Risk Factors Comparison 2023-08-09 to 2022-08-10 Form: 10-K

Legend: **New Text** ~~Removed Text~~ Unchanged Text Moved Text Section

This section describes material risks to our business that are currently known to us. Our business, financial condition or results of operations may be materially affected by a number of factors. Our management regularly monitors the risks inherent in our business, with input from our Enterprise Risk Management process. In addition to real time monitoring, we periodically conduct a formal enterprise- wide risk assessment to identify factors and circumstances that might present significant risk to the Company. Many of these risks are discussed throughout this report. The risks below, however, are not exhaustive. We operate in a rapidly changing environment. Other risks that we currently believe to be immaterial could become material in the future. We are also subject to legal and regulatory changes. New factors could emerge, and it is not possible to predict the outcome of all such risk factors on our business, financial condition or results of operations. The following discussion details the material risk factors and uncertainties that we believe could cause Kennametal' s actual results to differ materially from those projected in any forward- looking statements. Global Operational Risks: Russia' s invasion of Ukraine, the sanctions and actions taken against Russia and Russia' s response to such actions could adversely affect our business. **The** ~~While our sales in Russia and Ukraine are not material to our overall business, the~~ Russian invasion of Ukraine and the resulting sanctions and actions taken against Russia by the United States, the United Kingdom, the European Union, Switzerland and others have restricted our ability to sell certain products in Russia and Ukraine. ~~It is also unclear what actions~~ **In 2022, the Company ceased operations in** Russia ~~may take in responding to these sanctions~~ and ~~actions~~ **subsequently decided to liquidate its legal entity in Russia** . A significant escalation or expansion of the conflict beyond its current geographic, political and economic scope and scale could have a material adverse effect on our business, results of operations and financial condition and could exacerbate other risks. Such risks include, but are not limited to: an energy shortage in Europe as Russia has ~~begun to limit~~ **limited** natural gas and other supplies into Europe, an increase in the frequency and severity of the cybersecurity threats we and various third parties with whom we do business experience, unfavorable changes in exchange rates, further shortages, delivery delays and price inflation in a wide variety of raw materials and components, widespread reductions in customer demand and increased logistical challenges ~~. In 2022, the Company ceased operations in Russia and subsequently decided to liquidate its legal entity in Russia~~ . Public health threats or outbreaks of communicable diseases could have a material adverse effect on our operations and financial results. We face risks related to public health threats or outbreaks of communicable diseases. A widespread healthcare crisis, such as an outbreak of a communicable disease could adversely affect the global economy and our business, our suppliers and our customers' ability to conduct business for an indefinite period of time. For example, the ~~ongoing~~ global Coronavirus Disease 2019 (COVID- 19) pandemic ~~has~~ negatively affected the global economy, disrupted financial markets ~~and~~ **,** international trade **, impacted qualified personnel availability,** and significantly affected global supply chains ~~since its emergence in 2019~~ , all of which have and **had** ~~may continue to have~~ an effect on the Company and our end markets. The extent to which ~~the~~ **our business may be affected by** COVID- 19 ~~pandemic may affect our business, operating results, financial condition,~~ or ~~liquidity~~ **similar public health threats or outbreaks** in the future will depend on ~~future developments~~ **a variety of factors, many of which are outside of our control** , including the duration of ~~the~~ **a** pandemic ~~, the emergence of more contagious~~ or **outbreak** ~~virulent strains of the virus~~ , ~~travel restrictions, business and workforce disruptions, the availability, uptake and efficacy of vaccines, and the effectiveness of actions taken to contain and treat the disease. It is not possible to accurately predict with any degree of certainty the impact~~ **impacts** ~~COVID- 19 will have~~ on **economic activity, and the possibility of recession** ~~our~~ - **or** ~~operations going forward and it could have a material adverse effect on our results of operations,~~ financial ~~condition, and liquidity. In particular, the continued spread of COVID- 19 and any existing or future variants and efforts to contain them may: • continue to affect customer demand across our end markets~~ - **market** ~~and geographical regions; • affect our ability~~ **instability** ~~to conduct business in certain jurisdictions in which we operate where nationwide, regional or local lockdowns are currently implemented or may be implemented in the future; • cause us to experience an increase in costs related to the emergency measures we have taken, delayed payments from customers and uncollectible accounts; • cause delays and disruptions in our supply chain resulting in disruptions in the commencement dates of certain planned projects; • affect the availability of qualified personnel; • affect our ability to fund operations and maintain covenant compliance; • affect our access to financial markets; • affect our ability to accurately forecast; and • cause other unpredictable events~~ . Downturns in the business cycle could adversely affect our sales and profitability. Our business has historically been cyclical and subject to significant effect from economic downturns. Global economic downturns coupled with global financial and credit market disruptions have had a negative effect on our sales and profitability historically. These events could contribute to weak end markets, a sharp drop in demand for our products and services, higher energy costs and commodity prices, and higher costs of borrowing and / or diminished credit availability. Although we believe