Exhibit 10.1 to the Form 8-K dated February 2, 2015 (File No. 001-05318) is incorporated herein by reference.
10.51*	Form of Kennametal Inc. Performance Unit Award (granted under Amendment No. 1 to the Kennametal Inc. Stock and Incentive Plan of 2010 (As Amended and Restated October 22, 2013))	Exhibit 10.3 to the Form 8-K dated February 2, 2015 (File No. 001-05318) is incorporated herein by reference.
10.52*	Form of Kennametal Inc. Restricted Unit Award (granted under Amendment No. 1 to the Kennametal Inc. Stock and Incentive Plan of 2010 (As Amended and Restated October 22, 2013))	Exhibit 10.4 to the Form 8-K dated February 2, 2015 (File No. 001-05318) is incorporated herein by reference.
10.53*	Form of Kennametal Inc. Restricted Unit Award for Non-Employee Directors (granted under Amendment No. 1 to the Kennametal Inc. Stock and Incentive Plan of 2010 (As Amended and Restated October 22, 2013))	Exhibit 10.5 to the Form 8-K dated February 2, 2015 (File No. 001-05318) is incorporated herein by reference.
10.54*	Form of Kennametal Inc. Restricted Unit Award - Alternate Form (granted under Amendment No. 1 to the Kennametal Inc. Stock and Incentive Plan of 2010 (As Amended and Restated October 22, 2013))	Exhibit 10.6 to the Form 8-K dated February 2, 2015 (File No. 001-05318) is incorporated herein by reference.
10.55*	Form of Kennametal Inc. Nonstatutory Stock Option Award (granted under Amendment No. 1 to the Kennametal Inc. Stock and Incentive Plan of 2010 (As Amended and Restated October 22, 2013))	Exhibit 10.8 to the Form 8-K dated February 2, 2015 (File No. 001-05318) is incorporated herein by reference.
10.56*	Form of Kennametal Inc. Nonstatutory Stock Option Award for Non-Employee Directors (granted under Amendment No. 1 to the Kennametal Inc. Stock and Incentive Plan of 2010 (As Amended and Restated October 22, 2013))	Exhibit 10.9 to the Form 8-K dated February 2, 2015 (File No. 001-05318) is incorporated herein by reference.
10.57*	Form of Kennametal Inc. Nonstatutory Stock Option Award - Alternate Form (granted under Amendment No. 1 to the Kennametal Inc. Stock and Incentive Plan of 2010 (As Amended and Restated October 22, 2013))	Exhibit 10.10 to the Form 8-K dated February 2, 2015 (File No. 001-05318) is incorporated herein by reference.
10.58*	Form of Kennametal Inc. Cash Settled Share-Based Award for China-based Employees (granted under Amendment No. 1 to the Kennametal Inc. Stock and Incentive Plan of 2010 (As Amended and Restated October 22, 2013))	Exhibit 10.12 to the Form 8-K dated February 2, 2015 (File No. 001-05318) is incorporated herein by reference.
10.59*	Form of Kennametal Inc. Stock Appreciation Right Award for China-based Employees (granted under Amendment No. 1 to the Kennametal Inc. Stock and Incentive Plan of 2010 (As Amended and Restated October 22, 2013))	Exhibit 10.13 to the Form 8-K dated February 2, 2015 (File No. 001-05318) is incorporated herein by reference.
10.60*	Form of Kennametal Inc. Performance Unit Award (granted under Amendment No. 1 to the Kennametal Inc. Stock and Incentive Plan of 2010 (As Amended and Restated October 22, 2013))	Exhibit 10.1 to the Form 8-K dated July 30, 2015, (File No. 001-05318) is incorporated herein by reference.
10.61*	Form of Kennametal Inc. Restricted Unit Award (granted under Amendment No. 1 to the Kennametal Inc. Stock and Incentive Plan of 2010 (As Amended and Restated October 22, 2013))	Exhibit 10.3 to the Form 8-K dated July 30, 2015, (File No. 001-05318) is incorporated herein by reference.

