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

FORM 10-Q

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

For the quarterly period ended: December 31, 2019

OR

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

For the transition period from _______ to _______

Commission file number 1-5318

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.)
525 William Penn Place	
Suite 3300	
Pittsburgh, Pennsylvania	**15219**
(Address of principal executive offices)	(Zip Code)

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

600 Grant Street Suite 5100 Pittsburgh, Pennsylvania 15219-2706

(Former name, former address and former fiscal year, if changed since last report)

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 every Interactive Data File required to be submitted 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 such files). Yes ☒ No ☐

Indicate by check mark whether the registrant is a large accelerated filer, an accelerated filer, a non-accelerated filer, 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	☐	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 in Rule 12b-2 of the Exchange Act). Yes ☐ No ☒

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

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

As of January 31, 2020, 82,898,074 shares of the Registrant's Capital Stock, par value $1.25 per share, were outstanding.

KENNAMETAL INC.

FORM 10-Q

FOR THE THREE AND SIX MONTHS ENDED DECEMBER 31, 2019

TABLE OF CONTENTS

Table of Contents

FORWARD-LOOKING INFORMATION

This Quarterly Report on Form 10-Q 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. You can identify forward-looking statements by the fact they use words such as “should,” “anticipate,” “estimate,” “approximate,” “expect,” “may,” “will,” “project,” “intend,” “plan,” “believe” and other words of similar meaning and expression in connection with any discussion of future operating or financial performance or events. We have also included forward-looking statements in this Quarterly Report on Form 10-Q 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: downturns in the business cycle or the economy; our ability to achieve anticipated benefits from our restructuring, simplification and modernization 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 our Annual Report on Form 10-K. We can give no assurance that any goal or plan set forth in our forward-looking statements will 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 – FINANCIAL INFORMATION

ITEM 1. FINANCIAL STATEMENTS

KENNAMETAL INC.
CONDENSED CONSOLIDATED STATEMENTS OF INCOME (UNAUDITED)

	Three Months Ended December 31,		Six Months Ended December 31,	
(in thousands, except per share amounts)	2019	2018	2019	2018
Sales	$ 505,080	$ 587,394	$ 1,023,168	$ 1,174,080
Cost of goods sold	373,062	388,796	752,170	764,389
Gross profit	132,018	198,598	270,998	409,691
Operating expense	107,548	114,635	221,739	237,920
Restructuring and asset impairment charges (Notes 7 and 18)	62,329	1,545	66,995	2,620
Loss on divestiture (Note 4)	6,517	—	6,517	—
Amortization of intangibles	3,262	3,560	7,008	7,141
Operating (loss) income	(47,638)	78,858	(31,261)	162,010
Interest expense	8,055	8,104	15,936	16,201
Other income, net	(4,211)	(4,022)	(6,891)	(6,782)
(Loss) income before income taxes	(51,482)	74,776	(40,306)	152,591
(Benefit) provision for income taxes	(45,253)	18,529	(41,487)	37,921
Net (loss) income	(6,229)	56,247	1,181	114,670
Less: Net (loss) income attributable to noncontrolling interests	(290)	1,549	653	3,274
Net (loss) income attributable to Kennametal	$ (5,939)	$ 54,698	$ 528	$ 111,396
PER SHARE DATA ATTRIBUTABLE TO KENNAMETAL SHAREHOLDERS				
Basic (loss) earnings per share	$ (0.07)	$ 0.66	$ 0.01	$ 1.35
Diluted (loss) earnings per share	$ (0.07)	$ 0.66	$ 0.01	$ 1.34
Dividends per share	$ 0.20	$ 0.20	$ 0.40	$ 0.40
Basic weighted average shares outstanding	83,075	82,331	82,979	82,218
Diluted weighted average shares outstanding	83,075	83,310	83,618	83,233

KENNAMETAL INC.
CONDENSED CONSOLIDATED STATEMENTS OF COMPREHENSIVE INCOME (UNAUDITED)

	Three Months Ended December 31,		Six Months Ended December 31,	
(in thousands)	2019	2018	2019	2018
Net (loss) income	$ (6,229)	$ 56,247	$ 1,181	$ 114,670
Other comprehensive income (loss), net of tax				
Unrealized gain (loss) on derivatives designated and qualified as cash flow hedges	461	170	856	(91)
Reclassification of unrealized (gain) loss on derivatives designated and qualified as cash flow hedges	(393)	262	(212)	857
Unrecognized net pension and other postretirement benefit (loss) gain	(3,056)	871	(449)	1,194
Reclassification of net pension and other postretirement benefit loss	1,990	1,298	3,950	2,606
Foreign currency translation adjustments	25,751	(3,400)	(9,674)	(19,605)
Total other comprehensive income (loss), net of tax	24,753	(799)	(5,529)	(15,039)
Total comprehensive income (loss)	18,524	55,448	(4,348)	99,631
Less: comprehensive income (loss) attributable to noncontrolling interests	247	2,049	(201)	2,542
Comprehensive income (loss) attributable to Kennametal Shareholders	$ 18,277	$ 53,399	$ (4,147)	$ 97,089

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

KENNAMETAL INC.
CONDENSED CONSOLIDATED BALANCE SHEETS (UNAUDITED)

(in thousands, except per share data)	December 31, 2019	June 30, 2019
ASSETS		
Current assets:		
Cash and cash equivalents	$ 105,210	$ 182,015
Accounts receivable, less allowance for doubtful accounts of $10,693 and $10,083, respectively	310,379	379,855
Inventories (Note 10)	522,499	571,576
Other current assets	97,824	57,381
Total current assets	1,035,912	1,190,827
Property, plant and equipment:		
Land and buildings	350,138	351,142
Machinery and equipment	1,886,074	1,804,871
Less accumulated depreciation	(1,227,574)	(1,221,118)
Property, plant and equipment, net	1,008,638	934,895
Other assets:		
Goodwill (Note 18)	285,826	300,011
Other intangible assets, less accumulated amortization of $130,964 and $158,507, respectively (Note 18)	141,398	160,998
Operating lease right-of-use assets (Note 11)	50,153	—
Deferred income taxes	33,386	20,507
Other	67,720	49,031
Total other assets	578,483	530,547
Total assets	$ 2,623,033	$ 2,656,269
LIABILITIES		
Current liabilities:		
Notes payable to banks	2,102	157
Current operating lease liabilities (Note 11)	13,993	—
Accounts payable	173,160	212,908
Accrued income taxes	8,859	29,223
Accrued expenses	45,135	76,616
Other current liabilities	165,861	142,822
Total current liabilities	409,110	461,726
Long-term debt, less current maturities (Note 12)	593,223	592,474
Operating lease liabilities (Note 11)	36,415	—
Deferred income taxes	23,283	23,322
Accrued pension and postretirement benefits	170,918	174,003
Accrued income taxes	9,146	9,038
Other liabilities	33,911	21,002
Total liabilities	1,276,006	1,281,565
Commitments and contingencies		
EQUITY (Note 16)		
Kennametal Shareholders’ Equity:		
Preferred stock, no par value; 5,000 shares authorized; none issued	—	—
Capital stock, $1.25 par value; 120,000 shares authorized; 82,894 and 82,421 shares issued, respectively	103,618	103,026
Additional paid-in capital	536,522	528,827
Retained earnings	1,044,247	1,076,862
Accumulated other comprehensive loss	(378,219)	(373,543)
Total Kennametal Shareholders’ Equity	1,306,168	1,335,172
Noncontrolling interests	40,859	39,532
Total equity	1,347,027	1,374,704
Total liabilities and equity	$ 2,623,033	$ 2,656,269

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

KENNAMETAL INC.
CONDENSED CONSOLIDATED STATEMENTS OF CASH FLOW (UNAUDITED)

	Six Months Ended December 31,	
(in thousands)	2019	2018
OPERATING ACTIVITIES		
Net income	$ 1,181	$ 114,670
Adjustments for non-cash items:		
Depreciation	53,801	47,807
Amortization	7,008	7,141
Stock-based compensation expense	13,974	13,435
Restructuring and asset impairment charges (Notes 7 and 18)	17,708	(257)
Deferred income tax provision	(13,750)	1,512
Loss on divestiture (Note 4)	6,517	—
Other	350	2,109
Changes in certain assets and liabilities:		
Accounts receivable	64,546	14,026
Inventories	34,329	(59,190)
Accounts payable and accrued liabilities	(28,548)	(82,828)
Accrued income taxes	(53,020)	7,995
Accrued pension and postretirement benefits	(12,101)	(9,760)
Other	(4,898)	4,841
Net cash flow provided by operating activities	87,097	61,501
INVESTING ACTIVITIES		
Purchases of property, plant and equipment	(147,532)	(88,076)
Disposals of property, plant and equipment	835	2,490
Proceeds from divestiture (Note 4)	23,950	—
Other	(922)	89
Net cash flow used for investing activities	(123,669)	(85,497)
FINANCING ACTIVITIES		
Net increase in notes payable	1,927	2,473
Net increase in short-term revolving and other lines of credit	—	(174)
Term debt repayments	—	(400,000)
Purchase of capital stock	(106)	(107)
The effect of employee benefit and stock plans and dividend reinvestment	(5,583)	(2,182)
Cash dividends paid to Shareholders	(33,143)	(32,820)
Other	(1,779)	151
Net cash flow used for financing activities	(38,684)	(432,659)
Effect of exchange rate changes on cash and cash equivalents	(1,549)	(3,222)
CASH AND CASH EQUIVALENTS		
Net decrease in cash and cash equivalents	(76,805)	(459,877)
Cash and cash equivalents, beginning of period	182,015	556,153
Cash and cash equivalents, end of period	$ 105,210	$ 96,276

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

1. BASIS OF PRESENTATION

The condensed consolidated financial statements and accompanying notes included in this Quarterly Report on Form 10-Q, which include our accounts and those of our majority-owned subsidiaries, should be read in conjunction with the consolidated financial statements and accompanying notes included in our Annual Report on Form 10-K for the fiscal year ended June 30, 2019 (the "2019 Annual Report"). The condensed consolidated balance sheet as of June 30, 2019 was derived from the audited balance sheet included in our 2019 Annual Report. The interim statements are unaudited; however, we believe that all adjustments necessary for a fair statement of the results of the interim periods were made and all adjustments are normal recurring adjustments. The results for the six months ended December 31, 2019 and 2018 are not necessarily indicative of the results to be expected for a full fiscal year. Unless otherwise specified, any reference to a “year” is to a fiscal year ended June 30. For example, a reference to 2020 is to the fiscal year ending June 30, 2020. When used in this Quarterly Report on Form 10-Q, unless the context requires otherwise, the terms "the Company," “we,” “our” and “us” refer to Kennametal Inc. and its subsidiaries.

2. NEW ACCOUNTING STANDARDS

Adopted
In February 2016, the Financial Accounting Standards Board (FASB) issued Accounting Standards Update (ASU) No. 2016-02, "Leases: Topic 842," 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 substantially all leases. We adopted this ASU on July 1, 2019 using the modified retrospective transition approach with the optional transition relief that allows for a cumulative-effect adjustment in the period of adoption and without a restatement of prior periods. Therefore, prior period amounts were not adjusted and will continue to be reported under the accounting standards in effect for those periods. We determined that there was no cumulative-effect adjustment to beginning retained earnings on the condensed consolidated balance sheet. In addition, the Company elected the package of practical expedients permitted under the transition guidance within the new standard, which among other things, allowed us to carry forward historical lease classification. Adoption of this ASU resulted in the recording of lease liabilities of approximately $49 million with the offset to lease ROU assets of $49 million as of July 1, 2019. The standard did not materially impact our condensed consolidated statement of income and our condensed consolidated statement of cash flows. Refer to Note 11 for additional disclosures regarding the adoption of this new standard.

In August 2017, the FASB issued ASU No. 2017-12, "Targeted Improvements to Accounting for Hedging Activities," which seeks to improve financial reporting and obtain closer alignment with risk management activities, in addition to simplifying the application of hedge accounting guidance and additional disclosures. We adopted this ASU on July 1, 2019. Adoption of this guidance did not have a material effect on our condensed consolidated financial statements.