that the long- term prospects for our business remain positive, we are unable to predict the future course of industry variables or the strength and pace or sustainability of economic development. Our international operations pose certain risks that may adversely affect sales and earnings. We have manufacturing operations and assets located outside of the U. S., including but not limited to those in Western Europe, Brazil, Canada, China, India, Israel, South Africa and Vietnam. We also sell our products to customers and distributors located outside of the U. S. During the year ended June 30, ~~2022~~ **2023** , ~~60~~ **59** percent of our consolidated sales were derived from non- U. S. markets. These international operations are subject to a number of special risks, in addition to the risks that affect our domestic operations, including currency exchange rate fluctuations, differing protections of intellectual property, trade barriers, exchange controls, regional economic uncertainty, overlap of different tax regimens, differing (and possibly more stringent) labor regulations, labor unrest, risk of governmental expropriation, domestic and foreign customs and tariffs, current and changing regulatory environments (including, but not limited to, the risks associated with the importation and exportation of products and raw materials), risk of failure of our foreign employees to comply with both U. S. and foreign laws, including antitrust laws, trade regulations and the Foreign Corrupt Practices Act, difficulty in obtaining distribution support, difficulty in staffing and managing widespread operations, differences in the availability and terms of financing, social and political instability and unrest and risks of increased taxes and / or adverse tax consequences. Also, in some foreign jurisdictions, we may be subject to laws limiting the right and ability of entities organized or operating therein to pay dividends or remit earnings to affiliated companies unless specified conditions are met. To the extent we are unable to effectively manage our international operations and these risks, our international sales may be adversely affected, we may be subject to additional and unanticipated costs, and we may be subject to litigation or regulatory action. As a consequence, our business, financial condition and results of operations could be seriously harmed. Additional tax expense or exposures could affect our financial condition and results of operations. We are subject to various taxes in the U. S. and numerous other jurisdictions. Our future results of operations could be adversely affected by changes in our effective tax rate as a result of a change in the mix of earnings between U. S. and non- U. S. jurisdictions or among jurisdictions with differing statutory tax rates, changes in tax laws or treaties or in their application or interpretation, changes in generally accepted accounting principles, changes in the valuation of deferred tax assets and liabilities, changes in the amount of earnings indefinitely reinvested in certain non- U. S. jurisdictions, and the results of audits and examinations of previously filed tax returns and continuing assessments of our tax exposures. Implementation of tariffs and changes to or uncertainties related to tariffs and trade agreements could adversely affect our business. The U. S. government has imposed tariffs on certain foreign goods from a variety of countries and regions, most notably China, that it perceives as engaging in unfair trade practices, and previously raised the possibility of imposing significant, additional tariff increases or expanding the tariffs to capture other types of goods from other countries. In response, many of these foreign governments have imposed retaliatory tariffs on goods that their countries import from the U. S. Uncertainties with respect to tariffs, trade agreements or any potential trade wars could negatively affect the global economy and could affect demand for our products and could have a material adverse effect on our financial condition, results of operations and cash flows. Changes in tariffs and trade barriers could also result in adverse changes in the cost and availability of our raw materials, and our ability to manufacture globally to support global sales which could lead to increased costs that we may not be able to effectively pass on to customers, each of which could materially adversely affect our operating margins, results of operations and cash flows. Natural disasters or other global or regional catastrophic events could disrupt our operations and adversely affect results. Despite our concerted effort to minimize risk to our production capabilities and corporate information systems and to reduce the effect of unforeseen interruptions to us through business continuity planning, we still may be exposed to interruptions due to catastrophe, natural disaster, pandemic, terrorism or acts of war, which are beyond our control. Disruptions to our facilities or systems, or to those of our key suppliers, could also interrupt operational processes and adversely affect our ability to manufacture our products and provide services and support to our customers. As a result, our business, our results of operations, financial position, cash flows and stock price could be adversely affected. Changes in the regulatory environment, including environmental, health and safety regulations, could subject us to increased compliance and manufacturing costs, which could have a material adverse effect on our business. Health and safety regulations. Certain of our products contain hard metals, including tungsten and cobalt. Hard metal dust is being studied for potential adverse health effects by organizations in several regions throughout the world, including the U. S., Europe and Japan. Future studies on the health effects of hard metals may result in our products being classified as hazardous to human health, which could lead to new regulations in countries in which we operate that may restrict or prohibit the use of, and / or exposure to, hard metal dust. New regulation of hard metals could require us to change our operations, and these changes could affect the quality of our products and materially increase our costs. Environmental regulations. We are subject to various environmental laws, and any violation of, or our