10.62*	Form of Kennametal Inc. Restricted Unit Award - Alternate Form (granted under Amendment No. 1 to the Kennametal Inc. Stock and Incentive Plan of 2010 (As Amended and Restated October 22, 2013))	Exhibit 10.5 to the Form 8-K dated July 30, 2015, (File No. 001-05318) is incorporated herein by reference.
10.63*	Form of Kennametal Inc. Cash Settled Share-Based Award for China-based Employees (granted under Amendment No. 1 to the Kennametal Inc. Stock and Incentive Plan of 2010 (As Amended and Restated October 22, 2013))	Exhibit 10.6 to the Form 8-K dated July 30, 2015, (File No. 001-05318) is incorporated herein by reference.
10.64*	Form of Kennametal Inc. Nonstatutory Stock Option Award (granted under Amendment No. 1 to the Kennametal Inc. Stock and Incentive Plan of 2010 (As Amended and Restated October 22, 2013))	Exhibit 10.7 to the Form 8-K dated July 30, 2015, (File No. 001-05318) is incorporated herein by reference.
10.65*	Form of Kennametal Inc. Nonstatutory Stock Option Award - Alternate Form (granted under Amendment No. 1 to the Kennametal Inc. Stock and Incentive Plan of 2010 (As Amended and Restated October 22, 2013))	Exhibit 10.9 to the Form 8-K dated July 30, 2015, (File No. 001-05318) is incorporated herein by reference.
10.66*	Form of Kennametal Inc. Stock Appreciation Right Award for China-based Employees (granted under Amendment No. 1 to the Kennametal Inc. Stock and Incentive Plan of 2010 (As Amended and Restated October 22, 2013))	Exhibit 10.10 to the Form 8-K dated July 30, 2015, (File No. 001-05318) is incorporated herein by reference.
10.67*	Kennametal Inc. 2016 Stock and Incentive Plan	Appendix C of 2016 Proxy Statement filed September 13, 2016 (File No. 001-05318) is incorporated by reference herein.
10.68*	Form of Kennametal Inc. Performance Unit Award (granted under Kennametal Inc. Stock and Incentive Plan of 2010, as amended and restated on October 22, 2013, and amended on January 27, 2015)	Exhibit 10.1 of the Form 10-Q filed November 7, 2016 (File No. 001-05318) is incorporated by reference herein.
10.69*	Form of Kennametal Performance Unit Award (for President and CEO) (granted under Kennametal Inc. Stock and Incentive Plan of 2010, as amended and restated on October 22, 2013, and amended on January 27, 2015)	Exhibit 10.2 of the Form 10-Q filed November 7, 2016 (File No. 001-05318) is incorporated by reference herein.
10.70*	Form of Kennametal Inc. Restricted Unit Award (granted under the Kennametal Inc. 2016 Stock and Incentive Plan)	Exhibit 10.4 of the Form 10-Q filed November 7, 2016 (File No. 001-05318) is incorporated by reference herein.
10.71*	Form of Kennametal Inc. Cash Settled Share-Based Award for China-Based Employees (granted under the Kennametal Inc. 2016 Stock and Incentive Plan)	Exhibit 10.5 of the Form 10-Q filed November 7, 2016 (File No. 001-05318) is incorporated by reference herein.
10.72*	Form of Kennametal Inc. Restricted Stock Unit Award (three year cliff vest) (granted under the Kennametal Inc. 2016 Stock and Incentive Plan)	Exhibit 10.1 of the Form 10-Q filed February 8, 2017 (File No. 001-05318) is incorporated by reference herein.
10.73*	Form of Letter Agreement with Mr. De Feo dated August 1, 2017	Exhibit 10.1 of the Form 8-K filed June 29, 2017 (File No. 001-05318) is incorporated by reference herein.
10.74*	Form of Updated Kennametal Inc. Restricted Unit Award (granted under the Kennametal Inc. Stock and Incentive Plan of 2016)	Filed herewith.
10.75*	Form of Kennametal Inc. Restricted Unit Award for Non-Employee Directors (granted under the Kennametal Inc. Stock and Incentive Plan of 2016)	Filed herewith.
10.76*	Form of Kennametal Inc. Form of Kennametal Inc. Cash-Settled Restricted Unit Award for China-based Employees (granted under the Kennametal Inc. Stock and Incentive Plan of 2016)	Filed herewith.
10.77*	Form of Kennametal Inc. Performance Unit Award (granted under the Kennametal Inc. Stock and Incentive Plan of 2016)	Filed herewith.
10.78*	Form of Kennametal Inc. Retention Restricted Unit Award (granted under the Kennametal Inc. Stock and Incentive Plan of 2016)	Filed herewith.
10.79*	Form of Officer's Employment Agreement with President and CEO Christopher Rossi	Filed herewith.
10.80*	Form of Executive Chairman Employment Agreement with Ronald M. De Feo	Exhibit 10.1 of the Form 8-K filed June 29, 2017 (File No. 001-05318) is incorporated herein by reference.
21	Subsidiaries of the Registrant	Filed herewith.
23	Consent of Independent Registered Public Accounting Firm	Filed herewith.
31	Certifications	
31.1	Certification executed by Ronald M. De Feo, Executive Chairman of Kennametal Inc.	Filed herewith.