In February 2018, the FASB issued ASU No. 2018-02, “Reporting Comprehensive Income (Topic 220): Reclassification of Certain Tax Effects from Accumulated Other Comprehensive Income," which includes amendments allowing the reclassification of the income tax effects of the Tax Cuts and Jobs Act of 2017 (TCJA) to improve the usefulness of information reported to financial statement users. The amendments in this update also require certain disclosures about stranded tax effects. Certain guidance is optional and was effective for Kennametal July 1, 2019. We elected not to reclassify the stranded tax effects as permissible under this standard. Adoption of this guidance did not have a material effect on our condensed consolidated financial statements.

In June 2018, the FASB issued ASU No. 2018-07, “Improvements to Nonemployee Share-Based Payment Accounting," which expands the scope of accounting for stock-based compensation to nonemployees. We adopted this ASU on July 1, 2019. Adoption of this guidance did not have a material effect on our condensed consolidated financial statements.

Issued
In December 2019, the FASB issued ASU No. 2019-12, “Income Taxes (Topic 740): Simplifying the Accounting for Income Taxes,” which is intended to simplify various aspects related to accounting for income taxes by eliminating certain exceptions within ASC 740, *Income Taxes*, and clarifying certain aspects of the current guidance. This standard is effective for Kennametal beginning July 1, 2021, with early adoption permitted. The Company is in the process of assessing the impact the adoption of this guidance may have on our condensed consolidated financial statements.

3. SUPPLEMENTAL CASH FLOW DISCLOSURES

	Six Months Ended December 31,	
(in thousands)	2019	2018
Cash paid during the period for:		
Income taxes	$ 24,400	$ 28,414
Interest	13,953	16,745
Supplemental disclosure of non-cash information:		
Changes in accounts payable related to purchases of property, plant and equipment	(2,700)	(100)

4. DIVESTITURE

During the three months ended December 31, 2019, we completed the sale of certain assets of the non-core specialty alloys and metals business within the Infrastructure segment located in New Castle, Pennsylvania to Advanced Metallurgical Group N.V. for an aggregate price of $24.0 million.

The net book value of these assets at closing was $29.5 million, and the pre-tax loss on divestiture recognized during the three months ended December 31, 2019 was $6.5 million. Transaction proceeds were primarily used for capital expenditures related to our simplification/modernization efforts.

5. FAIR VALUE MEASUREMENTS

Fair value is defined as the price that would be received on the sale of 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 December 31, 2019, the fair values of our financial assets and financial liabilities are categorized as follows:

(in thousands)	Level 1	Level 2	Level 3	Total
Assets:				
Derivatives [1]	$ —	$ 211	$ —	$ 211
Total assets at fair value	$ —	$ 211	$ —	$ 211
Liabilities:				
Derivatives [1]	$ —	$ 200	$ —	$ 200
Total liabilities at fair value	$ —	$ 200	$ —	$ 200

As of June 30, 2019, the fair values of our financial assets and financial liabilities are categorized as follows:

(in thousands)	Level 1	Level 2	Level 3	Total
Assets:				
Derivatives [1]	$ —	$ 152	$ —	$ 152
Total assets at fair value	$ —	$ 152	$ —	$ 152
Liabilities:				
Derivatives [1]	$ —	$ 55	$ —	$ 55
Total liabilities at fair value	$ —	$ 55	$ —	$ 55

[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.

6. 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 account for derivative instruments as a hedge of the related asset, liability, firm commitment or anticipated transaction, when the derivative is specifically designated and qualifies as a hedge of such items. Our objective in managing foreign exchange exposures with derivative instruments is to reduce volatility in cash flow. We measure hedge effectiveness by assessing the changes in the fair value or expected future cash flows of the hedged item.

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

(in thousands)	December 31, 2019	June 30, 2019
Derivatives designated as hedging instruments		
Other current assets - range forward contracts	$ 211	$ 145
Total derivatives designated as hedging instruments	211	145
Derivatives not designated as hedging instruments		
Other current assets - currency forward contracts	—	8
Other current liabilities - currency forward contracts	(200)	(56)
Total derivatives not designated as hedging instruments	(200)	(48)
Total derivatives	$ 11	$ 97

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 condensed consolidated balance sheet, with the offset to other income, net. (Gains) losses related to derivatives not designated as hedging instruments have been recognized as follows:

	Three Months Ended December 31,		Six Months Ended December 31,	
(in thousands)	2019	2018	2019	2018
Other income, net - currency forward contracts	$ (1)	$ (2)	$ 112	$ 76

CASH FLOW HEDGES

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 and are recognized as a component of cost of goods sold and other 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 December 31, 2019 and June 30, 2019, was $29.2 million and $61.5 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 December 31, 2019, we expect to recognize into earnings $0.1 million of expense on outstanding derivatives in the next 12 months.

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

	Three Months Ended December 31,		Six Months Ended December 31,	
(in thousands)	2019	2018	2019	2018
Gains (losses) recognized in other comprehensive income (loss), net	$ 461	$ 170	$ 856	$ (91)
Losses reclassified from accumulated other comprehensive loss into cost of goods sold and other income, net	$ 391	$ 565	$ 550	$ 1,097

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 six months ended December 31, 2019 and 2018.

NET INVESTMENT HEDGES

As of December 31, 2019, we had certain foreign currency-denominated intercompany loans payable with total aggregate principal amounts of €42.5 million as net investment hedges to hedge the foreign exchange exposure of our net investment in our Euro-based subsidiaries. We recorded a loss of $1.2 million and a gain of $0.5 million as a component of foreign currency translation adjustments in other comprehensive loss for the three months ended December 31, 2019 and 2018, respectively. We recorded a loss of $0.1 million and a gain of $0.5 million as a component of foreign currency translation adjustments in other comprehensive loss for the six months ended December 31, 2019 and 2018, respectively.

As of December 31, 2019, 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	€ 28,527	$ 32,060	June 26, 2022
Foreign currency-denominated intercompany loan payable	20,028	22,508	November 22, 2021

[2] Includes principal and accrued interest.

7. RESTRUCTURING AND RELATED CHARGES

FY20 Restructuring Actions
In the June quarter of fiscal 2019, we began implementing the current phase of restructuring associated with our simplification/modernization initiative. These actions are expected to reduce structural costs, improve operational efficiency and position us for long-term profitable growth. These actions are expected to be completed in fiscal 2020 and are expected to be primarily cash expenditures.

The pre-tax charges for these programs are expected to be in the range of $55 million to $65 million, which are expected to be 80 percent Industrial, 15 percent Infrastructure and 5 percent Widia. Total restructuring and related charges since inception of $44.5 million were recorded for this program through December 31, 2019, consisting of: $36.6 million in Industrial, $5.8 million in Infrastructure and $2.2 million in Widia.

FY21 Restructuring Actions
On July 11, 2019, we announced the initiation of restructuring actions in Germany associated with simplification/modernization, which are expected to reduce structural costs. We have agreed with local employee representatives to downsize the Essen, Germany operations instead of the previously proposed closure. We are also evaluating the acceleration of other facility closures as part of these restructuring activities. These actions are expected to be completed by the end of fiscal 2021 and are expected to be primarily cash expenditures.

The pre-tax charges for these programs are expected to be in the range of $55 million to $65 million, which is expected to be primarily in the Industrial segment. Total restructuring and related charges since inception of $28.7 million were recorded for this program through December 31, 2019 in the Industrial segment.

Restructuring and Related Charges Recorded
We recorded restructuring and related charges of $51.3 million and $2.1 million for the three months ended December 31, 2019 and 2018, respectively. Of these amounts, restructuring charges for the three months ended December 31, 2019 totaled $48.0 million, of which $0.3 million were related to inventory and were recorded in cost of goods sold, and restructuring charges for the three months ended December 31, 2018 totaled $1.5 million. Restructuring-related charges of $3.3 million and $0.6 million were recorded in cost of goods sold for the three months ended December 31, 2019 and 2018, respectively.

We recorded restructuring and related charges of $59.3 million and $3.1 million for the six months ended December 31, 2019 and 2018, respectively. Of these amounts, restructuring charges for the six months ended December 31, 2019 totaled $52.7 million, of which $0.3 million were related to inventory and were recorded in cost of goods sold, and restructuring charges for the six months ended December 31, 2018 totaled $2.6 million. Restructuring-related charges of $6.6 million and $0.5 million were recorded in cost of goods sold for the six months ended December 31, 2019 and 2018, respectively.

As of December 31, 2019, $43.5 million and $13.0 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 $19.2 million as of June 30, 2019 is recorded in other current liabilities. The amount attributable to each segment is as follows:

(in thousands)	June 30, 2019	Expense	Asset Write-Down	Translation	Cash Expenditures	December 31, 2019
Industrial						
Severance	$ 8,863	$ 47,429	$ —	$ 325	$ (10,337)	$ 46,280
Facilities	—	2,298	(2,298)	—	—	—
Other	35	4	—	—	(14)	25
Total Industrial	$ 8,898	$ 49,731	$ (2,298)	$ 325	$ (10,351)	$ 46,305
Widia						
Severance	$ 2,306	$ 329	$ —	$ (21)	$ (221)	$ 2,393
Facilities	—	24	(24)	—	—	—
Other	24	—	—	—	—	24
Total Widia	$ 2,330	$ 353	$ (24)	$ (21)	$ (221)	$ 2,417
Infrastructure						
Severance	$ 7,956	$ 1,870	$ —	$ (213)	$ (1,863)	$ 7,750
Facilities	—	758	(758)	—	—	—
Other	28	2	—	(1)	(4)	25
Total Infrastructure	$ 7,984	$ 2,630	$ (758)	$ (214)	$ (1,867)	$ 7,775
Total	$ 19,212	$ 52,714	$ (3,080)	$ 90	$ (12,439)	$ 56,497

8. STOCK-BASED COMPENSATION

Stock Options
Changes in our stock options for the six months ended December 31, 2019 were as follows:

	Options	Weighted Average Exercise Price	Weighted Average Remaining Life (years)	Aggregate Intrinsic value (in thousands)
Options outstanding, June 30, 2019	781,673	$ 33.92		
Exercised	(34,525)	26.62		
Lapsed or forfeited	(42,544)	43.30		
Options outstanding, December 31, 2019	704,604	$ 33.71	3.3	$ 3,757
Options vested, December 31, 2019	704,604	$ 33.71	3.3	$ 3,757
Options exercisable, December 31, 2019	704,604	$ 33.71	3.3	$ 3,757

As of December 31, 2019, there was no unrecognized compensation cost related to options outstanding.

All options were fully vested as of December 31, 2019. Fair value of options vested during the six months ended December 31, 2018 was $1.2 million. The amount of cash received from the exercise of options during the six months ended December 31, 2019 and 2018 was $0.7 million and $3.9 million, respectively. The total intrinsic value of options exercised during the six months ended December 31, 2019 and 2018 was $0.3 million and $1.8 million, respectively.

Restricted Stock Units – Performance Vesting and Time Vesting
Changes in our performance vesting and time vesting restricted stock units for the six months ended December 31, 2019 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, 2019	405,230	$ 35.58	926,927	$ 36.43
Granted	275,216	28.74	619,154	27.95
Vested	(146,377)	27.09	(435,815)	33.79
Performance metric adjustments, net	32,707	32.79	—	—
Forfeited	(1,440)	39.26	(8,479)	35.20
Unvested, December 31, 2019	565,336	$ 34.28	1,101,787	$ 32.72

During the six months ended December 31, 2019 and 2018, compensation expense related to time vesting and performance vesting restricted stock units was $13.4 million and $12.8 million, respectively. As of December 31, 2019, the total unrecognized compensation cost related to unvested time vesting and performance vesting restricted stock units was $28.6 million and is expected to be recognized over a weighted average period of 2.1 years.

9. PENSION AND OTHER POSTRETIREMENT BENEFITS

The table below summarizes the components of net periodic pension income:

	Three Months Ended December 31,		Six Months Ended December 31,	
(in thousands)	2019	2018	2019	2018
Service cost	$ 445	$ 407	$ 895	$ 818
Interest cost	6,832	7,970	13,656	15,960
Expected return on plan assets	(13,496)	(13,434)	(26,952)	(26,896)
Amortization of transition obligation	22	23	44	45
Amortization of prior service cost (credit)	13	(5)	25	(10)
Recognition of actuarial losses	2,585	1,679	5,180	3,374
Settlement gain	—	—	(122)	—
Net periodic pension income	$ (3,599)	$ (3,360)	$ (7,274)	$ (6,709)

The table below summarizes the components of net periodic other postretirement benefit cost:

	Three Months Ended December 31,		Six Months Ended December 31,	
(in thousands)	2019	2018	2019	2018
Interest cost	$ 101	$ 153	$ 202	$ 307
Amortization of prior service credit	(69)	(22)	(138)	(45)
Recognition of actuarial loss	64	62	128	124
Net periodic other postretirement benefit cost	$ 96	$ 193	$ 192	$ 386

The service cost component of net periodic pension income is reported as a component of cost of goods sold and operating expense. All other components of net periodic pension income and net periodic other postretirement benefit cost are reported as a component of other income, net.

