KENNAMETAL INC
Form 10-K
August 11, 2016
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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, 2016
Commission File Number 1-5318
KENNAMETAL INC.
(Exact name of registrant as specified in its charter)

Pennsylvania	25-0900168
(State or other jurisdiction of incorporation or organization)	(I.R.S. Employer Identification No.)

600 Grant Street
Suite 5100

Pittsburgh, Pennsylvania	15219-2706
(Address of Principal Executive Offices)	(Zip Code)

Registrant's telephone number, including area code: (412) 248-8200
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 [X] No [ ]
Indicate by check mark if the registrant is not required to file reports pursuant to Section 13 or Section 15(d) of the Act. Yes [ ] No [X]
Indicate by check mark whether the registrant (1) has filed all reports required to be filed by Section 13 or 15(d) of the Securities Exchange Act of 1934 during the preceding 12 months (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 [X] 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 [X] 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, or a smaller reporting company. See the definitions of "large accelerated filer," "accelerated filer" and "smaller reporting company" in Rule 12b-2 of the Exchange Act.

Large accelerated filer [X]	Accelerated filer [ ]
Non-accelerated filer	Smaller reporting company [ ]
[ ] (Do not check if smaller	

reporting company)
Indicate by check mark whether the registrant is a shell company (as defined by Rule 12b-2 of the Exchange Act). Yes [ ] No [X]
As of December 31, 2015, 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 $1,033,300,000. 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 29, 2016, there were 79,700,981 of the Registrant's Capital Stock outstanding.
DOCUMENTS INCORPORATED BY REFERENCE
Portions of the Proxy Statement for the 2016 Annual Meeting of Shareholders are incorporated by reference into Part III.

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PART IV

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FORWARD-LOOKING INFORMATION

This Annual Report on Form 10-K contains “forward-looking” statements within the meaning of Section 27A of the Securities Act of 1933 and Section 21E of the Securities Exchange Act of 1934. Forward-looking statements are statements that do not relate strictly to historical or current facts. For example, statements about Kennametal's outlook for earnings, sales volumes, and cash flow for its fiscal year 2017, 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. These statements are based on current estimates that involve inherent risks and uncertainties. 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: economic recession; our ability to achieve all anticipated benefits of restructuring initiatives; our foreign operations and international markets, such as 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; energy costs; commodity prices; 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. We undertake no obligation to release publicly any revisions to forward-looking statements as a result of future events or developments.

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PART I

ITEM 1 - BUSINESS
OVERVIEW Kennametal Inc. was incorporated in Pennsylvania in 1943. As a global industrial leader, Kennametal delivers productivity solutions to customers seeking peak performance in demanding environments. The Company provides innovative wear-resistant products, application engineering and services backed by advanced material science serving customers across diverse sectors of industrial production, transportation, earthworks, energy, construction, process industries and aerospace. Kennametal solutions are built around industry-essential technology platforms, including precision-engineered metalworking tools and components, surface technologies and earth cutting tools that are mission-critical to customer operations battling extreme conditions associated with wear fatigue, corrosion and high temperatures. The Company’s reputation for material and industrial technology excellence, as well as expertise and innovation in the development of custom solutions and services, contributes to its leading position in its primary industrial and infrastructure markets. End users of the Company’s products include manufacturers, metalworking suppliers, machinery operators and processors engaged in a diverse array of industries, including the manufacture of transportation vehicles and components; machine tool, light machinery and heavy machinery industries; airframe and aerospace components, defense; as well as producers and suppliers in equipment-intensive operations such as coal mining, road construction, quarrying, oil and gas exploration, refining, production and supply. Our product offering includes a wide selection of standard and customized technologies for metalworking, such as sophisticated metal cutting tools, tooling systems and services, as well as advanced, high-performance materials, such as cemented tungsten carbide products, super alloys, coatings and investment castings to address customer demands. We offer these products through a variety of channels to meet customer-specified needs. We are a leading global supplier of tooling, engineered components and advanced materials consumed in production processes. We believe we are one of the largest global providers of consumable metal cutting tools and tooling supplies.
We specialize in developing and manufacturing metalworking tools and wear-resistant engineered components and coatings using a specialized type of powder metallurgy. Our metalworking tools are made of cemented tungsten carbides, ceramics, cermets and super-hard materials. We also manufacture and market a complete line of tool holders, tool-holding systems and rotary-cutting tools by machining and fabricating steel bars and other metal alloys. In addition, we produce specialized compacts and metallurgical powders, as well as products made from tungsten carbide or other hard materials that are used for custom-engineered and challenging applications, including mining and highway construction, among others. Further, we develop, manufacture and market engineered components and surface technology solutions with proprietary metal cladding capabilities.
Unless otherwise specified, any reference to a “year” refers to the fiscal year ending on June 30.
BUSINESS SEGMENT REVIEW The Company manages and reports its business in the following two segments: Industrial 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. 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.
During fiscal 2017, we began operating under a new structure. See additional discussion included in MD&A.
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. 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. The value we deliver to our Industrial segment customers centers on knowledge of our customers' processes, application expertise and our diverse offering of products and services.