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|------|--|-----------------|
| 31.2 | Certification executed by Christopher Rossi, President and Chief Executive Officer of Kennametal Inc. | Filed herewith. |
| 31.3 | Certification executed by Jan Kees van Gaalen, Vice President and Chief Financial Officer of Kennametal Inc. | Filed herewith. |

32 Section 1350 Certifications

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|------|---|-----------------|
| 32.1 | Certification Pursuant to 18 U.S.C. Section 1350 as Adopted Pursuant to Section 906 of the Sarbanes-Oxley Act of 2002, executed by Ronald M. De Feo, Executive Chairman of Kennametal Inc.; Christopher Rossi, President and Chief Executive Officer of Kennametal Inc.; and Jan Kees van Gaalen, Vice President and Chief Financial Officer of Kennametal Inc. | Filed herewith. |
|------|---|-----------------|

*Denotes management contract or compensatory plan or arrangement.

101 XBRL

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|---------|---|-----------------|
| 101.INS | XBRL Instance Document. | Filed herewith. |
| 101.SCH | XBRL Taxonomy Extension Schema Document. | Filed herewith. |
| 101.CAL | XBRL Taxonomy Extension Calculation Linkbase Document. | Filed herewith. |
| 101.DEF | XBRL Taxonomy Definition Linkbase | Filed herewith. |
| 101.LAB | XBRL Taxonomy Extension Label Linkbase Document. | Filed herewith. |
| 101.PRE | XBRL Taxonomy Extension Presentation Linkbase Document. | Filed herewith. |

SCHEDULE II — VALUATION AND QUALIFYING ACCOUNTS AND RESERVES

(In thousands) For the year ended June 30	Balance at Beginning of Year	Charges to Costs and Expenses	Charged to Other Comprehensive (Loss) Income	Recoveries	Other Adjustments	Deductions from Reserves	Balance at End of Year
2017							
Allowance for doubtful accounts	\$ 12,724	\$ 3,589	\$ —	\$ 45	\$ (24) ⁽¹⁾	\$ (2,641) ⁽²⁾	\$ 13,693
Reserve for excess and obsolete inventory	36,713	9,603	—	—	328 ⁽¹⁾	(14,530) ⁽³⁾	32,114
Deferred tax asset valuation allowance	122,699	2,361	(5,805)	—	(2,485) ⁽⁶⁾	—	116,770
2016							
Allowance for doubtful accounts	\$ 13,560	\$ 4,827	\$ —	\$ 31	\$ (601) ⁽⁴⁾	\$ (5,093) ⁽²⁾	\$ 12,724
Reserve for excess and obsolete inventory	45,020	5,393	—	—	(3,372) ⁽⁴⁾	(10,328) ⁽³⁾	36,713
Deferred tax asset valuation allowance	16,771	85,361 ⁽⁵⁾	24,666 ⁽⁵⁾	—	(4,099) ⁽⁴⁾	—	122,699
2015							
Allowance for doubtful accounts	\$ 14,027	\$ 3,602	\$ —	\$ 40	\$ (1,095) ⁽¹⁾	\$ (3,014) ⁽²⁾	\$ 13,560
Reserve for excess and obsolete inventory	52,737	8,666	—	—	(5,613) ⁽¹⁾	(10,770) ⁽³⁾	45,020
Deferred tax asset valuation allowance	17,860	1,846	—	—	(2,935) ⁽¹⁾	—	16,771