liabilities under, these laws could adversely affect us. Our operations necessitate the use and handling of hazardous materials and, as a result, we are subject to various federal, state, local and foreign laws, regulations and ordinances relating to the protection of the environment, including those governing discharges to air and water, handling and disposal practices for solid and hazardous wastes, the cleanup of contaminated sites and the maintenance of a safe workplace. These laws impose penalties, fines and other sanctions for noncompliance and liability for response costs, property damages and personal injury resulting from past and current spills, disposals or other releases of, or exposure to, hazardous materials. We could incur substantial costs as a result of noncompliance with or liability for cleanup or other costs or damages under these laws. We may be subject to more stringent environmental laws in the future. If more stringent environmental laws are enacted in the future, these laws could have a material adverse effect on our business, financial condition and results of operations. Regulations affecting the mining and drilling industries, utilities industry or the use of fossil fuels. Some of our principal customers are mining and drilling companies that supply coal, oil, gas or other fuels as a source of energy to utility companies or for transportation. The operations of these mining and drilling companies are geographically diverse and are subject to or affected by a wide array of regulations in the jurisdictions where they operate. As a result of changes in regulations and laws relating to these industries, including, without limitation, actions to limit or reduce greenhouse gas emissions from the use of fossil fuels, our customers' operations could be disrupted or curtailed by governmental authorities. The high cost of compliance with these regulations may also induce customers to discontinue or limit their operations and may discourage companies from developing new opportunities. As a result of these factors, demand for our mining- and drilling- related products could be substantially affected by regulations adversely affecting the mining and drilling industries or altering the fuel choices of utilities or in transportation. Our principal customers also include transportation original equipment manufacturers and tier suppliers engaged in the production of internal combustion engines. As a result of breakthrough technologies, changing consumer preferences or regulations designed to limit or reduce greenhouse gas emissions from the use of fossil fuels in transportation, demand for our products could be negatively affected. Climate change and resulting legal or regulatory responses. There is growing concern that a gradual increase in global average temperatures may cause significant changes in weather patterns around the globe and an increase in the frequency and severity of natural disasters. Such climate change may impair our production capabilities, disrupt our supply chain or impact demand for our products. Growing concern over climate change also may result in additional legal or regulatory requirements designed to reduce or mitigate the effects of carbon dioxide and other greenhouse gas emissions on the environment. Increased energy or compliance costs and expenses as a result of increased legal or regulatory requirements may cause disruptions in, or an increase in the costs associated with, the manufacturing and distribution of our products. The impacts of climate change and legal or regulatory initiatives to address climate change could have a long- term adverse impact on our business **, financial condition** and results of operations. Product liability claims could have a material adverse effect on our business. The sale of metal cutting, mining, highway construction and other tools and related products as well as engineered components and advanced materials entails an inherent risk of product liability claims. We cannot give any assurances that the coverage limits of our insurance policies will be adequate or that our policies will cover any particular loss. Insurance can be expensive, and we may not always be able to purchase insurance on commercially acceptable terms, if at all. Claims brought against us that are not covered by insurance or that result in recoveries in excess of our insurance coverage could have a material adverse effect on our business, financial condition and results of operations. Business Strategy Risks: Our restructuring efforts may not have the intended effects. **We have** ~~From time to time, we implement~~ **implemented** restructuring and other actions to reduce structural costs, improve operational efficiency and position the Company for long- term profitable growth. However, there is no assurance that these efforts, or that any other actions that we have taken or may take in the future, will be sufficient to counter any future economic or industry disruptions. We cannot provide assurance that we will not incur future restructuring charges or impairment charges, or that we will achieve all of the anticipated benefits from the restructuring actions we have taken or plan to take in the future. We may not be able to complete, manage or integrate acquisitions successfully. We may evaluate acquisition opportunities that have the potential to strengthen or expand our business. We can give no assurances, however, that any acquisition opportunities will arise or if they do, that they will be consummated, or that additional financing, if needed, will be available on satisfactory terms. In addition, acquisitions involve inherent risks that the businesses acquired will not perform in accordance with our expectations. We may not be able to achieve the synergies and other benefits we expect from the integration of acquisitions as successfully or rapidly as projected, if at all. Our failure to consummate an acquisition or effectively integrate newly acquired operations could prevent us from realizing our expected strategic growth and rate of return on an acquired business and could have a material and adverse effect on our results of operations and financial condition. Impairment of goodwill and other intangible assets with indefinite lives could result in a negative effect on our financial condition and results of operations. At June 