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INFRASTRUCTURE In the Infrastructure segment, we focus on customers in the energy and earthworks market sectors who 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 beverage. Our success is determined by our associates gaining an in-depth understanding of our customers' engineering and development needs, to be able to offer complete system solutions and high-performance capabilities to optimize and add value to their operations.

INTERNATIONAL OPERATIONS During 2016, we generated 57 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 respective 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).

GENERAL DEVELOPMENT OF BUSINESS In fiscal 2016 we continued to experience the effects of the further deterioration in customer demand in many of our end markets and certain geographies. Some areas of industrial production declined, in addition to further reductions in mining and oil and gas activity. In addition to restructuring actions, we took temporary cost reductions in various areas of the business.

In 2016, restructuring programs delivered incremental benefits of approximately $44 million. We substantially completed Phase 1 of restructuring programs. Estimated ongoing annualized savings for this phase is $40-$45 million. The company has identified additional actions to adjust the company's cost structure. These initiatives are expected to improve the alignment of our cost structure with the current operating environment through rationalization of three additional manufacturing facilities and through headcount reductions. Restructuring programs not yet completed are currently anticipated to deliver annual ongoing pre-tax savings of $75 million to $90 million once fully implemented. Additionally, we have embarked on a workforce reduction initiative which should reduce employment by 1,000 with expected costs of $80-$95 million, expected to result in an annual run rate savings of $100-$110 million by fiscal year-end 2017. Consistent with our fix-in-place manufacturing strategy, we believe that there are further cost improvements possible through investments in automation and efficiency programs which are expected to yield savings of several hundred million dollars over the next three years.

We are implementing a more robust sales and marketing strategy while continuing to work on the cost structure, serving our customers and preserving our competitive strengths. At the same time, we continue to focus on cash flow and liquidity. Our operating flexibility was enhanced with an amendment to our $600 million five-year, multi-currency, revolving credit facility that extends to April 2021. Further discussion and analysis of the development in our business is set forth in MD&A.

ACQUISITIONS AND DIVESTITURES During the year ended June 30, 2016, we completed the sale of non-core businesses as defined in Note 4 of the Company's consolidated financial statements for an aggregate price of $56.1 million, net of cash. The pre-tax net loss on divestiture during the year ended June 30, 2016 is $131.5 million, of which $127.9 million and $3.6 million were recorded in the Infrastructure and Industrial segments, respectively.

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.

We are currently exploring strategic alternatives for a remaining non-core Infrastructure business. The estimated net book value of the business is approximately $30 million as of June 30, 2016. As the strategic direction has not yet been determined for this business, the business is classified as held and used, and the Company cannot determine if additional impairment charges will be incurred.

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MARKETING AND DISTRIBUTION To market our products, we maintain two premium brands: Kennametal® and WIDIA®. We sell and market our products through the following sales channels: (i) a direct sales force; (ii) a network of independent distributors and sales agents in North America, Europe, Latin America, Asia and other regions around the world; (iii) integrated supply channels; and (iv) 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.
RAW MATERIALS AND SUPPLIES Our major metallurgical raw materials consist of ore concentrates, compounds and secondary materials containing tungsten, tantalum, titanium, niobium and cobalt. 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 $39.4 million, $45.1 million and $44.0 million in 2016, 2015 and 2014, 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 engineered cemented carbide products 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 to name a few. 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 technical application and support, 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 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.