(1) Represents foreign currency translation adjustment.

(2) Represents uncollected accounts charged against the allowance.

(3) Represents scrapped inventory and other charges against the reserve.

(4) Represents foreign currency translation adjustment and reserves divested through business combinations.

(5) Represents primarily effects from the recording of a valuation allowance against our net deferred tax assets in the U.S.

(6) Represents the shortfall on restricted stock units and non-qualified stock options which resulted in a reduction of our deferred tax asset and subsequently the valuation allowance, in addition to foreign currency translation adjustment.

ITEM 16 — FORM 10-K SUMMARY

None.

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CORPORATE DIRECTORY

Our consolidated subsidiaries and affiliated companies as of June 30, 2017 are:

Consolidated Subsidiaries and Affiliated Companies of Kennametal Inc.

ISIS GHH Limited
 Kennametal (Malaysia) Sdn. Bhd.
 Kennametal (Singapore) Pte. Ltd.
 Kennametal (Thailand) Co., Ltd.
 Kennametal Australia Pty. Ltd.
 Kennametal de Mexico, S.A. de C.V.
 Kennametal Distribution Services Asia Pte. Ltd.
 Kennametal Hardpoint (Taiwan) Inc.
 Kennametal Holdings Europe Inc.
 Kennametal Hungary Finance Services Kft.
 Kennametal Hungary Holdings Inc.
 Kennametal International S.A. (Panama)
 Kennametal Japan Ltd.
 Kennametal Korea Ltd.
 Kennametal Manufacturing S.A. (Pty) Ltd.
 Kennametal Shared Services Private Limited
 Kennametal South Africa (Pty.) Ltd.

Consolidated Subsidiaries of Kennametal Holdings Europe Inc.

Deloro Stellite Holdings Corporation
 Kennametal Holdings, LLC
 Kennametal Holdings, LLC Luxembourg S.C.S.

Consolidated Subsidiaries of Deloro Stellite Holdings Corporation

DSGP LLC
 DS Verwaltungsgesellschaft GmbH (Real Estate)
 Kennametal Stellite, L.P.
 Kennametal Stellite Holding GmbH & Co. KG (partnership)
 Kennametal Stellite Inc.
 Kennametal Stellite (Shanghai) Co., Ltd. (Joint Venture)

Consolidated Subsidiary of Kennametal Holdings, LLC Luxembourg S.C.S.

Kennametal Luxembourg Holding S.à r.l.

Consolidated Subsidiaries of Kennametal Luxembourg Holding S.à r.l.

Kennametal Argentina S.A.
 Kennametal Chile Ltda.
 Kennametal do Brasil Ltda.
 Kennametal Europe GmbH
 Kennametal Europe Holding GmbH
 Kennametal Luxembourg S.à r.l.
 Comercializadora Kennametal Bolivia S.R.L.

Consolidated Subsidiaries of Kennametal Luxembourg S.à r.l.

Kennametal Asia (HK) Ltd.
 Kennametal Ltd.
 Kennametal Sintec Holding GmbH

Consolidated Subsidiaries of Kennametal Asia (HK) Ltd.