10. INVENTORIES

We used the last-in, first-out (LIFO) method of valuing inventories for 40 percent and 41 percent of total inventories at December 31, 2019 and June 30, 2019, respectively. Inventory valuations under the LIFO method are based on an annual determination of quantities and costs as of June 30 of each year; therefore, the interim LIFO valuations are based on our projections of expected year-end inventory levels and costs and are subject to any final year-end LIFO inventory adjustments.

Inventories consisted of the following:

(in thousands)	December 31, 2019	June 30, 2019
Finished goods	$ 312,524	$ 311,684
Work in process and powder blends	194,933	246,414
Raw materials	78,892	95,620
Inventories at current cost	586,349	653,718
Less: LIFO valuation	(63,850)	(82,142)
Total inventories	$ 522,499	$ 571,576

11. LEASES

At the inception of our contracts we determine if the contract is or contains a lease. A contract is or contains a lease if it conveys the right to control the use of an identified asset for a period of time in exchange for consideration. ROU assets and operating lease liabilities are recognized based on the present value of lease payments over the lease term at commencement. For leases that do not have a readily determinable implicit rate, we use a discount rate based on our incremental borrowing rate, which is determined considering factors such as the lease term, our credit rating and the economic environment of the location of the lease as of the commencement date.

We account for non-lease components separately from lease components. These costs often relate to the payments for a proportionate share of real estate taxes, insurance, common area maintenance and other operating costs in addition to base rent. We also do not recognize ROU assets and liabilities for leases with an initial term of 12 months or less. Lease costs associated with leases of less than 12 months were $1.9 million and $4.0 million for the three and six months ended December 31, 2019, respectively.

As a lessee, we have various operating lease agreements primarily related to real estate, vehicles and office and plant equipment. Our real estate leases, which are comprised primarily of manufacturing, warehousing, office and administration facilities, represent a majority of our lease liability. Our lease payments are largely fixed. Any variable lease payments, including utilities, common area maintenance and repairs and maintenance, are expensed during the period incurred. Variable lease costs were immaterial for the three and six months ended December 31, 2019. A majority of our real estate leases include options to extend the lease and options to early terminate the lease. Leases with an early termination option generally involve a termination payment. We review all options to extend, terminate, or purchase the ROU assets at the inception of the lease and account for these options when they are reasonably certain of being exercised. Our lease agreements generally do not contain any material residual value guarantees or materially restrictive covenants. We do not have any material leases that have been signed but not commenced, and we did not have any lease transactions with related parties.

The weighted average remaining lease term and discount rate for our operating leases were approximately 8.9 years and 3.4 percent, respectively, at December 31, 2019.

Operating lease expense is recognized on a straight-line basis over the lease term and is included in operating expense on our consolidated statement of income. Operating lease cost was $4.2 million and $8.3 million for the three and six months ended December 31, 2019, respectively.

The following table sets forth supplemental cash flow information related to our operating leases:

(in thousands)		Six Months Ended December 31, 2019
Operating cash flows from operating leases	$	7,978
ROU assets obtained in exchange for new operating lease liabilities	$	5,572

The following table sets forth the maturities of our operating lease liabilities and reconciles the respective undiscounted payments to the operating lease liabilities in the condensed consolidated balance sheet as of December 31, 2019:

Year Ended June 30, (in thousands)		December 31, 2019
Remaining six months of 2020	$	8,206
2021		13,093
2022		8,532
2023		5,602
2024		3,884
Thereafter		19,304
Total undiscounted operating lease payments	$	58,621
Less: discount to net present value		8,213
Total operating lease liabilities	$	50,408

The following table sets forth the future minimum lease payments for non-cancelable operating leases as of the year ended June 30, 2019:

Year Ended June 30, (in thousands)		June 30, 2019
2020	$	17,074
2021		12,212
2022		6,693
2023		4,294
2024		2,636
Thereafter		17,168
Total future minimum lease payments	$	60,077

12. LONG-TERM DEBT

Our five-year, multi-currency, revolving credit facility, as amended and restated in June 2018 (Credit Agreement), provides for revolving credit loans of up to $700 million for working capital, capital expenditures and general corporate purposes. 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 Credit Agreement). We were in compliance with all such covenants as of December 31, 2019. We had no borrowings outstanding under the Credit Agreement as of December 31, 2019 and June 30, 2019. Borrowings under the Credit Agreement are guaranteed by our significant domestic subsidiaries. The Credit Agreement matures in June 2023.

Fixed rate debt had a fair market value of $630.8 million and $622.0 million at December 31, 2019 and June 30, 2019, respectively. The Level 2 fair value is determined based on the quoted market prices for similar debt instruments as of December 31, 2019 and June 30, 2019, respectively.

13. 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 of our locations.

We establish and maintain reserves for certain potential environmental liabilities. At December 31, 2019 and June 30, 2019, the balances of these reserves were $12.0 million and $12.4 million, respectively. These reserves represent anticipated costs associated with potential remedial requirements and are generally not discounted.

The reserves we have established for potential 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 United States Environmental Protection Agency (USEPA), other governmental agencies and by the Potentially Responsible Party (PRP) groups in which we are participating. Although our reserves currently appear to be sufficient to cover these potential 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.

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 USEPA as a 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.

14. INCOME TAXES

Effective tax rates
The effective income tax rates for the three months ended December 31, 2019 and 2018 were 87.9 percent (benefit on a loss) and 24.8 percent (provision on income), respectively. The year-over-year change is primarily due to a discrete $14.5 million benefit for the one-time effect of Swiss tax reform, the impairment of Widia goodwill, the change in the jurisdictional mix caused by expected restructuring and related charges and the increase in tax on global intangible low-taxed income (GILTI) and the base erosion anti-abuse tax (BEAT), which are both components of the U.S. Tax Cuts and Jobs Act of 2017. The prior year rate included a $6.1 million charge related to changes in the indefinite reinvestment assertion on certain foreign subsidiaries' undistributed earnings and a $3.9 million benefit recorded to reflect the finalization of the amount of the one-time tax imposed on our unremitted foreign earnings.

The effective income tax rates for the six months ended December 31, 2019 and 2018 were 102.9 percent (benefit on a loss) and 24.9 percent (provision on income), respectively. The year-over-year change is primarily due to a discrete $14.5 million benefit for the one-time effect of Swiss tax reform, the impairment of Widia goodwill, the change in the jurisdictional mix caused by expected restructuring and related charges, the increase in GILTI and BEAT.

Swiss tax reform
Legislation was effectively enacted during the three months ended December 31, 2019 when the Canton of Schaffhausen approved the Federal Act on Tax Reform and AHV Financing on October 8, 2019 (Swiss tax reform). Significant changes from Swiss tax reform include the abolishment of certain favorable tax regimes and the creation of a ten-year transitional period at both the federal and cantonal levels.

The transitional provisions of Swiss tax reform allow companies to utilize a combination of lower tax rates and tax basis adjustments to fair value, which are used for tax depreciation and amortization purposes resulting in deductions over the transitional period. To reflect the federal and cantonal transitional provisions, as they apply to us, we recorded a deferred tax asset of $14.5 million during the three months ended December 31, 2019. We consider the deferred tax asset from Swiss tax reform to be an estimate based on our current interpretation of the legislation, which is subject to change based on further legislative guidance, review with the Swiss federal and cantonal authorities and modifications to the underlying valuation.

15. 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 would occur related to the issuance of capital stock under stock option grants, performance awards and restricted stock units. The difference between basic and diluted earnings per share relates solely to the effect of capital stock options, performance awards and restricted stock units.

The following tables provide the computation of diluted shares outstanding for the three months ended December 31, 2018 and the six months ended December 31, 2019 and 2018:

	Three Months Ended December 31,	Six Months Ended December 31,	
(in thousands)	2018	2019	2018
Weighted-average shares outstanding during period	82,331	82,979	82,218
Add: Unexercised stock options and unvested restricted stock units	979	639	1,015
Number of shares on which diluted earnings per share is calculated	83,310	83,618	83,233
Unexercised stock options with an exercise price greater than the average market price and restricted stock units not included in the computation because they were anti-dilutive	469	641	400

For the three months ended December 31, 2019, the effect of unexercised capital stock options and unvested restricted stock units was anti-dilutive as a result of a net loss in the period and therefore has been excluded from diluted shares outstanding as well as from the diluted earnings per share calculations.

16. EQUITY

A summary of the changes in the carrying amounts of total equity, Kennametal Shareholders' equity and equity attributable to noncontrolling interests for the three months ending December 31, 2019 and 2018 is as follows:

	Kennametal Shareholders' Equity					
(in thousands)	Capital stock	Additional paid-in capital	Retained earnings	Accumulated other comprehensive loss	Non-controlling interests	Total equity
Balance as of September 30, 2019	$ 103,542	$ 530,695	$ 1,066,763	$ (402,434)	$ 39,084	$ 1,337,650
Net loss	—	—	(5,939)	—	(290)	(6,229)
Other comprehensive income	—	—	—	24,215	538	24,753
Dividend reinvestment	2	50	—	—	—	52
Capital stock issued under employee benefit and stock plans[3]	76	5,827	—	—	—	5,903
Purchase of capital stock	(2)	(50)	—	—	—	(52)
Additions to noncontrolling interest	—	—	—	—	1,527	1,527
Cash dividends	—	—	(16,577)		—	(16,577)
Total equity, December 31, 2019	$ 103,618	$ 536,522	$ 1,044,247	$ (378,219)	$ 40,859	$ 1,347,027

	Kennametal Shareholders' Equity					
(in thousands)	Capital stock	Additional paid-in capital	Retained earnings	Accumulated other comprehensive loss	Non-controlling interests	Total equity
Balance as of September 30, 2018	$ 102,615	$ 517,349	$ 940,983	$ (333,333)	$ 36,495	$ 1,264,109
Net income	—	—	54,698	—	1,549	56,247
Other comprehensive (loss) income	—	—	—	(1,299)	500	(799)
Dividend reinvestment	2	52	—	—	—	54
Capital stock issued under employee benefit and stock plans[3]	85	5,064	—	—	—	5,149
Purchase of capital stock	(2)	(52)	—	—	—	(54)
Cash dividends	—	—	(16,422)	—	—	(16,422)
Total equity, December 31, 2018	$ 102,700	$ 522,413	$ 979,259	$ (334,632)	$ 38,544	$ 1,308,284

A summary of the changes in the carrying amounts of total equity, Kennametal Shareholders' equity and equity attributable to noncontrolling interests for the six months ending December 31, 2019 and 2018 is as follows:

(in thousands)	Kennametal Shareholders' Equity: Capital stock	Additional paid-in capital	Retained earnings	Accumulated other comprehensive loss	Non-controlling interests	Total equity
Balance as of June 30, 2019	$ 103,026	$ 528,827	$ 1,076,862	$ (373,543)	$ 39,532	$ 1,374,704
Net income	—	—	528	—	653	1,181
Other comprehensive loss	—	—	—	(4,676)	(853)	(5,529)
Dividend reinvestment	4	102	—	—	—	106
Capital stock issued under employee benefit and stock plans(3)	592	7,695	—	—	—	8,287
Purchase of capital stock	(4)	(102)	—	—	—	(106)
Additions to noncontrolling interest	—	—	—	—	1,527	1,527
Cash dividends	—	—	(33,143)	—	—	(33,143)
Total equity, December 31, 2019	$ 103,618	$ 536,522	$ 1,044,247	$ (378,219)	$ 40,859	$ 1,347,027

(in thousands)	Kennametal Shareholders' Equity: Capital stock	Additional paid-in capital	Retained earnings	Accumulated other comprehensive loss	Non-controlling interests	Total equity
Balance as of June 30, 2018	$ 102,058	$ 511,909	$ 900,683	$ (320,325)	$ 36,002	$ 1,230,327
Net income	—	—	111,396	—	3,274	114,670
Other comprehensive loss	—	—	—	(14,307)	(732)	(15,039)
Dividend reinvestment	3	104	—	—	—	107
Capital stock issued under employee benefit and stock plans(3)	642	10,504	—	—	—	11,146
Purchase of capital stock	(3)	(104)	—	—	—	(107)
Cash dividends	—	—	(32,820)	—	—	(32,820)
Total equity, December 31, 2018	$ 102,700	$ 522,413	$ 979,259	$ (334,632)	$ 38,544	$ 1,308,284

(3) Net of restricted stock units delivered upon vesting to satisfy tax withholding requirements.