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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, 2016 and 2015 were $12.5 million and $12.6 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 11,200 people at June 30, 2016, of which approximately 4,200 were located in the U.S. and 7,000 in other parts of the world, principally Europe, Asia Pacific and India. At June 30, 2016, approximately 3,900 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, Kelly Boyer, Kennametal Inc., 600 Grant Street, Suite 5100, Pittsburgh, Pennsylvania 15219-2706.

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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.

There can be no assurance that our restructuring efforts will have the intended effects. We are in the process of implementing 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. 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 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, 2016, 57 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.

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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, 2016, goodwill and other indefinite-lived intangible assets totaled $315.3 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.

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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 announced that we have embarked on a workforce reduction initiative which should reduce employment by 1,000. 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 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 affect 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.

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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	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 and Pelletizing Die Plates	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	Industrial
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
	Owned/Leased	Mining and Construction Tools, Wear Parts and Distribution	Infrastructure

Bedford, Pennsylvania			
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
Houston, Texas	Owned	Downhole Drilling Carbide Components	Infrastructure
Chilhowie, Virginia	Owned	Mining and Construction Tools and Wear Parts	Infrastructure
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
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

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Location	Owned/Leased	Principal Products	Segment
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	Industrial
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 in a corporate technology center located in Latrobe, Pennsylvania, U.S., as well as in 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 29, 2016 was 1,698. Stock price ranges and dividends declared and paid were as follows:

Quarter ended	September 30	December 31	March 31	June 30
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
Fiscal 2015				
High	$ 46.76	$ 42.18	$36.25	$39.91
Low	40.00	33.23	27.63	33.09
Dividends	0.18	0.18	0.18	0.18

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The information incorporated by reference in Part III, Item 12 of this annual report on Form 10-K from our 2016 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 Composite 1500 Market Index (S&P 1500 Composite), the Standard & Poor's Global 1200 Industrials Index (S&P Global 1200 Industrials) and the peer groups of companies determined by us for the period from July 1, 2011 to June 30, 2016.

The 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.; Pall Corporation; Parker Hannifin Corporation; Sandvik AB, Corp.; Teleflex Incorporated; The Timken Company; and Woodward, Inc.

Assumes $100 Invested on July 1, 2011 and All Dividends Reinvested

	2011	2012	2013	2014	2015	2016
Kennametal	$100.00	$79.61	$94.81	$114.80	$86.23	$57.78
Peer Group Index	100.00	84.92	98.84	127.49	110.49	102.11
S&P Midcap 400	100.00	97.67	122.27	153.12	162.92	165.09
S&P 1500 Super Composite	100.00	104.63	126.73	158.04	169.60	175.77
S&P Global 1200 Industrials	100.00	90.16	109.30	138.46	136.64	138.43

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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, 2016	1,465	$ 22.82	—	10,100,100
May 1 through May 31, 2016	2,873	24.56	—	10,100,100
June 1 through June 30, 2016	81	24.28	—	10,100,100
Total	4,419	$ 23.98	—	

(1) During the fourth quarter of 2016, 2,593 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 1,826 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.

UNREGISTERED SALES OF EQUITY SECURITIES

None.

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ITEM 6 - SELECTED FINANCIAL DATA