Kennametal (Baotou) Company Ltd.
 Kennametal (China) Co. Ltd.
 Kennametal Hardpoint (Shanghai) Co., Ltd.
 Kennametal (Xuzhou) Company, Ltd.

Consolidated Subsidiary of Kennametal Sintec Holding GmbH
Kennametal Sintec Keramik Asia Ltd.

Consolidated Subsidiary of Kennametal Sintec Keramik Asia Ltd.
Sunshine Power-Tech (Shanghai) Ltd.

Consolidated Company of Kennametal Europe Holding GmbH
Kennametal Europe GmbH

Consolidated Subsidiaries of Kennametal Europe GmbH
Hanita Metal Works, Ltd.
Kennametal Holding GmbH
Kennametal Nederland B.V.
Kennametal Stellram Limited
OOO Kennametal

Consolidated Subsidiary of Hanita Metal Works, Ltd.
Hanita Cutting Tools, Inc.

Consolidated Subsidiary of Kennametal Stellram Limited
Kennametal Stellram SaRL

Consolidated Subsidiaries of Kennametal Holding GmbH
Kennametal GmbH
Kennametal Hungaria Kft.
Kennametal Logistics GmbH
Kennametal Shared Services GmbH
Kennametal Sintec Keramik GmbH
Kennametal Widia Beteiligungs GmbH
Widia GmbH

Consolidated Subsidiaries and Affiliated Companies of Kennametal GmbH
Kenci S.L.
Kennametal Belgium S.p.r.l.
Kennametal Deutschland GmbH
Kennametal France S.A.S.
Kennametal GmbH Organizacni Slozka
Kennametal GmbH Zweigniederlassung Osterreich
Kennametal GmbH Zweigniederlassung Rumanien
Kennametal GmbH Zweigniederlassung Slowakei
Kennametal Infrastructure GmbH
Kennametal Italia S.p.A.
Kennametal Kesici Takimlar Sanayi Ve Ticaret Anonim Sirketi
Kennametal Polska Sp. z o.o.
Kennametal Produktions GmbH & Co. KG. (partnership)
Kennametal Sp. z o.o.
Kennametal Stellram S.r.L.
Kennametal UK Limited
Ruebig Real Estate GmbH & Co. KG

Consolidated Subsidiary of Kennametal Italia S.p.A.
Kennametal Italia Produzione S.R.L.

Consolidated Affiliated Company of Kennametal Produktions GmbH & Co. KG (partnership)
Kennametal Real Estate GmbH & Co. KG (partnership)

Consolidated Affiliated Company of Kennametal Deutschland GmbH
Kennametal (Deutschland) Real Estate GmbH & Co. KG (partnership)

Consolidated Subsidiary of Kennametal Sp. z o.o
Kennametal Produkcja Sp. z o.o.

Consolidated Subsidiaries and Affiliated Companies of Widia GmbH
Kennametal Widia Produktions GmbH & Co. KG (partnership)
Kennametal Widia Real Estate GmbH & Co. KG (partnership)
Meturit AG

Consolidated Subsidiary of Meturit AG
Kennametal India Ltd.

Consolidated Subsidiaries of Kenci S.L.
Kenci Lda.
Kennametal Manufacturing Barcelona S.L.

Consolidated Subsidiaries of Kennametal UK Limited
Kennametal Logistics UK Ltd.
Kennametal Manufacturing UK Ltd.
Kennametal Sintec Keramik UK Ltd.