30, ~~2022~~ **2023** , goodwill and other indefinite- lived intangible assets totaled $ ~~274~~ **280** . ~~6~~ **4** million, or 11 percent of our total assets. Goodwill results from acquisitions, representing the excess of cost over the fair value of the net tangible and other identifiable intangible assets we have acquired. We assess at least annually whether there has been impairment in the value of our goodwill and indefinite- lived intangible asset. If future operating performance at our Metal Cutting reporting unit were to fall significantly below current levels, we could record, under current applicable accounting rules, a non- cash impairment charge for goodwill. Any determination requiring the impairment of a significant portion of goodwill or other intangible assets would negatively affect our financial condition and results of operations. Our continued success depends on our ability to protect and defend our intellectual property. Our future success depends in part upon our ability to protect and defend our intellectual property. We rely principally on nondisclosure agreements and other contractual arrangements and trade secret laws and, to a lesser extent, trademark and patent laws, to protect our intellectual property. However, these measures may be inadequate to protect our intellectual property from infringement by others or prevent misappropriation of our proprietary rights. In addition, the laws of some foreign countries do not protect proprietary rights to the same extent as do U. S. laws. If one of our patents is infringed upon by a third party, we may need to devote significant time and financial resources to defend our rights with respect to such patent. We may not be successful in defending our patents. Similarly, while we do not knowingly infringe on the patents, copyrights or other intellectual property rights of others, we may be required to spend a significant amount of time and financial resources to resolve any infringement claims against us, and we may not be successful in defending our position or negotiating alternative remedies. Our inability to protect our proprietary information and enforce or defend our intellectual property rights in proceedings initiated by us or brought against us could have a material adverse effect on our business, financial condition and results of operations. If we are unable to retain our qualified management and employees, our business may be negatively affected. Our ability to provide high quality products and services depends in part on our ability to retain our skilled personnel in the areas of management, product engineering, servicing and sales. Competition for such personnel is intense, and our competitors can be expected to attempt to hire our management and skilled employees from time to time. In addition, our restructuring activities and strategies for growth have placed, and are expected to continue to place, increased demands on our management' s skills and resources. If we are unable to retain our management team and professional personnel, our customer relationships and level of technical expertise could be negatively affected, which may materially and adversely affect our business. Any interruption of our workforce, including interruptions due to our restructuring initiatives, unionization efforts, changes in labor relations or shortages of appropriately skilled individuals could affect our business. We operate in a highly competitive environment. Our domestic and foreign operations are subject to significant competitive pressures. We compete directly and indirectly with other manufacturers and suppliers of metal cutting tools, engineered components and advanced materials. Some of our competitors are larger than we are and may have greater access to financial resources or be less leveraged than us. In addition, the industry in which our products are used is a large, fragmented industry that is highly competitive. Cybersecurity Risks: Failure of, or a breach in security of, our information technology systems could adversely affect our business. We rely on information technology infrastructure (both on- premises and third- party managed) to achieve our business objectives. Despite security measures taken by us, our information technology systems may be vulnerable to computer viruses or attacks by hackers or breached due to employee error, supplier error, programming errors, malfeasance or other disruptions. Any disruption of our infrastructure could negatively affect our ability to record or process orders, manufacture and ship in a timely manner, or otherwise carry on business in the normal course. Any disruption could cause us to lose customers or revenue and could require us to incur significant expense to remediate. Increased global information technology threats, vulnerabilities, and a rise in sophisticated and targeted international computer crime pose a risk to the security of our systems and networks and the confidentiality, availability and integrity of our data. Any such breach in security could expose the Company and its employees, customers and suppliers to risks of misuse of confidential information, manipulation and destruction of data, production downtimes, litigation and operational disruptions, which in turn could adversely affect the Company' s reputation, competitive position, business or results of operations. In addition, we could be subject to liability if confidential information relating to customers, employees, vendors and the extended supply chain or other parties is misappropriated from our computer system. We cannot assure that our ongoing focus on system improvements will be sufficient to prevent or limit the damage from any cyber **-** attack or network disruption. We do not believe we have been the target of a material successful cyber **-** attack. Raw Material Risks: Our future operating results may be affected by fluctuations in the prices and availability of raw materials. The raw materials we use for our products include tungsten ore concentrates and scrap carbide, which are used to make tungsten oxide, as well as compounds and secondary materials such as cobalt. We also purchase steel bars and forgings for making toolholders and other tool parts, as well as for producing mining tools, rotary cutting tools and accessories. A significant portion of our raw materials is