		2016	2015	2014	2013	2012
OPERATING RESULTS (in thousands)						
Sales		$2,098,436	$2,647,195	$2,837,190	$2,589,373	$2,736,246
Cost of goods sold		1,482,369	1,841,202	1,940,187	1,744,369	1,741,996
Operating expense		494,975	554,895	589,768	527,850	561,490
Restructuring and asset impairment charges	(1)	143,810	582,235	17,608	—	—
Loss on divestiture	(2)	131,463	—	—	—	—
Interest expense		27,752	31,466	32,451	27,472	27,215
Provision (benefit) for income taxes		25,313	(16,654)	66,611	59,693	79,136
(Loss) income from continuing operations attributable to Kennametal		(225,968)	(373,896)	158,366	203,265	307,230
Net (loss) income attributable to Kennametal		(225,968)	(373,896)	158,366	203,265	307,230
FINANCIAL POSITION (in thousands)						
Working capital		$648,066	$775,802	$962,440	$1,031,880	$704,340
Total assets		2,368,793	2,849,529	3,868,086	3,301,039	3,034,188
Long-term debt, including capital leases, excluding current maturities		699,558	735,885	981,666	703,626	490,608
Total debt, including capital leases and notes payable		701,453	751,587	1,061,783	747,945	565,745
Total Kennametal shareholders' equity		964,323	1,345,807	1,929,256	1,781,826	1,643,850
PER SHARE DATA ATTRIBUTABLE TO KENNAMETAL SHAREHOLDERS						
Basic (loss) earnings from continuing operations	(3)	$(2.83)	$(4.71)	$2.01	$2.56	$3.83
Basic (loss) earnings	(3)	(2.83)	(4.71)	2.01	2.56	3.83
Diluted (loss) earnings from continuing operations	(3)	(2.83)	(4.71)	1.99	2.52	3.77
Diluted (loss) earnings	(3)	(2.83)	(4.71)	1.99	2.52	3.77
Dividends		0.80	0.72	0.72	0.64	0.54
Book value (at June 30)		12.10	16.96	24.52	22.89	20.53
Market Price (at June 30)		22.11	34.12	46.28	38.83	33.15
OTHER DATA (in thousands, except number of employees)						
Capital expenditures		$110,697	$100,939	$117,376	$82,835	$103,036
Number of employees (at June 30)		11,178	12,718	13,521	12,648	12,932
Basic weighted average shares outstanding		79,835	79,342	78,678	79,463	80,216
Diluted weighted average shares outstanding		79,835	79,342	79,667	80,612	81,439
KEY RATIOS						
Sales (decline) growth	(4)	(20.7)%	(6.7)%	9.6%	(5.4)%	13.8%
Gross profit margin		29.4	30.4	31.6	32.6	36.3
Operating margin	(5)	(8.3)	(13.5)	9.3	11.4	15.2

(1) In 2016, the charges related to goodwill and other intangible asset impairment charges of $108.5 million, restructuring charges of $30.0 million and fixed asset disposal charges of $5.4 million. In 2015, the charges related to goodwill and other intangible asset impairment charges of $541.7 million and restructuring charges of $40.5 million. In 2014, the charges related to restructuring activity.

(2) In 2016, the charge related to the loss on divestiture of non-core businesses.

(3) In 2016, basic and diluted loss per share included U.S. deferred tax valuation allowance of $1.02 per share, divestiture and related charges of $1.39 per share, goodwill and other intangible asset impairment charges of $0.96 per share and restructuring and related charges of $0.50 per share. In 2015, basic and diluted loss per share included goodwill and other intangible asset impairment charges of $6.13 per share and restructuring and related charges of $0.56 per share.

(4) In 2016, divestiture impact of sales decline was negative 5 percent.

(5) In 2016, operating margin included divestiture and related charges of $131.5 million, goodwill and other intangible asset impairment charges of $108.5 million and restructuring and related charges of $53.5 million. In 2015, operating margin included goodwill and other intangible asset impairment charges of $541.7 million and restructuring and related charges of $58.1 million.

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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 a 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 As a global industrial leader, Kennametal Inc. delivers productivity solutions to customers seeking peak performance in demanding environments. We provide innovative wear-resistant products, application engineering and services backed by advanced material science serving customers across diverse sectors of industrial production, transportation, earthworks, energy, construction, process industries and aerospace. Our solutions are built around industry-essential technology platforms, including precision-engineered metalworking tools and components, surface technologies and earth cutting tools that are mission-critical to customer operations battling extreme conditions associated with wear fatigue, corrosion and high temperatures. The Company's reputation for material and industrial technology excellence, as well as expertise and innovation in development of custom solutions and services, contributes to our leading position in our primary industrial and infrastructure markets. End users of our products include manufacturers, metalworking suppliers, machinery operators and processors engaged in a diverse array of industries, including the manufacture of transportation vehicles and components; machine tool, light machinery and heavy machinery industries; airframe and aerospace components; defense; as well as producers and suppliers in equipment-intensive operations such as coal mining, road construction, quarrying, oil and gas exploration, refining, production and supply. We believe we are one of the largest global providers of consumable metal cutting tools and tooling supplies.