I, Ronald M. De Feo, certify that:

1. I have reviewed this annual report on Form 10-K of Kennametal Inc.;
2. Based on my knowledge, this report does not contain any untrue statement of a material fact or omit to state a material fact necessary to make the statements made, in light of the circumstances under which such statements were made, not misleading with respect to the period covered by this report;
3. Based on my knowledge, the financial statements, and other financial information included in this report, fairly present in all material respects the financial condition, results of operations and cash flows of the registrant as of, and for, the periods presented in this report;
4. The registrant's other certifying officer and I are responsible for establishing and maintaining disclosure controls and procedures (as defined in Exchange Act Rules 13a-15(e) and 15d-15(e)) and internal control over financial reporting (as defined in Exchange Act Rules 13a-15(f) and 15d-15(f)) for the registrant and have:
 - a) Designed such disclosure controls and procedures, or caused such disclosure controls and procedures to be designed under our supervision, to ensure that material information relating to the registrant, including its consolidated subsidiaries, is made known to us by others within those entities, particularly during the period in which this report is being prepared;
 - b) Designed such internal control over financial reporting, or caused such internal control over financial reporting to be designed under our supervision, to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with generally accepted accounting principles;
 - c) Evaluated the effectiveness of the registrant's disclosure controls and procedures and presented in this report our conclusions about the effectiveness of the disclosure controls and procedures, as of the end of the period covered by this report based on such evaluation; and
 - d) Disclosed in this report any change in the registrant's internal control over financial reporting that occurred during the registrant's most recent fiscal quarter (the registrant's fourth fiscal quarter in the case of an annual report) that has materially affected, or is reasonably likely to materially affect, the registrant's internal control over financial reporting; and
5. The registrant's other certifying officer and I have disclosed, based on our most recent evaluation of internal control over financial reporting, to the registrant's auditors and the audit committee of the registrant's board of directors (or persons performing the equivalent functions)
 - a) All significant deficiencies and material weaknesses in the design or operation of internal control over financial reporting which are reasonably likely to adversely affect the registrant's ability to record, process, summarize and report financial information; and
 - b) Any fraud, whether or not material, that involves management or other employees who have a significant role in the registrant's internal control over financial reporting.

Date: August 14, 2017

/s/ Ronald M. De Feo

Ronald M. De Feo
Executive Chairman

I, Christopher Rossi, certify that:

1. I have reviewed this annual report on Form 10-K of Kennametal Inc.;
2. Based on my knowledge, this report does not contain any untrue statement of a material fact or omit to state a material fact necessary to make the statements made, in light of the circumstances under which such statements were made, not misleading with respect to the period covered by this report;
3. Based on my knowledge, the financial statements, and other financial information included in this report, fairly present in all material respects the financial condition, results of operations and cash flows of the registrant as of, and for, the periods presented in this report;
4. The registrant's other certifying officer and I are responsible for establishing and maintaining disclosure controls and procedures (as defined in Exchange Act Rules 13a-15(e) and 15d-15(e)) and internal control over financial reporting (as defined in Exchange Act Rules 13a-15(f) and 15d-15(f)) for the registrant and have:
 - a) Designed such disclosure controls and procedures, or caused such disclosure controls and procedures to be designed under our supervision, to ensure that material information relating to the registrant, including its consolidated subsidiaries, is made known to us by others within those entities, particularly during the period in which this report is being prepared;
 - b) Designed such internal control over financial reporting, or caused such internal control over financial reporting to be designed under our supervision, to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with generally accepted accounting principles;
 - c) Evaluated the effectiveness of the registrant's disclosure controls and procedures and presented in this report our conclusions about the effectiveness of the disclosure controls and procedures, as of the end of the period covered by this report based on such evaluation; and
 - d) Disclosed in this report any change in the registrant's internal control over financial reporting that occurred during the registrant's most recent fiscal quarter (the registrant's fourth fiscal quarter in the case of an annual report) that has materially affected, or is reasonably likely to materially affect, the registrant's internal control over financial reporting; and
5. The registrant's other certifying officer and I have disclosed, based on our most recent evaluation of internal control over financial reporting, to the registrant's auditors and the audit committee of the registrant's board of directors (or persons performing the equivalent functions)
 - a) All significant deficiencies and material weaknesses in the design or operation of internal control over financial reporting which are reasonably likely to adversely affect the registrant's ability to record, process, summarize and report financial information; and
 - b) Any fraud, whether or not material, that involves management or other employees who have a significant role in the registrant's internal control over financial reporting.