supplied by sources outside of the U. S. The raw materials extraction industry is highly cyclical and at times pricing and supply can be volatile due to a number of factors beyond our control, including natural disasters, pandemics or public health issues, general economic and political conditions, labor costs, competition, import duties, tariffs and currency exchange rate fluctuations. This volatility can significantly affect our raw material costs. In an environment of increasing raw material prices, competitive conditions can affect how much of these price increases we can recover in the form of higher sales prices for our products. To the extent we are unable to pass on any raw material price increases to our customers, our profitability could be adversely affected. Furthermore, restrictions in the supply of tungsten, cobalt and other raw materials could adversely affect our operating results. If the prices for our raw materials increase or we are unable to secure adequate supplies of raw materials on favorable terms, our profitability could be impaired. If the prices for our raw materials decrease, we could face product pricing challenges. Capital and Credit- Related Risks: Restrictions contained in our revolving credit facility and other debt agreements may limit our ability to incur additional indebtedness. Our existing revolving credit facility and other debt agreements (each a “ Debt Facility ” and collectively, “ Debt Facilities ”) contain restrictive covenants, including restrictions on our ability to incur indebtedness. These restrictions could limit our ability to effectuate future acquisitions, limit our ability to pay dividends, limit our ability to make capital expenditures or restrict our financial flexibility. Our revolving credit facility contains covenants requiring us to achieve certain financial and operating results and maintain compliance with a specified financial ratio. Our ability to meet the financial covenant or requirements in our revolving credit facility may be affected by events beyond our control, and we may not be able to satisfy such covenants and requirements. A breach of these covenants or our inability to comply with the financial ratio, tests or other restrictions contained in a Debt Facility could result in an event of default under one or more of our other Debt Facilities. Upon the occurrence of an event of default under a Debt Facility, and the expiration of any grace periods, the lenders could elect to declare all amounts outstanding under one or more of our other Debt Facilities, together with accrued interest, to be immediately due and payable. If this were to occur, our assets may not be sufficient to fully repay the amounts due under our Debt Facilities or our other indebtedness. ITEM 1B – UNRESOLVED STAFF COMMENTS None. ITEM 2 – PROPERTIES Our principal executive offices are located at 525 William Penn Place, Suite 3300, Pittsburgh, Pennsylvania, 15219. We also have corporate offices in Neuhausen, Switzerland, Bangalore, India and Singapore. Our technology center is located at 1600 Technology Way, P. O. Box 231, Latrobe, Pennsylvania, 15650. A summary of our principal manufacturing facilities and other materially important properties is as follows: Primary SegmentLocationOwned / LeasedPrincipal ProductsMC (1) INF (2) United States: Gurley, AlabamaOwnedMetallurgical PowdersXHuntsville, AlabamaOwnedMetallurgical PowdersXRogers, ArkansasOwned / LeasedCarbide Products, Pelletizing Die Plates and Downhole Drilling Carbide ComponentsXGoshen, IndianaLeasedPowders; Welding Rods, Wires and MachinesXNew Albany, IndianaLeasedHigh Wear Coating for Steel PartsXGreenfield, MassachusettsOwnedHigh- Speed Steel ~~TapsX~~ **TapsXTraverse City, MichiganOwnedWear PartsXFallon, NevadaOwnedMetallurgical PowdersXAsheboro, North CarolinaOwnedCarbide Round ToolsXHenderson, North CarolinaOwnedMetallurgical PowdersXRoanoke Rapids, North CarolinaOwnedMetal Cutting InsertsX** Primary SegmentLocationOwned / LeasedPrincipal ProductsMC (1) INF (2) **Cleveland** ~~Traverse City, MichiganOwnedWear PartsXFallon, NevadaOwnedMetallurgical PowdersXAsheboro, North CarolinaOwnedCarbide Round ToolsXHenderson, North CarolinaOwnedMetallurgical PowdersXRoanoke Rapids, North CarolinaOwnedMetal Cutting InsertsXCleveland~~ , OhioLeasedDistributionXOrwell, OhioOwnedMetal Cutting InsertsXSolon, OhioOwnedMetal Cutting ToolholdersXWhitehouse, OhioOwned / LeasedMetal Cutting Inserts and Round ToolsXBedford, PennsylvaniaOwned / LeasedMining and Construction Tools, Wear Parts and DistributionXLa Vergne, TennesseeOwnedMetal Cutting InsertsXNew Market, VirginiaOwnedMetal Cutting ToolholdersXInternational: La Paz, BoliviaOwnedTungsten ConcentrateXIndaiatuba, BrazilLeasedMetal Cutting Carbide Drills and ToolholdersXBelleville, CanadaOwnedCasting Components, Coatings and Powder Metallurgy ComponentsXVictoria, CanadaOwnedWear PartsXFengpu, ChinaOwnedIntermetallic Composite Ceramic Powders and PartsXShanghai, ChinaOwnedPowders, Welding Rods and Wires and Cast ComponentsXShanghai, ChinaLeasedDistributionXTianjin, ChinaOwnedMetal Cutting Inserts, Carbide Round Tools and Metallurgical PowdersXXXuzhou, ChinaLeasedMining ToolsXEbermannstadt, GermanyOwnedMetal Cutting InsertsXEssen, GermanyOwned / LeasedMetal Cutting InsertsXKönigsee, GermanyLeasedMetal Cutting Carbide DrillsXMistelgau, GermanyOwnedWear Parts and Metallurgical PowdersXNabburg, GermanyOwnedMetal Cutting Toolholders and Metal Cutting Round Tools, Drills and MillsXSchongau, GermanyOwnedCeramic Vaporizer BoatsXVohenstrauss, GermanyOwnedMetal Cutting Carbide DrillsXBangalore, IndiaOwnedMetal Cutting Inserts, Toolholders and Wear PartsXXShlomi, IsraelOwnedHigh- Speed Steel and Carbide Round ToolsXZory, PolandLeasedMetal Cutting Carbide DrillsXBoksburg, South AfricaLeasedMining and Construction ConicalsXBarcelona, SpainLeasedMetal Cutting ToolsXKingswinford, United KingdomLeasedDistributionXNewport, United KingdomOwnedIntermetallic Composite PowdersXHanoi, VietnamOwned / LeasedCarbide and PCD Round ToolsX (1) Metal Cutting segment (2) Infrastructure segment We also have a network of customer service centers located throughout North America, Europe, India, Asia Pacific and Latin America, a significant portion of which are leased. The majority of our research and development efforts are conducted at our technology center located in