For 2016, sales were $2,098.4 million, a decrease of 21 percent compared to prior year sales of $2,647.2 million, driven by organic sales decline, impact of divestiture and unfavorable currency exchange. Operating loss was $174.9 million compared to operating loss of $357.8 million in the prior year. The decrease in operating loss was driven primarily by higher non-cash goodwill and other intangible asset impairment charges in the prior year. Other drivers include current year lower material costs, incremental restructuring benefits, manufacturing productivity improvements and lower restructuring and related charges, offset partially by the current year loss on divestiture, organic sales decline, unfavorable product mix, lower fixed cost absorption and unfavorable currency exchange. The Company reported loss per diluted share of $2.83 in 2016.

Our operating flexibility was enhanced with an amendment to our revolving credit facility that extends maturity from April 2018 to April 2021. Similar to the prior agreement, the amendment permits revolving loans of up to $600 million for working capital, capital expenditures and general corporate purposes. The definition of the maximum leverage ratio was temporarily increased under the 2016 Amendment as defined in the agreement in order to increase operating flexibility. Further, the earnings before interest, taxes, depreciation and amortization (EBITDA) definition in the 2016 Amendment now allows for up to $120 million of aggregate cash restructuring payment add-backs through December 31, 2017. Other material provisions, including the minimum consolidated interest coverage ratio, remain unchanged.

During the year the Company completed the sale of several non-core businesses related to certain castings, steel-plate fabrication and deburring for an aggregate price of $56.1 million, net of cash acquired. Annual sales for these non-core businesses were approximately $220 million. A portion of the transaction proceeds were used to pay down revolver debt with the remaining balance being held as cash on hand. The transaction resulted in a pre-tax loss on the sale of $131.5 million.

We generated cash flow from operating activities of $219.3 million in the current year, driven by improved working capital management. We have actively managed our capital structure by decreasing our debt by $50.1 million and by returning $63.7 million to Shareholders through dividends. In addition, we made capital expenditures of $110.7 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 $39.4 million for 2016.
The permanent savings that we are realizing from restructuring are the result of programs that we have undertaken over the past 33 months. Pre-tax benefits from these restructuring actions were approximately $79 million in 2016, of which approximately $44 million were incremental to prior year. We substantially completed Phase 1 of our restructuring programs. We also have identified additional actions to adjust the company's cost structure. Refer to the Results of Continuing Operations section of Item 7 for further discussion and analysis of our restructuring programs.

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.

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A key attribute of the new structure is the establishment of the WIDIA operating segment. In order to better lever the opportunities that lie in this business, in addition to being more agile and competitive in the marketplace, we are placing higher levels of focus, determination and leadership in the business. Industrial and WIDIA in 2017 will be formed from the 2016 Industrial segment. We will have three reportable operating segments going forward: Industrial, WIDIA and Infrastructure.

RESULTS OF CONTINUING OPERATIONS

SALES 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 and 13 percent in the Industrial segment. Drivers of the organic sales decrease were 28 percent in energy, 15 percent in earthworks, 11 percent in general engineering and 4 percent in transportation, while aerospace and defense remained flat.

Sales of $2,647.2 million in 2015 decreased 7 percent from $2,837.2 million in 2014 reflecting an 5 percent organic sales decline and a 4 percent unfavorable currency exchange impact, offset by 2 percent increase from prior year acquisition and divestiture activity. Sales decreased by 10 percent in the Infrastructure segment and 4 percent in the Industrial segment. Drivers of the organic sales decrease, were earthworks of 10 percent, energy markets of 10 percent, aerospace and defense of 6 percent, transportation of 1 percent and general engineering of 1 percent.

GROSS PROFIT Gross profit decreased $189.9 million to $616.1 million in 2016 from $806.0 million in 2015. This decrease was primarily due to organic sales decline, unfavorable business mix in both segments, 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.

Gross profit decreased $91.0 million to $806.0 million in 2015 from $897.0 million in 2014. The decrease was primarily due to organic sales decline, unfavorable currency exchange and unfavorable business mix in the Infrastructure segment, offset partially by restructuring benefits, contributions from the TMB acquisition and the benefits of a nonrecurring inventory charge of $6.4 million that occurred in the prior year. The gross profit margin for 2015 was 30.4 percent compared to 31.6 percent in 2014.