Date: August 14, 2017

/s/ Christopher Rossi

Christopher Rossi
President and Chief Executive Officer

I, Jan Kees van Gaalen, certify that:

1. I have reviewed this annual report on Form 10-K of Kennametal Inc.;
2. Based on my knowledge, this report does not contain any untrue statement of a material fact or omit to state a material fact necessary to make the statements made, in light of the circumstances under which such statements were made, not misleading with respect to the period covered by this report;
3. Based on my knowledge, the financial statements, and other financial information included in this report, fairly present in all material respects the financial condition, results of operations and cash flows of the registrant as of, and for, the periods presented in this report;
4. The registrant's other certifying officer and I are responsible for establishing and maintaining disclosure controls and procedures (as defined in Exchange Act Rules 13a-15(e) and 15d-15(e)) and internal control over financial reporting (as defined in Exchange Act Rules 13a-15(f) and 15d-15(f)) for the registrant and have:
 - a) Designed such disclosure controls and procedures, or caused such disclosure controls and procedures to be designed under our supervision, to ensure that material information relating to the registrant, including its consolidated subsidiaries, is made known to us by others within those entities, particularly during the period in which this report is being prepared;
 - b) Designed such internal control over financial reporting, or caused such internal control over financial reporting to be designed under our supervision, to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with generally accepted accounting principles;
 - c) Evaluated the effectiveness of the registrant's disclosure controls and procedures and presented in this report our conclusions about the effectiveness of the disclosure controls and procedures, as of the end of the period covered by this report based on such evaluation; and
 - d) Disclosed in this report any change in the registrant's internal control over financial reporting that occurred during the registrant's most recent fiscal quarter (the registrant's fourth fiscal quarter in the case of an annual report) that has materially affected, or is reasonably likely to materially affect, the registrant's internal control over financial reporting; and
5. The registrant's other certifying officer and I have disclosed, based on our most recent evaluation of internal control over financial reporting, to the registrant's auditors and the audit committee of the registrant's board of directors (or persons performing the equivalent functions)
 - a) All significant deficiencies and material weaknesses in the design or operation of internal control over financial reporting which are reasonably likely to adversely affect the registrant's ability to record, process, summarize and report financial information; and
 - b) Any fraud, whether or not material, that involves management or other employees who have a significant role in the registrant's internal control over financial reporting.

Date: August 14, 2017

/s/ Jan Kees van Gaalen

Jan Kees van Gaalen

Vice President and Chief Financial Officer

CERTIFICATION PURSUANT TO
18 U.S.C. SECTION 1350,
AS ADOPTED PURSUANT TO
SECTION 906 OF THE SARBANES-OXLEY ACT OF 2002

In connection with the Annual Report of Kennametal Inc. (the "Corporation") on Form 10-K for the period ended June 30, 2017, as filed with the Securities and Exchange Commission on the date hereof (the "Report"), each of the undersigned officers of the Corporation certifies, pursuant to 18 U.S.C. § 1350, as adopted pursuant to Section 906 of the Sarbanes-Oxley Act of 2002, that, to his knowledge:

- 1) The Report fully complies with the requirements of Section 13(a) or 15(d) of the Securities Exchange Act of 1934; and
- 2) The information contained in the Report fairly presents, in all material respects, the financial condition and result of operations of the Corporation.

/s/ Ronald M. De Feo
Ronald M. De Feo
Executive Chairman

August 14, 2017

/s/ Christopher Rossi
Christopher Rossi
President and Chief Executive Officer

August 14, 2017

/s/ Jan Kees van Gaalen
Jan Kees van Gaalen
Vice President and Chief Financial Officer

August 14, 2017

*This certification is made solely for purposes of 18 U.S.C. Section 1350, subject to the knowledge standard contained therein, and not for any other purpose.