Latrobe, Pennsylvania, U. S., as well as at our facilities in Rogers, Arkansas, U. S.; Fürth, Germany and Bangalore, India. We use all of our significant properties in the businesses of powder metallurgy, tools, tooling systems, engineered components and advanced materials. Our production capacity is adequate for our present needs. We believe that our properties have been adequately maintained, are generally in good condition and are suitable for our business as presently conducted. ITEM 3- LEGAL PROCEEDINGS The information set forth in Part I, Item 1, of this Annual Report under the caption " Regulation " is incorporated by reference into this Item 3. From time to time, we are party to legal claims and proceedings that arise in the ordinary course of business, which may relate to our operations or assets, including real, tangible or intellectual property assets. Although we currently believe that the amount of ultimate liability, if any, we may face with respect to these actions will not materially affect our financial position, results of operations or liquidity, the ultimate outcome of any litigation is uncertain. Were an unfavorable outcome to occur or if protracted litigation were to ensue, the effect on us could be material. ITEM 4- MINE SAFETY DISCLOSURES Not applicable. EXECUTIVE OFFICERS OF THE REGISTRANT Incorporated by reference into this Part I is the information set forth in Part III, Item 10 of this Annual Report under the caption " Information About Our Executive Officers. " PART II ITEM 5- MARKET FOR THE REGISTRANT' S COMMON EQUITY, RELATED STOCKHOLDER MATTERS AND ISSUER PURCHASES OF EQUITY SECURITIES Our capital stock is traded on the New York Stock Exchange under the symbol" KMT." The number of shareholders of record as of July ~~29~~ **31** , ~~2022~~ **2023** was 1, ~~333~~ **300** . The information incorporated by reference into Part III, Item 12 of this Annual Report from our ~~2022~~ **2023** Proxy Statement under the heading " Equity Compensation Plans – Equity Compensation Plan Information " is hereby incorporated by reference into this Item 5. PERFORMANCE GRAPH The following graph compares cumulative total shareholder return on our capital stock with the cumulative total shareholder return on the common stock of the companies in the Standard & Poor' s Mid- Cap 400 Market Index (S & P Midcap 400), the Standard & Poor' s 400 Capital Goods (S & P 400 Capital Goods), the Standard & Poor' s Global 1200 Industrials Index (S & P Global 1200 Industrials) and the peer group of companies determined by us (**New** Peer Group **and Old Peer Group**) for the period from **July 1, 2018 to** June 30, ~~2017 to June 30, 2022~~ **2023 . In fiscal 2023, we established a New Peer Group in order to align with how we evaluate our executive compensation, and we believe this group is representative of Kennametal' s peers. We have included both this New Peer Group as well as the Old Peer Group in the comparisons below** . The **New** Peer Group consists of the following companies: **Alamo Group, Inc.,** Altra Industrial Motion Corp.; Barnes Group Inc.; **Carpenter Technologies,** Crane **Co., Crane NXT** Co.; Curtiss- Wright Corporation; Enovis Corp.; EnPro Industries, Inc.; Flowserve Corporation **; Franklin Electric** ; Graco Inc.; ITT Inc.; Lincoln Electric Holdings, Inc.; Nordson Corporation; Simpson Manufacturing Co., Inc.; SPX Corporation; The Timken Company; Watts Water Technologies, Inc.; Woodward, Inc.; and Zurn Water Solutions Corporation. **The Old Peer Group consists of the following companies: Altra Industrial Motion Corp.; Barnes Group Inc.; Crane Co.; Curtiss- Wright Corporation; Enovis Corp.; EnPro Industries, Inc.; Flowserve Corporation; Graco Inc.; ITT Inc.; Lincoln Electric Holdings, Inc.; Nordson Corporation; Simpson Manufacturing Co., Inc.; SPX Corporation; The Timken Company; Watts Water Technologies, Inc.; Woodward, Inc.; and Zurn Water Solutions Corporation.** Assumes $ 100 Invested on July 1, ~~2017~~ **2018** and All Dividends ~~Reinvested201720182019202020212022Kennametal~~ ---- **Reinvested201820192020202120222023Kennametal** $ 100. 00 $ ~~97. 90 $ 103. 08 $ 82. 25 $~~ 105. ~~29~~ **28** $ ~~69~~ **84** . ~~76~~ **01 $ 107. 55 $ 71. 26 $ 89. 73 New** Peer Group Index100. 00 ~~108~~ **111** . ~~92 122~~ **26 100. 91 154. 15 124. 82 181. 36 Old Peer Group Index100. 00 112** . 08 ~~111~~ **102** . ~~17 169~~ **06 155** . ~~45 137~~ **57 125** . ~~00~~ **78 181. 39** S & P Composite 1500 Index100. 00 ~~114~~ **109** . ~~50 125. 16 132~~ - **32 115** . ~~77 188~~ **96 164** . ~~70 167~~ **81 146** . ~~91~~ **65 174. 87** S & P Midcap 400100. 00 ~~113~~ **101** . ~~50 115~~ **36 94** . ~~05 107~~ **58 144** . ~~35 164~~ **93 123. 71 145** . 49 ~~140. 41~~ S & P 400 Capital Goods100. 00 ~~110~~ **111** . ~~74 124~~ **98 105** . **05** ~~01 116. 34 189. 71~~ **171** ~~155~~ . ~~47~~ **31 140. 39 205. 42** S & P Global 1200 Industrials100. 00 106. ~~73 113. 97 105.~~ 78 ~~154~~ **99** . ~~66 127~~ **11 144** . ~~45~~ **92 119. 42 152. 57** PeriodTotal Numberof Shares Purchased (1) Average PricePaid per ShareTotal Number of Shares Purchased as Part of Publicly Announced Plans or ProgramsApproximate Dollar Value of Shares that May Yet Be Purchased Under the Plans or Programs (2) April 1 through April 30, ~~2022142~~ **2023278** $ ~~28~~ **27** . ~~21~~ **58** — $ ~~149~~ **77** , ~~700~~ **300** , 000 May 1 through May 31, ~~2022676~~ **2023257** , ~~647~~ **004** 26. **04 255** ~~29 672, 333 132~~ , 000 **70, 700** , 000 June 1 through June 30, ~~2022639~~ **2023187** , ~~385 27~~ **781 26** . ~~09 638~~ **91 187** , ~~580 114~~ **650 65** , ~~700~~ **600** , 000 ~~Total1~~ **Total445** , **063** ~~316, 174~~ $ 26. ~~68 1~~ **41 442** , **650** ~~310, 913~~ (1) During the current period, 1, ~~786~~ **740** 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 **673** ~~3, 475~~ shares of restricted stock to Kennametal, upon vesting, to satisfy tax withholding requirements. (2) On July 27, 2021, the Board of Directors of the Company approved a share repurchase program authorizing the Company to purchase up to $ 200 million of the Company' s common stock over a three- year period outside of the Company' s dividend reinvestment program. UNREGISTERED SALES OF EQUITY SECURITIES ITEM 7- MANAGEMENT' S DISCUSSION AND ANALYSIS OF FINANCIAL CONDITION AND RESULTS OF OPERATIONS The following discussion should be read in connection with the consolidated financial statements of Kennametal Inc. and the related financial statement notes included in Item 8 of this Annual Report. Unless otherwise specified, any reference to a " year " is to our fiscal year ended June 30. Additionally, when used in this Annual Report, unless the context requires otherwise, the terms " we, " " our " and " us " refer to Kennametal Inc. and its subsidiaries. 