The amounts of comprehensive income attributable to Kennametal Shareholders and noncontrolling interests are disclosed in the condensed consolidated statements of comprehensive income.

17. ACCUMULATED OTHER COMPREHENSIVE LOSS

The components of, and changes in, accumulated other comprehensive loss (AOCL) were as follows, net of tax, for the six months ended December 31, 2019:

(in thousands)	Pension and other postretirement benefits	Currency translation adjustment	Derivatives	Total
Attributable to Kennametal:				
Balance, June 30, 2019	$ (222,270)	$ (147,595)	$ (3,678)	$ (373,543)
Other comprehensive (loss) income before reclassifications	(449)	(8,821)	856	(8,414)
Amounts reclassified from AOCL	3,950	—	(212)	3,738
Net current period other comprehensive income (loss)	3,501	(8,821)	644	(4,676)
AOCL, December 31, 2019	$ (218,769)	$ (156,416)	$ (3,034)	$ (378,219)
Attributable to noncontrolling interests:				
Balance, June 30, 2019	$ —	$ (3,450)	$ —	$ (3,450)
Other comprehensive loss before reclassifications	—	(853)	—	(853)
Net current period other comprehensive loss	—	(853)	—	(853)
AOCL, December 31, 2019	$ —	$ (4,303)	$ —	$ (4,303)

The components of, and changes in, AOCL were as follows, net of tax, for the six months ended December 31, 2018:

(in thousands)	Pension and other postretirement benefits	Currency translation adjustment	Derivatives	Total
Attributable to Kennametal:				
Balance, June 30, 2018	$ (187,755)	$ (127,347)	$ (5,223)	$ (320,325)
Other comprehensive income (loss) before reclassifications	1,194	(18,873)	(91)	(17,770)
Amounts reclassified from AOCL	2,606	—	857	3,463
Net current period other comprehensive income (loss)	3,800	(18,873)	766	(14,307)
AOCL, December 31, 2018	$ (183,955)	$ (146,220)	$ (4,457)	$ (334,632)
Attributable to noncontrolling interests:				
Balance, June 30, 2018	$ —	$ (2,913)	$ —	$ (2,913)
Other comprehensive loss before reclassifications	—	(732)	—	(732)
Net current period other comprehensive loss	—	(732)	—	(732)
AOCL, December 31, 2018	$ —	$ (3,645)	$ —	$ (3,645)

Reclassifications out of AOCL for the three and six months ended December 31, 2019 and 2018 consisted of the following:

	Three Months Ended December 31,		Six Months Ended December 31,		
(in thousands)	2019	2018	2019	2018	Affected line item in the Income Statement
Gains and losses on cash flow hedges:					
Forward starting interest rate swaps	$ 611	$ 588	$ 1,222	$ 1,176	Interest expense
Currency exchange contracts	(1,132)	(241)	(1,503)	(41)	Cost of goods sold and other income, net
Total before tax	(521)	347	(281)	1,135	
Tax impact	128	(85)	69	(278)	(Benefit) provision for income taxes
Net of tax	$ (393)	$ 262	$ (212)	$ 857	
Pension and other postretirement benefits:					
Amortization of transition obligations	$ 22	$ 23	$ 44	$ 45	Other income, net
Amortization of prior service credit	(56)	(27)	(113)	(55)	Other income, net
Recognition of actuarial losses	2,649	1,741	5,308	3,498	Other income, net
Total before tax	2,615	1,737	5,239	3,488	
Tax impact	(625)	(439)	(1,289)	(882)	(Benefit) provision for income taxes
Net of tax	$ 1,990	$ 1,298	$ 3,950	$ 2,606	

The amount of income tax allocated to each component of other comprehensive income (loss) for the three months ended December 31, 2019 and 2018 were as follows:

	2019			2018		
(in thousands)	Pre-tax	Tax impact	Net of tax	Pre-tax	Tax impact	Net of tax
Unrealized gain on derivatives designated and qualified as cash flow hedges	$ 611	$ (150)	$ 461	$ 225	$ (55)	$ 170
Reclassification of unrealized (gain) loss on derivatives designated and qualified as cash flow hedges	(521)	128	(393)	347	(85)	262
Unrecognized net pension and other postretirement benefit (loss) gain	(3,887)	831	(3,056)	1,134	(263)	871
Reclassification of net pension and other postretirement benefit loss	2,615	(625)	1,990	1,737	(439)	1,298
Foreign currency translation adjustments	25,871	(120)	25,751	(3,407)	7	(3,400)
Other comprehensive income (loss)	$ 24,689	$ 64	$ 24,753	$ 36	$ (835)	$ (799)

The amount of income tax allocated to each component of other comprehensive loss for the six months ended December 31, 2019 and 2018 were as follows:

	2019			2018		
(in thousands)	Pre-tax	Tax impact	Net of tax	Pre-tax	Tax impact	Net of tax
Unrealized gain (loss) on derivatives designated and qualified as cash flow hedges	$ 1,134	$ (278)	$ 856	$ (121)	$ 30	$ (91)
Reclassification of unrealized (gain) loss on derivatives designated and qualified as cash flow hedges	(281)	69	(212)	1,135	(278)	857
Unrecognized net pension and other postretirement benefit (loss) gain	(418)	(31)	(449)	1,551	(357)	1,194
Reclassification of net pension and other postretirement benefit loss	5,239	(1,289)	3,950	3,488	(882)	2,606
Foreign currency translation adjustments	(9,707)	33	(9,674)	(19,679)	74	(19,605)
Other comprehensive loss	$ (4,033)	$ (1,496)	$ (5,529)	$ (13,626)	$ (1,413)	$ (15,039)

18. GOODWILL AND OTHER INTANGIBLE ASSETS

Widia Impairment Charge

In the December quarter of fiscal 2020, the Company experienced deteriorating market conditions, primarily in general engineering and transportation applications in India and China, in addition to overall global weakness in the manufacturing sector. In view of these declining conditions and the significant detrimental effect on cash flows and actual and projected revenue and earnings compared with our most recent annual impairment test, we determined that an impairment triggering event had occurred and performed an interim quantitative impairment test of our goodwill, indefinite-lived trademark intangible asset and other long-lived assets of our Widia reporting unit. We evaluated the recoverability of goodwill for the reporting unit by comparing the fair value with its carrying value, with the fair values determined using a combination of a discounted cash flow analysis and market multiples based upon historical and projected financial information. As a result of this test, we recorded a non-cash pre-tax impairment charge during the three months ended December 31, 2019 of $14.6 million in the Widia segment, of which $13.1 million was for goodwill and $1.5 million was for an indefinite-lived trademark intangible asset. These impairment charges are recorded in restructuring and asset impairment charges in our condensed consolidated statements of income. No impairment was recorded for the other Widia long-lived assets.

Divestiture Impact on Other Intangible Assets

During the three months ended December 31, 2019, we completed the sale of certain assets of the non-core specialty alloys and metals business within the Infrastructure segment, see Note 4. As a result of this transaction, other intangibles decreased by $12.5 million in our Infrastructure segment. This decrease was recorded in the loss on divestiture account in our condensed consolidated statements of income.

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

(in thousands)	Industrial	Widia	Infrastructure	Total
Gross goodwill	$ 409,912	$ 40,941	$ 633,211	$ 1,084,064
Accumulated impairment losses	(137,204)	(13,638)	(633,211)	(784,053)
Balance as of June 30, 2019	$ 272,708	$ 27,303	$ —	$ 300,011
Activity for the six months ended December 31, 2019:				
Change in gross goodwill due to translation	(849)	(202)	—	(1,051)
Impairment charges	—	(13,134)	—	(13,134)
Gross goodwill	409,063	40,739	633,211	1,083,013
Accumulated impairment losses	(137,204)	(26,772)	(633,211)	(797,187)
Balance as of December 31, 2019	$ 271,859	$ 13,967	$ —	$ 285,826

The components of our other intangible assets were as follows:

		December 31, 2019		June 30, 2019	
(in thousands)	Estimated Useful Life (in years)	Gross Carrying Amount	Accumulated Amortization	Gross Carrying Amount	Accumulated Amortization
Contract-based	3 to 15	—	—	7,062	(7,062)
Technology-based and other	4 to 20	32,684	(22,139)	46,228	(31,890)
Customer-related	10 to 21	181,962	(83,923)	205,213	(94,711)
Unpatented technology	10 to 30	31,649	(16,696)	31,702	(15,492)
Trademarks	5 to 20	13,074	(8,206)	14,755	(9,352)
Trademarks	Indefinite	12,993	—	14,545	—
Total		$ 272,362	$ (130,964)	$ 319,505	$ (158,507)

19. SEGMENT DATA

Our reportable operating segments have been determined in accordance with the our 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, our 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.

INDUSTRIAL The Industrial segment develops and manufactures high performance tooling and metalworking products and services for diverse end markets, including aerospace and defense, general engineering, energy and transportation. These products include milling, hole making, turning, threading and toolmaking systems used in the manufacture of airframes, aero engines, trucks and automobiles, ships and various types of industrial equipment. We leverage advanced manufacturing capabilities in combination with varying levels of customization to solve our customers' toughest challenges and deliver improved productivity for a wide range of applications**.** Industrial goes to market under the Kennametal® brand through its direct sales force, a network of independent and national 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 Widia offers an 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 Our Infrastructure segment produces engineered tungsten carbide and ceramic components, earth-cutting tools, and advanced metallurgical powders, primarily for the energy, earthworks and general engineering end markets. These wear-resistant products include compacts, nozzles, frac seats and custom components used in oil and gas and petrochemical industries; rod blanks and abrasive water jet nozzles for general industries; earth cutting tools and systems used in underground mining, trenching and foundation drilling and road milling; tungsten carbide powders for the oil and gas, aerospace and process industries; and ceramics used by the packaging industry for metallization of films and papers. We combine deep metallurgical and engineering expertise with advanced manufacturing capabilities to deliver solutions that drive improved productivity for our customers. Infrastructure markets its products primarily under the Kennametal® brand and sells through a direct sales force as well as through distributors.