OPERATING EXPENSE 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.

Operating expense in 2015 was $554.9 million, a decrease of $34.9 million, or 5.9 percent, compared to $589.8 million in 2014. The decrease is primarily due to foreign currency exchange impacts of $24.7 million, restructuring benefits and the impact of cost reduction initiatives, offset partially by annual merit increase.

RESTRUCTURING AND RELATED CHARGES AND ASSET IMPAIRMENT CHARGES

Restructuring and Related Charges

During 2016, we recorded 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. Total restructuring and related charges since the inception of our restructuring plans through 2016 were $130.7 million. See Note 15 in our consolidated financial statements set forth in Item 8 (Note 15).

During 2015, we recorded 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 disposals 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.

During 2014, we recorded restructuring and related charges of $19.1 million. Of this amount, restructuring charges totaled $17.8 million, of which $0.2 million were charges related to inventory disposals and were recorded in cost of goods sold. Restructuring-related charges of $1.2 million were recorded in cost of goods sold and $0.1 million in operating expense during 2014.

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Phase 1
We implemented restructuring actions in conjunction with our Phase 1 restructuring program to achieve synergies across Kennametal as a result of the TMB acquisition by consolidating operations among both organizations, reducing administrative overhead and leveraging the supply chain. These restructuring actions were substantially completed in fiscal 2016 and were mostly cash expenditures. Estimated ongoing annualized savings for this phase is $40-$45 million, and we incurred inception to date charges of $59.3 million.
Ongoing restructuring programs
We are currently 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 rationalization and consolidation of certain manufacturing facilities and through headcount reductions; enhancement of operational efficiencies through an enterprise-wide cost reduction program; and other employment and cost reduction programs. These restructuring actions are currently anticipated to deliver annual ongoing pre-tax savings of $75 million to $90 million once completed by December of fiscal 2019 and are anticipated to be mostly cash expenditures. The total pre-tax charges for these programs are expected to be in the range of $105 million to $125 million.
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 2014. 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 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 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 $20.8 million, $26.7 million and $26.2 million in 2016, 2015 and 2014, respectively. The decrease of $5.9 million from 2015 to 2016 is driven primarily by the impact of divestiture.
INTEREST EXPENSE Interest expense decreased $3.7 million to $27.8 million in 2016, compared with $31.5 million in 2015 due to lower average borrowings throughout the current period. 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.
Interest expense decreased $1.0 million to $31.5 million in 2015, compared with $32.5 million in 2014 due to lower average borrowings throughout the current period. The portion of our debt subject to variable rates of interest was approximately 7 percent and 34 percent at June 30, 2015 and 2014, 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 (INCOME) EXPENSE, NET 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.
In 2015, other income, net was $1.7 million compared to other expense, net of $2.2 million in 2014. The year-over-year change was due primarily to gains on derivatives in 2015.
INCOME TAXES 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 the current year, as

well as an overall decrease in demand in U.S. operations.

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The effective tax rate for 2015 was 4.3 percent (benefit on a loss) compared to 29.1 percent (provision on income) for 2014. The change in the effective rate from 2014 to 2015 was primarily driven by the asset impairment charges recorded in the current year, non-deductible restructuring and divestiture costs recorded in the prior year and charges related to a change in assertion with respect to certain foreign subsidiaries' undistributed earnings which are no longer considered permanently reinvested. All earnings of other non U. S. subsidiaries are permanently reinvested and no deferred taxes have been provided on those earnings.

(LOSS) INCOME ATTRIBUTABLE TO KENNAMETAL SHAREHOLDERS Loss 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.

Loss from continuing operations attributable to Kennametal Shareholders was $373.9 million or $4.71 per diluted share, in 2015, compared to income of $158.4 million, or $1.99 per diluted share, in 2014. The change in (loss) income from continuing operations was a result of the factors previously discussed.

BUSINESS SEGMENT REVIEW We operate two reportable operating segments consisting of Industrial 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.

INDUSTRIAL

(in thousands)	2016	2015	2014
External sales	$1,269,162	$1,461,744	$1,524,075
Operating income			