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BOARD OF DIRECTORS

Cindy L. Davis

Director, Buffalo Wild Wings
Former Vice President, Nike, Inc., and
President, Nike Golf

Ronald M. De Feo

Executive Chairman of the Board, Kennametal Inc.

Philip A. Dur

Former Corporate Vice President and President,
Ship Systems Sector, Northrop Grumman Corporation

William J. Harvey

Former President, DuPont Packaging & Industrial Polymers

William M. Lambert

Chairman, President and CEO, MSA Safety Inc.

Timothy R. McLevish

Executive Chairman,
Lamb Weston Holdings, Inc.

Sagar A. Patel

President, Aircraft Turbine Systems of Woodward, Inc.

Christopher Rossi

President and Chief Executive Officer, Kennametal Inc.

Lawrence W. Stranghoener

Lead Independent Director of the Board
Former Executive Vice President and Chief Financial Officer,
The Mosaic Company

Steven H. Wunning

Former Group President and Executive Office Member,
Caterpillar Inc.

CORPORATE INFORMATION

World and Americas Headquarters

Kennametal Inc.
600 Grant Street
Suite 5100
Pittsburgh, PA 15219
U.S.A.

Toll-free number for U.S. and Canada:
800-446-7738
www.kennametal.com

Europe Headquarters

Kennametal Europe GmbH
Rheingoldstrasse 50
CH 8212 Neuhausen am Rheinfall
Switzerland

(41) 52-6750-100 Tel
(41) 52-6750-101 Fax

Asia Headquarters

Kennametal Singapore Pte. Ltd
ICON@IBP #01-02/03/05
3A International Business Park
Singapore 609935

(65) 6-2659222 Tel
(65) 6-8610911 Fax

Transfer Agent, Registrar of Stock and Dividend Disbursing Agent

Correspondence should be mailed to:
Computershare
P.O. Box 505000
Louisville, KY 40233

Overnight correspondence should be sent to:
Computershare
462 South 4th Street, Suite 1600
Louisville, KY 40202

Toll-free number for U.S., Canada & Mexico:
866-211-6288
For rest of world:
201-680-6578

www.computershare.com/investor

Stock Listing

The New York Stock Exchange
Ticker Symbol: KMT
CUSIP No.: 489170100



Independent Registered Public Accounting Firm

PricewaterhouseCoopers LLP

Investor Relations and Media Information

Securities analysts, shareholders and others seeking financial information should call Kelly Boyer, CFA, Vice President, Investor Relations, (01) 412-248-8287. News media and others seeking general information should contact Ms. Christina Sutter, Senior Manager of Corporate Relations, at (01) 724-539-5708.

Dividend Reinvestment and Stock Purchase Plan

This plan provides shareholders with a convenient way to acquire additional shares of Kennametal stock without paying brokerage fees or service charges. Participants may reinvest their dividends, plus cash if desired, to acquire these additional shares. Computershare administers the plan and acts as the agent for the participants. For more information, contact Computershare toll free at 866-211-6288 or at 201-680-6578, or visit www.computershare.com/investor.

Equal Opportunity Employer

Kennametal is an equal opportunity employer. All matters regarding recruiting, hiring, training, compensation, benefits, promotions, transfers and all other personnel policies will continue to be free from discriminatory practices.

Annual Meeting

The Annual Meeting of Shareholders will be held at the Quentin C. McKenna Technology Center, 1600 Technology Way, Latrobe, PA, U.S.A., on Tuesday, October 31, 2017, at 2 p.m. Notice of the meeting will be mailed on or about Thursday, September 14, 2017, to shareholders of record at the close of business, Friday, September 1, 2017. All shareholders are cordially invited to attend. Proxies will be solicited by the Board of Directors.



As always, Kennametal employees are deeply committed to Protecting Our Planet. Recognizing that resource conservation is key to our competitiveness and sustainability, our team has worked diligently to find ways to conserve energy and water, recycle materials and reduce waste, while engaging in additional practices that are consistent with responsible environmental stewardship.



www.kennametal.com