Our sales and operating (loss) income by segment are as follows:

	Three Months Ended December 31,		Six Months Ended December 31,	
(in thousands)	2019	2018	2019	2018
Sales:				
Industrial	$ 279,242	$ 317,320	$ 559,270	$ 637,878
Widia	44,337	48,954	88,394	97,626
Infrastructure	181,501	221,120	375,504	438,576
Total sales	$ 505,080	$ 587,394	$ 1,023,168	$ 1,174,080
Operating (loss) income:				
Industrial	$ (19,259)	$ 57,519	$ 2,012	$ 116,061
Widia	(15,918)	1,728	(17,882)	3,822
Infrastructure	(11,570)	20,614	(14,260)	44,474
Corporate	(891)	(1,003)	(1,131)	(2,347)
Total operating (loss) income	(47,638)	78,858	(31,261)	162,010
Interest expense	8,055	8,104	15,936	16,201
Other income, net	(4,211)	(4,022)	(6,891)	(6,782)
(Loss) income from continuing operations before income taxes	$ (51,482)	$ 74,776	$ (40,306)	$ 152,591

The following table presents Kennametal's revenue disaggregated by geography:

	Three Months Ended							
	December 31, 2019				December 31, 2018			
(in thousands)	Industrial	Widia	Infrastructure	Total Kennametal	Industrial	Widia	Infrastructure	Total Kennametal
Americas	41%	47%	61%	48%	40%	45%	66%	50%
EMEA	38	26	17	30	41	26	15	30
Asia Pacific	21	27	22	22	19	29	19	20

	Six Months Ended							
	December 31, 2019				December 31, 2018			
(in thousands)	Industrial	Widia	Infrastructure	Total Kennametal	Industrial	Widia	Infrastructure	Total Kennametal
Americas	41%	48%	62%	49%	40%	45%	66%	50%
EMEA	38	26	18	30	40	25	15	29
Asia Pacific	21	26	20	21	20	30	19	21

The following tables presents Kennametal's revenue disaggregated by end market:

	Three Months Ended December 31, 2019			
(in thousands)	Industrial	Widia	Infrastructure	Total Kennametal
General engineering	45%	100%	34%	46%
Transportation	32	—	—	18
Aerospace	14	—	—	8
Energy	9	—	29	15
Earthworks	—	—	37	13

	Three Months Ended December 31, 2018			
(in thousands)	Industrial	Widia	Infrastructure	Total Kennametal
General engineering	44%	100%	32%	44%
Transportation	34	—	—	18
Aerospace	13	—	—	7
Energy	9	—	36	19
Earthworks	—	—	32	12

	Six Months Ended December 31, 2019			
(in thousands)	Industrial	Widia	Infrastructure	Total Kennametal
General engineering	44%	100%	34%	45%
Transportation	33	—	—	18
Aerospace	14	—	—	8
Energy	9	—	29	15
Earthworks	—	—	37	14

	Six Months Ended December 31, 2018			
(in thousands)	Industrial	Widia	Infrastructure	Total Kennametal
General engineering	44%	100%	32%	44%
Transportation	34	—	—	19
Aerospace	13	—	—	7
Energy	9	—	35	18
Earthworks	—	—	33	12

Item 2. MANAGEMENT'S DISCUSSION AND ANALYSIS OF FINANCIAL CONDITION AND RESULTS OF OPERATIONS (MD&A)

OVERVIEW

Kennametal Inc. was founded based on a tungsten carbide technology breakthrough in 1938. The Company was incorporated in Pennsylvania in 1943 as a manufacturer of tungsten carbide metal cutting tooling and was listed on the New York Stock Exchange (NYSE) in 1967. With more than 80 years of materials expertise, the Company is a global industrial technology leader, helping customers across the aerospace, earthworks, energy, general engineering and transportation industries manufacture with precision and efficiency. This expertise includes the development and application of tungsten carbides, ceramics, super-hard materials and solutions used in metal cutting and extreme wear applications to keep customers up and running longer against conditions such as corrosion and high temperatures.

Our standard and custom product offering spans metalworking and wear applications including turning, milling, hole making, tooling systems and services, as well as specialized wear components and metallurgical powders. End users of our 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. Our wear and metallurgical powders are used by producers and suppliers in equipment-intensive operations such as road construction, mining, quarrying, oil and gas exploration, refining, production and supply.

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 decline, constant currency regional sales (decline) growth and constant currency end market sales decline. We provide the definitions of these non-GAAP financial measures at the end of the MD&A section as well as details on the use and derivation of these financial measures.

Our sales of $505.1 million for the quarter ended December 31, 2019 decreased 14 percent year-over-year, reflecting 12 percent organic sales decline from deteriorating end markets, a 1 percent unfavorable currency exchange effect and a 1 percent decline from divestiture. The decline reflects weakening end-market conditions, particularly from greater than expected deceleration in the U.S., Germany and India, combined with headwinds developing in the 737 MAX supply chain.

Operating loss was $47.6 million, compared to operating income of $78.9 million in the prior year quarter. The year-over-year change in operating income was primarily due to higher restructuring and related charges of $48.9 million, organic sales decline, unfavorable labor and fixed cost absorption in certain facilities due to lower volumes and simplification/modernization efforts in progress, $14.6 million of goodwill and other intangible asset impairment charges, higher raw material costs, and a loss on divestiture of $6.5 million, partially offset by incremental simplification/modernization benefits. Operating loss margin was 9.4 percent, compared to operating income margin of 13.4 percent in the prior year quarter. Higher raw material costs, which we expect to abate in the second half of fiscal 2020, had a detrimental effect on year-over-year operating margin of approximately 130 basis points. Segment operating loss margins were 6.9 percent, 35.9 percent and 6.4 percent for the Industrial, Widia and Infrastructure segments, respectively.

FY20 and FY21 Restructuring Actions are on-track to deliver the projected savings, and we expect profitability in the second half of the fiscal year to reflect increasing benefits from these programs in addition to lower raw material costs. We recorded $51.3 million of pre-tax restructuring and related charges in the quarter, and incremental pre-tax benefits from simplification/modernization restructuring were approximately $3 million in the quarter. Total benefits from simplification/modernization, including restructuring initiatives, were approximately $11 million in the quarter. We achieved annualized run-rate savings from simplification/modernization of approximately $69 million since inception.

As part of the FY20 Restructuring Actions, we completed the full closures of the Lichtenau, Germany and Irwin, Pennsylvania manufacturing facilities. Additionally, distribution activities at the Neunkirchen, Germany distribution center have been transitioned to third-party logistics providers. As previously announced, we also expect to deliver the FY21 Restructuring Actions with the original estimated annualized savings of $25 to $30 million, but with lower estimated pre-tax charges of approximately $55 to $65 million, down from $60 to $75 million. Following negotiations with local employee representatives, we agreed to downsize the Essen, Germany operations rather than proceed with the previously proposed closure. Since the inception of simplification/modernization, we have taken steps to permanently reduce our cost structure, decreasing footprint by five facilities.

We also completed the divestiture of the non-core specialty alloys business in the Infrastructure segment as part of our ongoing simplification/modernization initiatives. Cash proceeds from the sale were $24 million, and the pre-tax loss on the sale was $7 million, or $0.03 per share. Transaction proceeds were primarily used for capital expenditures related to our simplification/modernization initiatives. The divestiture is expected to be accretive to margins.

We recognized a discrete tax benefit of $14.5 million in the quarter due to transition benefits associated with legislation that was effectively enacted during the three months ended December 31, 2019 when the Canton of Schaffhausen approved the Federal Act on Tax Reform and AHV Financing on October 8, 2019 (Swiss tax reform).

We recorded non-cash pre-tax Widia goodwill and intangible asset impairment charges of $14.6 million as a result of deteriorating market conditions, primarily in general engineering and transportation applications in India and China, in addition to overall global weakness in the manufacturing sector.

We reported current quarter loss per diluted share (LPS) of $0.07. LPS for the current quarter includes restructuring and related charges of $0.39 per share, loss on divestiture of $0.03 and discrete benefits from foreign tax reforms of $0.18. The earnings per diluted share of $0.66 in the prior year quarter included net discrete tax charges of $0.03 and restructuring and related charges of $0.02 per share.

We generated net cash flows from operating activities of $87.1 million during the six months ended December 31, 2019 compared to $61.5 million during the prior year quarter. Capital expenditures were $147.5 million and $88.1 million during the six months ended December 31, 2019 and 2018, respectively, with the increase primarily due to higher spending associated with our simplification/modernization initiatives.

RESULTS OF CONTINUING OPERATIONS

SALES

Sales for the three months ended December 31, 2019 were $505.1 million, a decrease of $82.3 million, or 14 percent, from $587.4 million in the prior year quarter. The decrease in sales was driven by 12 percent organic sales decline, a 1 percent unfavorable currency exchange impact and a 1 percent decline from divestiture.

Sales for the six months ended December 31, 2019 were $1,023.2 million, a decrease of $150.9 million, or 13 percent, from $1,174.1 million in the prior year period. The decrease in sales was driven by 11 percent organic sales decline and 2 percent unfavorable currency exchange impact.

	Three Months Ended December 31, 2019		Six Months Ended December 31, 2019	
(in percentages)	As Reported	Constant Currency	As Reported	Constant Currency
End market sales decline:				
Energy	(28)%	(27)%	(24)%	(23)%
Transportation	(14)	(13)	(17)	(15)
General engineering	(12)	(9)	(11)	(8)
Aerospace	(7)	(6)	(5)	(3)
Earthworks	(4)	(3)	(4)	(2)
Regional sales decline:				
Americas	(17)%	(15)%	(14)%	(13)%
Europe, the Middle East and Africa (EMEA)	(14)	(11)	(12)	(9)
Asia Pacific	(7)	(6)	(12)	(11)

GROSS PROFIT

Gross profit for the three months ended December 31, 2019 was $132.0 million, a decrease of $66.6 million from $198.6 million in the prior year quarter. The decrease was primarily due to organic sales decline, unfavorable labor and fixed cost absorption in certain facilities due to lower volumes and simplification/modernization efforts in progress and higher raw material costs, partially offset by incremental simplification/modernization benefits. Gross profit margin for the three months ended December 31, 2019 was 26.1 percent, as compared to 33.8 percent in the prior year quarter. Higher raw material costs, which we expect to abate in the second half of fiscal 2020, had a detrimental effect on year-over-year gross profit margin of approximately 130 basis points.

Gross profit for the six months ended December 31, 2019 was $271.0 million, a decrease of $138.7 million from $409.7 million in the prior year period. The decrease was primarily due to organic sales decline, unfavorable labor and fixed cost absorption in certain facilities due to lower volumes and simplification/modernization efforts in progress and higher raw material costs, partially offset by incremental simplification/modernization benefits. Gross profit margin for the six months ended December 31, 2019 was 26.5 percent, as compared to 34.9 percent in the prior year period. Higher raw material costs, which are expected to abate in the second half of fiscal 2020, had a detrimental effect on year-over-year gross profit margin of approximately 240 basis points.

OPERATING EXPENSE

Operating expense for the three months ended December 31, 2019 was $107.5 million compared to $114.6 million for the three months ended December 31, 2018. The decrease was primarily due to incremental restructuring simplification benefits and favorable currency exchange impact of approximately $1 million, partially offset by higher compensation expense.

Operating expense for the six months ended December 31, 2019 was $221.7 million compared to $237.9 million for the six months ended December 31, 2018. The decrease was primarily due to incremental restructuring simplification benefits, favorable currency exchange impact of approximately $3 million and lower incentive compensation expense.

We invested further in technology and innovation to continue delivering high quality products to our customers. Research and development expenses included in operating expense totaled $10.1 million and $8.9 million for the three months ended December 31, 2019 and 2018, respectively, and $20.5 million and $18.6 million for the six months ended December 31, 2019 and 2018, respectively.

RESTRUCTURING AND RELATED CHARGES AND ASSET IMPAIRMENT CHARGES

FY20 Restructuring Actions
In the June quarter of fiscal 2019, we began implementing the current phase of restructuring associated with our simplification/modernization initiative. These actions are expected to reduce structural costs, improve operational efficiency and position us for long-term profitable growth and are currently estimated to achieve $35 million to $40 million of annualized savings by the end of fiscal 2020. These actions are expected to be completed in fiscal 2020 and are expected to be primarily cash expenditures.

The pre-tax charges for these programs are expected to be in the range of $55 million to $65 million, which are expected to be 80 percent Industrial, 15 percent Infrastructure and 5 percent Widia. Restructuring and related charges since inception of $44.5 million were recorded for this program through December 31, 2019, consisting of: $36.6 million in Industrial, $5.8 million in Infrastructure and $2.2 million in Widia. Inception to date, we have achieved annualized savings of approximately $16 million.

FY21 Restructuring Actions
On July 11, 2019, we announced the initiation of restructuring actions in Germany associated with simplification/modernization, which are expected to reduce structural costs. We have agreed with local employee representatives to downsize the Essen, Germany operations instead of the previously proposed closure. We are also evaluating the acceleration of other facility closures as part of these restructuring activities. These actions are expected to deliver estimated annualized savings of $25 million to $30 million, be completed by the end of fiscal 2021 and be primarily cash expenditures.

The pre-tax charges for these programs are expected to be in the range of $55 million to $65 million, which is expected to be primarily in the Industrial segment. Restructuring and related charges since inception of $28.7 million were recorded for this program through December 31, 2019 in the Industrial segment.

Restructuring and Related Charges Recorded
We recorded restructuring and related charges of $51.3 million and $2.1 million for the three months ended December 31, 2019 and 2018, respectively. Of these amounts, restructuring charges for the three months ended December 31, 2019 totaled $48.0 million, of which $0.3 million were related to inventory and were recorded in cost of goods sold, and restructuring charges for the three months ended December 31, 2018 totaled $1.5 million. Restructuring-related charges of $3.3 million and $0.6 million were recorded in cost of goods sold for the three months ended December 31, 2019 and 2018, respectively.

We recorded restructuring and related charges of $59.3 million and $3.1 million for the six months ended December 31, 2019 and 2018, respectively. Of these amounts, restructuring charges for the six months ended December 31, 2019 totaled $52.7 million, of which $0.3 million were related to inventory and were recorded in cost of goods sold, and restructuring charges for the six months ended December 31, 2018 totaled $2.6 million. Restructuring-related charges of $6.6 million and $0.5 million were recorded in cost of goods sold for the six months ended December 31, 2019 and 2018, respectively.

Intangible Asset Impairment Charges
We recorded non-cash pre-tax intangible asset impairment charges of $14.6 million during the three months ended December 31, 2019. See Note 18 to our condensed consolidated financial statements set forth in Part I, Item 1 of this Quarterly Report on Form 10-Q.

LOSS ON DIVESTITURE

During the three months ended December 31, 2019, we completed the sale of certain assets of the non-core specialty alloys and metals business within the Infrastructure segment located in New Castle, Pennsylvania to Advanced Metallurgical Group N.V. for an aggregate price of $24.0 million.

The net book value of these assets at closing was $29.5 million, and the pre-tax loss on divestiture recognized during the three months ended December 31, 2019 was $6.5 million. Transaction proceeds were primarily used for capital expenditures related to our simplification/modernization efforts.

INTEREST EXPENSE

Interest expense for the three months ended December 31, 2019 and 2018 was $8.1 million. Interest expense for the six months ended December 31, 2019 decreased to $15.9 million compared to $16.2 million for the six months ended December 31, 2018.

OTHER INCOME, NET

Other income for the three months ended December 31, 2019 increased slightly to $4.2 million from $4.0 million during the three months ended December 31, 2018. Other income for the six months ended December 31, 2019 increased slightly to $6.9 million from $6.8 million during the six months ended December 31, 2018.

PROVISION FOR INCOME TAXES

Effective tax rates
The effective income tax rates for the three months ended December 31, 2019 and 2018 were 87.9 percent (benefit on a loss) and 24.8 percent (provision on income), respectively. The year-over-year change is primarily due to a discrete $14.5 million benefit for the one-time effect of Swiss tax reform, the impairment of Widia goodwill, the change in the jurisdictional mix caused by expected restructuring and related charges and the increase in tax on global intangible low-taxed income (GILTI) and the base erosion anti-abuse tax (BEAT), which are both components of the U.S. Tax Cuts and Jobs Act of 2017. The prior year rate included a $6.1 million charge related to changes in the indefinite reinvestment assertion on certain foreign subsidiaries' undistributed earnings and a $3.9 million benefit recorded to reflect the finalization of the amount of the one-time tax imposed on our unremitted foreign earnings.

The effective income tax rates for the six months ended December 31, 2019 and 2018 were 102.9 percent (benefit on a loss) and 24.9 percent (provision on income), respectively. The year-over-year change is primarily due to a discrete $14.5 million benefit for the one-time effect of Swiss tax reform, the impairment of Widia goodwill, the change in the jurisdictional mix caused by expected restructuring and related charges, the increase in GILTI and BEAT.

Swiss tax reform
Legislation was effectively enacted during the three months ended December 31, 2019 when the Canton of Schaffhausen approved the Federal Act on Tax Reform and AHV Financing on October 8, 2019 (Swiss tax reform). Significant changes from Swiss tax reform include the abolishment of certain favorable tax regimes and the creation of a ten-year transitional period at both the federal and cantonal levels.

The transitional provisions of Swiss tax reform allow companies to utilize a combination of lower tax rates and tax basis adjustments to fair value, which are used for tax depreciation and amortization purposes resulting in deductions over the transitional period. To reflect the federal and cantonal transitional provisions, as they apply to us, we recorded a deferred tax asset of $14.5 million during the three months ended December 31, 2019. We consider the deferred tax asset from Swiss tax reform to be an estimate based on our current interpretation of the legislation, which is subject to change based on further legislative guidance, review with the Swiss federal and cantonal authorities and modifications to the underlying valuation.

We currently expect a modestly unfavorable effect on our Swiss tax expense during the ten-year transitional period.

BUSINESS SEGMENT REVIEW

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

Our sales and operating (loss) income by segment are as follows:

	Three Months Ended December 31,		Six Months Ended December 31,	
(in thousands)	2019	2018	2019	2018
Sales:				
Industrial	$ 279,242	$ 317,320	$ 559,270	$ 637,878
Widia	44,337	48,954	88,394	97,626
Infrastructure	181,501	221,120	375,504	438,576
Total sales	$ 505,080	$ 587,394	$ 1,023,168	$ 1,174,080
Operating (loss) income:				
Industrial	$ (19,259)	$ 57,519	$ 2,012	$ 116,061
Widia	(15,918)	1,728	(17,882)	3,822
Infrastructure	(11,570)	20,614	(14,260)	44,474
Corporate	(891)	(1,003)	(1,131)	(2,347)
Total operating (loss) income	(47,638)	78,858	(31,261)	162,010
Interest expense	8,055	8,104	15,936	16,201
Other income, net	(4,211)	(4,022)	(6,891)	(6,782)
(Loss) income from continuing operations before income taxes	$ (51,482)	$ 74,776	$ (40,306)	$ 152,591

INDUSTRIAL

	Three Months Ended December 31,		Six Months Ended December 31,	
(in thousands, except operating margin)	2019	2018	2019	2018
Sales	$ 279,242	$ 317,320	$ 559,270	$ 637,878
Operating (loss) income	(19,259)	57,519	2,012	116,061
Operating margin	(6.9)%	18.1%	0.4%	18.2%

(in percentages)	Three Months Ended December 31, 2019	Six Months Ended December 31, 2019
Organic sales decline	(11)%	(11)%
Foreign currency exchange impact[1]	(1)	(1)
Sales decline	(12)%	(12)%

(in percentages)	Three Months Ended December 31, 2019 As Reported	Three Months Ended December 31, 2019 Constant Currency	Six Months Ended December 31, 2019 As Reported	Six Months Ended December 31, 2019 Constant Currency
End market sales decline:				
Transportation	(14)%	(13)%	(17)%	(15)%
General engineering	(12)	(10)	(12)	(10)
Energy	(10)	(9)	(9)	(8)
Aerospace	(7)	(6)	(5)	(3)
Regional sales decline:				
EMEA	(17)%	(14)%	(16)%	(13)%
Americas	(10)	(10)	(9)	(8)
Asia Pacific	(5)	(4)	(11)	(10)

For the three months ended December 31, 2019, Industrial sales decreased 12 percent from the prior year quarter due to slower conditions across all end markets and regions. Transportation sales declined in the Americas and EMEA due to continued weakness in auto build rates, while transportation in Asia stabilized with slight growth in the quarter. Sales in our general engineering end market declined in all regions as a result of continued declines in manufacturing activity. Energy sales decreased primarily due to a decline in oil and gas drilling in the Americas, partially offset by continued strength in renewable energy in China. Aerospace sales declined in all regions primarily driven by lower OEM production rates on certain platforms. The sales decreases in the Americas and in EMEA were primarily driven by declines in the transportation and general engineering end markets, in addition to declines in the energy and Americas aerospace end markets. The sales decrease in Asia Pacific was primarily driven by declines in the general engineering end market, partially offset by increases in the transportation and energy end markets.

For the three months ended December 31, 2019, Industrial operating loss was $19.3 million compared to operating income of $57.5 million in the prior year quarter. The change was driven primarily by greater restructuring and related charges of $47.5 million, organic sales decline, unfavorable labor and fixed cost absorption in certain facilities due to lower volumes and simplification/modernization efforts in progress and higher compensation expense, partially offset by incremental simplification/modernization benefits.

For the six months ended December 31, 2019, Industrial sales decreased 12 percent from the prior year period. Transportation sales declined in all regions due to continued weakness in auto build rates, while sales in our general engineering end market declined in all regions driven by overall continued declined in global manufacturing activity. Energy sales decreased primarily due to a decline in oil and gas drilling in the Americas, partially offset by continued strength in renewable energy in China. Aerospace sales declined in all regions driven primarily by lower OEM production rates on certain platforms and timing of large projects in the first quarter of the prior year that did not repeat. The sales decrease in EMEA was primarily due to a decline in the transportation and general engineering end markets but was also due to a decline in the energy end market. The sales decrease in the Americas was driven primarily by declines in the general engineering and transportation end markets, in addition to declines in the energy and aerospace end markets. The sales decrease in Asia Pacific was primarily driven by declines in the general engineering and transportation end markets and, to a lesser extent, a decline in the aerospace end market, partially offset by an increase in the energy end market.

For the six months ended December 31, 2019, Industrial operating income decreased by $114.0 million, driven primarily by greater restructuring and related charges of $53.5 million, organic sales decline and unfavorable labor and fixed cost absorption in certain facilities due to lower volumes and simplification/modernization efforts in progress and higher compensation expense, partially offset by incremental simplification/modernization benefits.

WIDIA

	Three Months Ended December 31,		Six Months Ended December 31,	
(in thousands)	2019	2018	2019	2018
Sales	$ 44,337	$ 48,954	$ 88,394	$ 97,626
Operating (loss) income	(15,918)	1,728	(17,882)	3,822
Operating margin	(35.9)%	3.5%	(20.2)%	3.9%

(in percentages)	Three Months Ended December 31, 2019	Six Months Ended December 31, 2019
Organic sales decline	(8)%	(9)%
Business days impact[(2)]	(1)	—
Sales decline	(9)%	(9)%

	Three Months Ended December 31, 2019		Six Months Ended December 31, 2019	
(in percentages)	As Reported	Constant Currency	As Reported	Constant Currency
Regional sales decline:				
Asia Pacific	(17)%	(17)%	(21)%	(20)%
EMEA	(8)	(6)	(5)	(3)
Americas	(6)	(6)	(4)	(4)

For the three and six months ended December 31, 2019, Widia sales decreased 9 percent from the prior year period. The sales decrease in Asia Pacific for both periods was driven primarily by the overall weak market conditions, most notably in India, which accelerated in the second quarter of fiscal 2020, and in China. Sales in EMEA decreased in both periods primarily due to the increasingly difficult market environment, partially offset by growth in products focused on aerospace applications, while the decreases in the Americas was primarily due to a slower U.S. manufacturing environment, partially offset by strength in Mexico.

For the three months ended December 31, 2019, Widia operating loss was $15.9 million compared to operating income of $1.7 million in the prior year quarter. The change was driven primarily by $14.6 million of goodwill and other intangible asset impairment charges, organic sales decline and higher raw material costs, partially offset by incremental simplification/modernization benefits. Higher raw material costs, which are expected to abate in the second half of fiscal 2020, had a detrimental effect on year-over-year operating margin of approximately 230 basis points for the three months ended December 31, 2019.

For the six months ended December 31, 2019, Widia operating loss was $17.9 million compared to operating income of $3.8 million in the prior year period. The change was driven primarily by $14.6 million of goodwill and other intangible asset impairment charges, organic sales decline, higher raw material costs and higher manufacturing costs, partially offset by incremental simplification/modernization benefits. Higher raw material costs, which are expected to abate in the second half of fiscal 2020, had a detrimental effect on year-over-year operating margin of approximately 330 basis points for the six months ended December 31, 2019.

INFRASTRUCTURE

	Three Months Ended December 31,		Six Months Ended December 31,	
(in thousands)	2019	2018	2019	2018
Sales	$ 181,501	$ 221,120	$ 375,504	$ 438,576
Operating (loss) income	(11,570)	20,614	(14,260)	44,474
Operating margin	(6.4)%	9.3%	(3.8)%	10.1%

(in percentages)	Three Months Ended December 31, 2019	Six Months Ended December 31, 2019
Organic sales decline	(14)%	(12)%
Foreign currency exchange impact[1]	(1)	(1)
Business days impact[2]	(1)	—
Divestiture impact[3]	(2)	(1)
Sales decline	(18)%	(14)%

(in percentages)	Three Months Ended December 31, 2019 As Reported	Three Months Ended December 31, 2019 Constant Currency	Six Months Ended December 31, 2019 As Reported	Six Months Ended December 31, 2019 Constant Currency
End market sales decline:				
Energy	(35)%	(33)%	(30)%	(29)%
General engineering	(12)	(6)	(9)	(5)
Earthworks	(4)	(3)	(4)	(2)
Regional sales (decline) growth:				
Americas	(25)%	(22)%	(19)%	(18)%
Asia Pacific	(6)	(5)	(10)	(8)
EMEA	(2)	2	1	5

For the three months ended December 31, 2019, Infrastructure sales decreased by 18 percent from the prior year quarter primarily as a result of lower activity in the oil and gas portion of the energy end market in the U.S.. In general engineering, the lower level of manufacturing activity drove the decline in the Americas and Asia Pacific, offset by increased defense related activity in EMEA. Earthworks end market sales were down year-over-year due to softness in mining in the Americas and EMEA, partially offset by growth in Asia Pacific mining. On a regional basis, the sales decrease in the Americas was primarily driven by a decline in the energy end market and, to a lesser extent, declines in both the general engineering and earthworks end markets. The sales decrease in Asia Pacific was primarily due to a decline in the general engineering end market, partially offset by increases in the earthworks and energy end markets. In EMEA, the sales increase, excluding the unfavorable impact of currency exchange, was driven primarily by growth in the general engineering end market, partially offset by declines in both the energy and earthworks end markets.

For the three months ended December 31, 2019, Infrastructure operating loss was $11.6 million compared to operating income of $20.6 million in the prior year quarter. The change was driven primarily by organic sales decline, higher manufacturing costs, a loss on divestiture of $6.5 million, unfavorable mix and higher raw material costs, partially offset by incremental simplification/modernization benefits. Higher raw material costs, which are expected to abate in the second half of fiscal 2020, had a detrimental effect on year-over-year operating margin of approximately 180 basis points for the three months ended December 31, 2019.

For the six months ended December 31, 2019, Infrastructure sales decreased by 14 percent from the prior year period. The U.S. oil and gas market drove year-over-year decline in the energy market, while the decline in general engineering was driven by general economic decline in the Americas and Asia Pacific, offset by increased activity in EMEA. Earthworks end market sales were down year-over-year due to softness in mining in the Americas, partially offset by growth in Americas construction and Asia Pacific mining. The sales decrease in the Americas was primarily driven by a decline in the energy end market, but also due to a decline in the general engineering end market. The decrease in Asia Pacific was primarily due to a decline in the general engineering end market, partially offset by growth in the energy end market. The sales increase in EMEA was driven primarily by growth in the general engineering end market, partially offset by declines in both the energy and earthworks end markets.

For the six months ended December 31, 2019, Infrastructure operating loss was $14.3 million compared to operating income of $44.5 million in the prior year period. The change was driven primarily by higher raw material costs, organic sales decline, higher manufacturing costs, unfavorable mix and a loss on divestiture of $6.5 million, partially offset by incremental simplification/modernization benefits. Higher raw material costs, which are expected to abate in the second half of fiscal 2020, had a detrimental effect on year-over-year operating margin of approximately 420 basis points for the six months ended December 31, 2019.

CORPORATE

	Three Months Ended December 31,		Six Months Ended December 31,	
(in thousands)	2019	2018	2019	2018
Corporate expense	$ (891)	$ (1,003)	$ (1,131)	$ (2,347)

For the three months ended December 31, 2019, Corporate expense decreased by $0.1 million from the prior year quarter. For the six months ended December 31, 2019, Corporate expense decreased by $1.2 million from the prior year period.

LIQUIDITY AND CAPITAL RESOURCES

Cash flow from operations is the primary source of funding for our capital expenditures. For the six months ended December 31, 2019, cash flow provided by operating activities was $87.1 million, primarily due to the net inflow from net income with adjustments for non-cash items.

Our five-year, multi-currency, revolving credit facility, as amended and restated in June 2018 (Credit Agreement), is used to augment cash from operations and is an additional source of funds. The Credit Agreement provides for revolving credit loans of up to $700.0 million for working capital, capital expenditures and general corporate purposes. The Credit Agreement allows for borrowings in U.S. dollars, euros, Canadian dollars, pounds 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 June 2023.

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 Credit Agreement). We were in compliance with all such covenants as of December 31, 2019. For the six months ended December 31, 2019, average daily borrowings outstanding under the Credit Agreement were approximately $5.1 million. We had no borrowings outstanding under the Credit Agreement as of December 31, 2019 and June 30, 2019. Borrowings under the Credit Agreement are guaranteed by our significant domestic subsidiaries.

We consider the majority of the unremitted earnings of our non-U.S. subsidiaries to be permanently reinvested. With regard to these unremitted earnings, we have not, 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, including liquidity needs associated with our domestic debt service requirements. With regard to the small portion of unremitted earnings that are not indefinitely reinvested, we maintain a deferred tax liability for foreign withholding and U.S. state income taxes.

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. While the outcome of the litigation is still pending, the authority has served notice requiring payment in the amount of €36 million. Accordingly, we requested and were granted a stay and are not currently required to make a payment in connection with this assessment. We continue to believe that the assessment is baseless and 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 would result in an increase to income tax expense for as much as €36 million, or $40 million, of which penalties and interest is €20 million, or $23 million.

At December 31, 2019, cash and cash equivalents were $105.2 million, Total Kennametal Shareholders' equity was $1,306.2 million and total debt was $595.3 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 believe that we have sufficient resources available to meet cash requirements for the next 12 months. 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. There have been no material changes in our contractual obligations and commitments since June 30, 2019.

Cash Flow Provided by Operating Activities
During the six months ended December 31, 2019, cash flow provided by operating activities was $87.1 million, compared to $61.5 million for the prior year period. Cash flow provided by operating activities for the current year period consisted of net income and non-cash items amounting to an inflow of $86.8 million and changes in certain assets and liabilities netting to an inflow of $0.3 million. Contributing to the changes in certain assets and liabilities were a decrease in accounts receivable of $64.5 million and a decrease in inventories of $34.3 million. Partially offsetting these cash inflows were changes in accrued income taxes of $53.0 million, a decrease in accounts payable and accrued liabilities of $28.5 million and a decrease in accrued pension and postretirement benefits of $12.1 million.

During the six months ended December 31, 2018, cash flow provided by operating activities consisted of net income and non-cash items amounting to an inflow of $186.4 million and changes in certain assets and liabilities netting to an outflow of $124.9 million. Contributing to the changes in certain assets and liabilities were a decrease in accounts payable and accrued liabilities of $82.8 million and an increase in inventories of $59.2 million due in part to increasing demand and raw material price increases. Partially offsetting these cash outflows was a decrease in accounts receivable of $14.0 million.

Cash Flow Used for Investing Activities
Cash flow used for investing activities was $123.7 million for the six months ended December 31, 2019, compared to $85.5 million for the prior year period. During the current year period, cash flow used for investing activities included capital expenditures, net of $146.7 million, which consisted primarily of simplification/modernization initiatives and equipment upgrades, partially offset by proceeds from divestiture of $24.0 million from the sale of certain assets of the non-core specialty alloys and metals business located in New Castle, Pennsylvania.

For the six months ended December 31, 2018, cash flow used for investing activities included capital expenditures, net of $85.6 million, which consisted primarily of equipment upgrades and modernization initiatives.

Cash Flow Used for Financing Activities
Cash flow used for financing activities was $38.7 million for the six months ended December 31, 2019 compared to $432.7 million in the prior year period. During the current year period, cash flow used for financing activities included $33.1 million of cash dividends paid to Kennametal Shareholders and $5.6 million of the effect of employee benefit and stock plans and dividend reinvestment.

For the six months ended December 31, 2018, cash flow used for financing activities included outflows of $400.0 million of term debt repayments from the early extinguishment of our 2.650 percent Senior Unsecured Notes, $32.8 million of cash dividends paid to Kennametal Shareholders and $2.2 million of the effect of employee benefit and stock plans and dividend reinvestment, partially offset by an inflow from a net increase in notes payable of $2.5 million.

FINANCIAL CONDITION

Working capital was $626.8 million at December 31, 2019, a decrease of $102.3 million from $729.1 million at June 30, 2019. The decrease in working capital was primarily driven by a decrease in cash and cash equivalents of $76.8 million; a decrease in accounts receivable of $69.5 million due primarily to a decline in sales, a decrease in inventories of $49.1 million, an increase in other current liabilities of $23.0 million primarily due to greater restructuring charges partially offset by bonus payments, and the addition of current operating lease liabilities of $14.0 million due to the adoption of the new lease accounting standard without a restatement of prior periods. Partially offsetting these items was a decrease in accounts payable of $39.7 million, a decrease in accrued expenses of $31.5 million primarily due to payroll timing and lower accrued vacation pay, an increase in other current assets of $40.4 million primarily due to an increase in prepaid taxes and a decrease in accrued income taxes of $20.4 million which is primarily due to timing of payments and losses in the year-to-date period. Currency exchange rate effects decreased working capital by a total of approximately $6 million, the impact of which is included in the aforementioned changes.

Property, plant and equipment, net increased $73.7 million from $934.9 million at June 30, 2019 to $1,008.6 million at December 31, 2019, primarily due to capital additions of $147.5 million, partially offset by depreciation expense of $53.8 million, divestiture effect of $6.7 million, a negative currency exchange impact of approximately $5 million and disposals of $0.8 million.

At December 31, 2019, other assets were $578.5 million, an increase of $47.9 million from $530.5 million at June 30, 2019. The primary driver for the increase was the addition of operating lease ROU assets of $50.2 million in the quarter due to the adoption of the new lease accounting standard without a restatement of prior periods and an increase in other assets of $18.7 million primarily due to an increase in pension plan assets, partially offset by a decrease in other intangible assets of $19.6 million, which was primarily due to divestiture effect of $12.5 million, amortization expense of $7.0 million and an impairment charge recorded in the Widia segment of $1.5 million and a decrease in goodwill of $14.2 million primarily due to a goodwill impairment charge recorded in the Widia segment of $13.1 million and an unfavorable currency exchange effects of approximately $1 million.

Kennametal Shareholders' equity was $1,306.2 million at December 31, 2019, a decrease of $29.0 million from $1,335.2 million at June 30, 2019. The decrease was primarily due to cash dividends paid to Kennametal Shareholders of $33.1 million, unfavorable currency exchange effects of $8.8 million and net income attributable to Kennametal of $0.5 million, partially offset by capital stock issued under employee benefit and stock plans of $8.3 million and pension and other postretirement benefit effects in other comprehensive loss of $3.5 million.

DISCUSSION OF CRITICAL ACCOUNTING POLICIES

There have been no changes to our critical accounting policies since June 30, 2019.

Goodwill and Indefinite-Lived Intangible Assets 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 goodwill and other indefinite-lived intangible asset using a discounted cash flow analysis based on projected financial information. We perform our annual impairment tests for 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 warrants a test prior to that quarter.

In the December quarter of fiscal 2020, the Company experienced deteriorating market conditions, primarily in general engineering and transportation applications in India and China, in addition to overall global weakness in the manufacturing sector. In view of these declining conditions and the significant detrimental effect on cash flows and actual and projected revenue and earnings compared with our most recent annual impairment test, we determined that an impairment triggering event had occurred and performed an interim quantitative impairment test of our goodwill and indefinite-lived trademark intangible asset of our Widia reporting unit. As a result of this interim test, we recorded a non-cash pre-tax impairment charge during the three months ended December 31, 2019 of $14.6 million in the Widia segment, of which $13.1 million was for goodwill and $1.5 million was for an indefinite-lived trademark intangible asset.

The carrying values of the Widia reporting unit goodwill and indefinite-lived trademark of $14.0 million and $13.0 million, respectively, approximate fair values as of the interim test date. Fair value determinations require considerable judgment and are sensitive to changes in underlying assumptions and factors. As a result, there can be no assurance that the estimates and assumptions made for purposes of the interim and annual goodwill and indefinite-lived intangible impairment test will prove to be an accurate prediction of the future. Certain events or circumstances that could reasonably be expected to negatively affect the underlying key assumptions and ultimately impact the estimated fair values of our reporting units and of the indefinite-lived trademark may include such items as: (i) a decrease in expected future cash flows, specifically, a further decrease in sales volume driven by a prolonged weakness in customer demand or other pressures adversely affecting our long-term sales trends; (ii) inability to achieve the anticipated benefits from simplification/modernization and other cost reduction programs and (iii) inability to achieve the sales from our strategic growth initiatives.

NEW ACCOUNTING STANDARDS

See Note 2 to our condensed consolidated financial statements set forth in Part I, Item 1 of this Quarterly Report on Form 10-Q for a description of new accounting standards.

RECONCILIATION OF FINANCIAL MEASURES NOT DEFINED BY U.S. GAAP

In accordance with SEC rules, below are the definitions of the non-GAAP financial measures we use in this report and the reconciliation of these measures to the most closely related GAAP financial measures. 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 financial measures described below are used by management in making operating decisions, allocating financial resources and for business strategy purposes. We believe 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 financial measures are not intended to be considered by the user in place of the related GAAP financial measure, but rather as supplemental information to our business results. These non-GAAP financial 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 financial measure of sales growth (decline) (which is the most directly comparable GAAP measure) excluding the impacts of acquisitions, divestitures, business days and foreign currency exchange from year-over-year comparisons. We believe this measure provides investors with a supplemental understanding of underlying sales trends by providing sales growth decline on a consistent basis. Also, we report organic sales growth (decline) at the consolidated and segment levels.

Constant currency end market sales growth (decline) Constant currency end market sales growth (decline) is a non-GAAP financial measure of sales decline (which is the most directly comparable GAAP measure) by end market excluding the impacts of acquisitions, divestitures and foreign currency exchange from year-over-year comparisons. We note that, unlike organic sales growth (decline), constant currency end market sales growth (decline) does not exclude the impact of business days. We believe this measure provides investors with a supplemental understanding of underlying end market trends by providing end market sales growth (decline) on a consistent basis. Also, we report constant currency end market sales growth (decline) at the consolidated and segment levels. Widia sales are reported only in the general engineering end market. Therefore, we do not provide constant currency end market sales growth (decline) for the Widia segment and, thus, do not include a reconciliation for that metric.

Constant currency regional sales growth (decline) Constant currency regional sales growth (decline) is a non-GAAP financial measure of sales growth (decline) (which is the most directly comparable GAAP measure) by region excluding the impacts of acquisitions, divestitures and foreign currency exchange from year-over-year comparisons. We note that, unlike organic sales growth, constant currency regional sales growth (decline) does not exclude the impact of business days. We believe this measure provides investors with a supplemental understanding of underlying regional trends by providing regional sales growth (decline) on a consistent basis. Also, we report constant currency regional sales growth (decline) at the consolidated and segment levels.

Reconciliations of organic sales decline to sales decline are as follows:

Three Months Ended December 31, 2019	Industrial	Widia	Infrastructure	Total
Organic sales decline	(11)%	(8)%	(14)%	(12)%
Foreign currency exchange impact[1]	(1)	—	(1)	(1)
Business days impact[2]	—	(1)	(1)	—
Divestiture impact[3]	—	—	(2)	(1)
Sales decline	(12)%	(9)%	(18)%	(14)%

Six Months Ended December 31, 2019	Industrial	Widia	Infrastructure	Total
Organic sales decline	(11)%	(9)%	(12)%	(11)%
Foreign currency exchange impact[1]	(1)	—	(1)	(2)
Divestiture impact[3]	—	—	(1)	—
Sales decline	(12)%	(9)%	(14)%	(13)%

Reconciliations of constant currency end market sales decline to end market sales decline(4) are as follows:

Industrial

Three Months Ended December 31, 2019	General engineering	Transportation	Aerospace	Energy
Constant currency end market sales decline	(10)%	(13)%	(6)%	(9)%
Foreign currency exchange impact(1)	(2)	(1)	(1)	(1)
End market sales decline(4)	(12)%	(14)%	(7)%	(10)%

Infrastructure

Three Months Ended December 31, 2019	Energy	Earthworks	General engineering
Constant currency end market sales decline	(33)%	(3)%	(6)%
Foreign currency exchange impact(1)	—	(1)	(1)
Divestiture impact(3)	(2)	—	(5)
End market sales decline(4)	(35)%	(4)%	(12)%

Total

Three Months Ended December 31, 2019	General engineering	Transportation	Aerospace	Energy	Earthworks
Constant currency end market sales decline	(9)%	(13)%	(6)%	(27)%	(3)%
Foreign currency exchange impact(1)	(2)	(1)	(1)	—	(1)
Divestiture impact(3)	(1)	—	—	(1)	—
End market sales decline(4)	(12)%	(14)%	(7)%	(28)%	(4)%

Industrial

Six Months Ended December 31, 2019	General engineering	Transportation	Aerospace	Energy
Constant currency end market sales decline	(10)%	(15)%	(3)%	(8)%
Foreign currency exchange impact(1)	(2)	(2)	(2)	(1)
End market sales decline(4)	(12)%	(17)%	(5)%	(9)%

Infrastructure

Six Months Ended December 31, 2019	Energy	Earthworks	General engineering
Constant currency end market sales decline	(29)%	(2)%	(5)%
Foreign currency exchange impact(1)	—	(2)	(1)
Divestiture impact(3)	(1)	—	(3)
End market sales decline(4)	(30)%	(4)%	(9)%

Total

Six Months Ended December 31, 2019	General engineering	Transportation	Aerospace	Energy	Earthworks
Constant currency end market sales decline	(8)%	(15)%	(3)%	(23)%	(2)%
Foreign currency exchange impact(1)	(2)	(2)	(2)	—	(2)
Divestiture impact(3)	(1)	—	—	(1)	—
End market sales decline(4)	(11)%	(17)%	(5)%	(24)%	(4)%

Reconciliations of constant currency regional sales (decline) growth to reported regional sales (decline) growth[5], are as follows:

	Three Months Ended December 31, 2019			Six Months Ended December 31, 2019		
	Americas	EMEA	Asia Pacific	Americas	EMEA	Asia Pacific
Industrial						
Constant currency regional sales decline	(10)%	(14)%	(4)%	(8)%	(13)%	(10)%
Foreign currency exchange impact[1]	—	(3)	(1)	(1)	(3)	(1)
Regional sales decline[5]	(10)%	(17)%	(5)%	(9)%	(16)%	(11)%
Widia						
Constant currency regional sales decline	(6)%	(6)%	(17)%	(4)%	(3)%	(20)%
Foreign currency exchange impact[1]	—	(2)	—	—	(2)	(1)
Regional sales decline[5]	(6)%	(8)%	(17)%	(4)%	(5)%	(21)%
Infrastructure						
Constant currency regional sales (decline) growth	(22)%	2%	(5)%	(18)%	5%	(8)%
Foreign currency exchange impact[1]	—	(4)	(1)	1	(4)	(2)
Divestiture impact[3]	(3)	—	—	(2)	—	—
Regional sales (decline) growth[5]	(25)%	(2)%	(6)%	(19)%	1%	(10)%
Total						
Constant currency regional sales decline	(15)%	(11)%	(6)%	(13)%	(9)%	(11)%
Foreign currency exchange impact[1]	—	(3)	(1)	—	(3)	(1)
Divestiture impact[3]	(2)	—	—	(1)	—	—
Regional sales decline[5]	(17)%	(14)%	(7)%	(14)%	(12)%	(12)%

(1) Foreign currency exchange impact is calculated by dividing the difference between current period sales at prior period foreign exchange rates and prior period sales by prior period sales.
(2) Business days impact is calculated by dividing the year-over-year change in weighted average working days (based on mix of sales by country) by prior period weighted average working days.
(3) Divestiture impact is calculated by dividing prior period sales attributable to divested businesses by prior period sales.
(4) Aggregate sales for all end markets sum to the sales amount presented on Kennametal's financial statements.
(5) Aggregate sales for all regions sum to the sales amount presented on Kennametal's financial statements.

ITEM 3. QUANTITATIVE AND QUALITATIVE DISCLOSURES ABOUT MARKET RISK

There have been no material changes to our market risk exposures since June 30, 2019.

ITEM 4. CONTROLS AND PROCEDURES

As of the end of the period covered by this Quarterly Report on Form 10-Q, the Company's management evaluated, with the participation of the Company's 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)). 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 Securities Exchange Act of 1934, as amended (Exchange Act), 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 Chief Executive Officer and Chief Financial Officer have concluded that the Company's disclosure controls and procedures are effective to provide reasonable assurance at December 31, 2019 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 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.

There were no changes in the Company's internal control over financial reporting that occurred during the Company's most recent fiscal quarter that have materially affected, or are reasonably likely to materially affect, the Company's internal control over financial reporting.

Table of Contents

PART II. OTHER INFORMATION

ITEM 1. LEGAL PROCEEDINGS

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 types of 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. See "Note 13. Environmental Matters" for a discussion of our exposure to certain environmental liabilities.

ITEM 2. UNREGISTERED SALES OF EQUITY SECURITIES AND USE OF PROCEEDS

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)
October 1 through October 31, 2019	11,688	$ 29.28	—	10,100,100
November 1 through November 30, 2019	2,710	33.84	—	10,100,100
December 1 through December 31, 2019	1,167	36.45	—	10,100,100
Total	15,565	$ 30.61	—	

(1) During the current period, 1,503 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 14,062 shares of restricted stock to Kennametal, upon vesting, to satisfy tax withholding requirements.

(2) On July 25, 2013, the Company publicly announced an 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. EXHIBITS

(31)	**Rule 13a-14(a)/15d-14(a) Certifications**	
(31.1)	Certification executed by Christopher Rossi, President and Chief Executive Officer of Kennametal Inc.	Filed herewith.
(31.2)	Certification executed by Damon J. Audia, Vice President and Chief Financial Officer of Kennametal Inc.	Filed herewith.
(32)	**Section 1350 Certifications**	
(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 Christopher Rossi, President and Chief Executive Officer of Kennametal Inc., and Damon J. Audia, Vice President and Chief Financial Officer of Kennametal Inc.	Filed herewith.
(101)	**XBRL**	
(101.INS) [3]	XBRL Instance Document	Filed herewith.
(101.SCH) [4]	XBRL Taxonomy Extension Schema Document	Filed herewith.
(101.CAL) [4]	XBRL Taxonomy Extension Calculation Linkbase Document	Filed herewith.
(101.DEF) [4]	XBRL Taxonomy Definition Linkbase	Filed herewith.
(101.LAB) [4]	XBRL Taxonomy Extension Label Linkbase Document	Filed herewith.
(101.PRE) [4]	XBRL Taxonomy Extension Presentation Linkbase Document	Filed herewith.

(3) The instance document does not appear in the Interactive Data File because its XBRL (Extensible Business Reporting Language) tags are embedded within the Inline XBRL document.

(4) Attached as Exhibit 101 to this report are the following documents formatted in Inline XBRL: (i) the Condensed Consolidated Statement of Income for the three and six months ended December 31, 2019 and 2018, (ii) the Condensed Consolidated Statement of Comprehensive Income for the three and six months ended December 31, 2019 and 2018, (iii) the Condensed Consolidated Balance Sheet at December 31, 2019 and June 30, 2019, (iv) the Condensed Consolidated Statement of Cash Flows for the six months ended December 31, 2019 and 2018 and (v) Notes to Condensed Consolidated Financial Statements for the three and six ended December 31, 2019.

SIGNATURES

Pursuant to the requirements 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.

KENNAMETAL INC.

Date:	February 4, 2020	By:	/s/ Patrick S. Watson
			Patrick S. Watson Vice President Finance and Corporate Controller

Exhibit 31.1

I, Christopher Rossi, certify that:

1. I have reviewed this quarterly report on Form 10-Q 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: February 4, 2020

/s/ Christopher Rossi

Christopher Rossi
President and Chief Executive Officer

Exhibit 31.2

I, Damon J. Audia, certify that:

1. I have reviewed this quarterly report on Form 10-Q 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: February 4, 2020

/s/ Damon J. Audia

Damon J. Audia
Vice President and Chief Financial Officer

Exhibit 32.1

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 Quarterly Report of Kennametal Inc. (the "Corporation") on Form 10-Q for the period ended December 31, 2019, 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/ Christopher Rossi

Christopher Rossi
President and Chief Executive Officer

February 4, 2020

/s/ Damon J. Audia

Damon J. Audia
Vice President and Chief Financial Officer

February 4, 2020

*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.