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 **and defense** , 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 metal cutting and wear applications including turning, milling, hole making, tooling systems and services, as well as specialized wear components and metallurgical powders. End users of the Company' s metal cutting 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. The Company’ s wear and metallurgical powders are used by producers and suppliers in equipment- intensive operations such as road construction, mining, quarrying, ~~and~~ oil and gas exploration, refining, production and supply **, and for aerospace and defense** . Throughout Management' s Discussion and Analysis of Financial Condition and Results of Operations (the MD & A), we refer to measures used by management to evaluate performance. We also refer to a number of financial measures that are not defined under accounting principles generally accepted in the United States of America (U. S. GAAP), including organic sales growth, constant currency regional sales growth (decline) and constant currency end market sales growth (decline). The explanation at the end of the MD & A provides the definition of these non-GAAP financial measures as well as details on their use and a reconciliation to the most directly comparable GAAP financial measures. Our sales of $ 2, ~~012~~ **078** . ~~5~~ **2** million for the year ended June 30, ~~2022~~ **2023** increased ~~9~~ **3** percent year- over- year, reflecting ~~11~~ **9** percent organic sales growth, partially offset by a ~~2~~ **5** percent unfavorable currency exchange effect **and an unfavorable business days effect of 1 percent. To better align with the Company' s strategic goals and initiatives, certain of the end markets that are reported externally and used to analyze sales performance have been redefined. The changes include 1.) defense sales were moved from general engineering and are now combined with aerospace sales for a new" aerospace and defense" end market, 2.) certain Metal Cutting sales have been reclassified from general engineering to the aerospace and defense end market, and 3.) Infrastructure' s ceramics sales have been reclassified from energy to the general engineering end market. All periods presented have been retrospectively restated to align with the new end markets** . Operating income was $ **192. 4 million in 2023 compared to $** 218. 1 million in ~~2022 compared to $ 102. 2 million in~~ the prior year. The ~~increase~~ **decrease** in operating income was **primarily** due ~~primarily~~ to **higher** ~~organic sales growth, restructuring and related charges of $ 4 million compared to $ 40 million in the prior year, favorable pricing in excess of~~ raw material costs **of** ~~, lower incentive compensation costs, favorable product mix and~~ approximately $ ~~14~~ **72** million ~~of incremental simplification / modernization benefits~~ , **higher wages and general inflation, unfavorable foreign currency exchange of approximately $ 18 million, under- absorption of approximately $ 10 million within the Infrastructure segment, temporary supply chain disruptions of approximately $ 5 million, and higher restructuring and related charges of approximately $ 2 million. These factors were** partially offset by higher **price realization and** ~~raw material costs of approximately $ 49 million~~ , ~~certain manufacturing inefficiencies including~~ **in the Metal Cutting segment,** higher ~~depreciation and approximately $ 25 million due to the restoration of salaries~~ --- **sales** ~~and other cost- control measures that were taken~~ **volumes. Operating margin in 2023 was 9. 3 percent compared to 10. 8 percent** in the prior year. ~~Operating margin in 2022 was 10. 8 percent compared to 5. 5 percent in the prior year.~~ In ~~2022~~ **2023** , the Metal Cutting and Infrastructure segments had operating margins of ~~9~~ **10** . ~~9~~ **7** percent and ~~12~~ **7** . ~~6~~ **4** percent, respectively. In July 2021, the Board of Directors of the Company approved a share repurchase program authorizing the Company to purchase up to $ 200 million of the Company' s common stock over a three- year period. During ~~2022~~ **2023** , the Company repurchased a total of 2 **million shares of common stock for $ 49 million. Since the inception of the share repurchase program, the Company repurchased a total of 4** . 7 million shares of common stock for **approximately** $ ~~85~~ **135** million. On March 11, 2020, the World Health Organization declared the Coronavirus Disease 2019 (COVID- 19) a pandemic bringing significant uncertainty in our end markets and operations. Since then, **many jurisdictions** ~~national, regional and local governments~~ have **eased or eliminated** ~~taken steps at various times during the course of the continuing pandemic to limit the spread of the virus through~~ stay- at- home, social distancing, and various other **restrictions implemented at** ~~orders and guidelines. Although some jurisdictions have relaxed these~~ -- **the** ~~measures~~ **onset of the pandemic** , ~~particularly~~ as ~~more and more people are vaccinated, others have not or have reinstated them~~ - **the** ~~at times when~~ **administration and acceptance of vaccines has increased and** COVID- 19 cases ~~are surging or new variants emerge~~ **have dropped. One of the last countries to ease pandemic- control measures was China, which in December 2022 announced it would be rolling back some of its most strict anti- COVID- 19 restrictions, including lockdowns, mask mandates and travel restrictions** . The **slow recovery** ~~imposition of these measures, including the lockdowns~~ in China, ~~has~~ **temporary labor shortages due to COVID- 19 related absenteeism in certain regions and other supply chain challenges have** created significant operating constraints on our business. ~~Throughout~~ **Russia' s invasion of Ukraine in February 2022 resulted in the imposition of economic sanctions on Russia by the United States, Canada, the European Union and** ~~the~~ **other** ~~pandemic we~~ **countries. We** have ~~deployed safety protocols~~ **experienced increased costs for energy** and **raw materials and other supply chain issues due** ~~processes to keep our employees safe while continuing to serve our customers~~ , ~~based~~ **in part, to the negative impact of the conflict** on the **global economy** ~~guidance provided by the U~~ . **During** ~~S. Centers for Disease Control and other relevant authorities. Late in~~ the March quarter of 2022, **the Company ceased operations in Russia and subsequently decided to liquidate its legal entity in Russia, which is expected to be completed during fiscal 2024. In addition,** our **business has been negatively** ~~manufacturing and distribution operations in Shanghai were~~ affected by **foreign currency exchange** ~~COVID- 19 lockdowns~~ and **inflationary headwinds. We** have **been able** ~~since reopened. The extent~~ to ~~which~~ **partially mitigate the effects of inflation, foreign currency exchange challenges and** ~~the~~

other ~~ongoing COVID- 19 pandemic may continue to~~ **disruptions through price increases on our products. We cannot predict the ultimate** ~~affect~~ **effect of these issues on** our business, operating results or financial condition ~~in the future~~ **, but we** will ~~depend on a number of factors, including the duration and spread of the pandemic, the emergence and spread of more contagious or virulent strains of the virus, travel restrictions, business and workforce disruptions associated with the pandemic, including the availability of critical materials and resources, the success of preventative measures to contain~~ - **continue** ~~or~~ **to monitor macroeconomic conditions and attempt to** mitigate the **negative** ~~spread of the virus and emerging variants, and the effectiveness of the distribution and acceptance of COVID- 19 vaccines. Russia' s invasion of Ukraine in February 2022 has resulted in the imposition of economic sanctions on Russia by the United States, Canada, the European Union and other countries. We are monitoring and evaluating the broader economic impact, including the sanctions imposed, the potential for additional sanctions and any responses from Russia, including limiting the supply of natural gas and other resources to Europe, which could directly affect~~ **effect** ~~the Company' s operations, business partners, customers or supply chain. To date, the conflict between Russia and Ukraine has not had a material impact on the Company' s financial condition or results of operations. During the March quarter of 2022, the Company ceased operations in Russia and subsequently decided~~ to ~~liquidate its legal entity in Russia. Total charges of $ 2. 7 million were recorded in 2022 related to liquidation activities,~~ the **extent possible** ~~expected risk of loss related to accounts receivables and the impairment of inventory associated with the Company' s Russian and Ukrainian operations. The Company' s cost structure benefited from its simplification / modernization initiative including the FY21 Restructuring Actions which have resulted in annualized savings of $ 71. 0 million and pre- tax charges of $ 86. 4 million inception to date. We recorded $ 4. 2 million of pre- tax restructuring and related charges in 2022~~. We reported earnings per diluted share (EPS) of $ 1. ~~72~~ **46** for ~~2022~~ **2023**. EPS for the year was unfavorably affected by restructuring and related charges of $ 0. ~~03~~ **06** per share ~~and charges related to Russian and Ukrainian operations of $ 0. 03 per share~~. EPS in the prior year of $ ~~0~~ **1** . ~~65~~ **72** was unfavorably affected by restructuring and related charges of $ 0. ~~40~~ **03** per share **and charges related to Russian and Ukrainian operations** ~~, the effects from the early extinguishment of debt~~ of $ 0. **03** ~~08 per share and the partial annuitization of the Canadian pension plans of $ 0. 02 per share, partially offset by a discrete tax benefit of $ 0. 11~~ per share. We generated cash flow from operating activities of $ **257. 9 million in 2023 compared to $** 181. 4 ~~million in 2022 compared to $ 235. 7~~ million during the prior year. Capital expenditures were $ **94. 4 million and $** 96. 9 million ~~and $ 127. 3 million~~ during **2023 and** 2022 ~~and 2021~~, respectively. During ~~2022~~ **2023**, the Company returned a total of $ ~~152~~ **114** million to the shareholders through $ **49** ~~85. 4~~ million in share repurchases under the three- year share repurchase program and $ **65** ~~66. 6~~ million in ~~dividends. In 2021, the Company returned $ 66. 7 million to shareholders through~~ dividends. For a discussion related to the results of operations, changes in financial condition and liquidity and capital resources for fiscal ~~2020~~ **2021** refer to Part II, Item 7. Management' s Discussion and Analysis of Financial Condition and Results of Operations in our fiscal ~~2021~~ **2022** Annual Report on Form 10- K, which was filed with the United States Securities and Exchange Commission on August 10, ~~2021~~ **2022**. RESULTS OF CONTINUING OPERATIONS SALES Sales in ~~2022~~ **2023** were $ 2, ~~012~~ **078** . ~~5~~ **2** million, a ~~9~~ **3** percent increase from $ ~~1~~ **2** , ~~841~~ **012** . ~~4~~ **5** million in ~~2021~~ **2022**. The increase was primarily due to organic sales growth of ~~11~~ **9** percent, partially offset by a ~~2~~ **5** percent unfavorable currency exchange effect **and 1 percent from an unfavorable business days effect**. Our sales growth (decline) by end market and region are as follows: ~~2022~~ **2023** (in percentages) As ReportedConstant CurrencyEnd market sales growth ~~(decline)~~ : ~~Aerospace21~~ -- **Aerospace & Defense10** % ~~23~~ **14** % ~~Energy1920General~~ **Energy911General engineering27Transportation18Earthworks —** ~~engineering1012Earthworks109Transportation (3) (1) Regional~~ **5Regional** sales growth **(decline)** : ~~Americas16~~ **Americas8** % ~~16~~ **9** % Europe, the Middle East and Africa (EMEA) ~~510Asia~~ **111Asia** ~~Pacific22~~ -- **Pacific (4) 3** GROSS PROFIT Gross profit ~~increased~~ **decreased** $ ~~95~~ **1** . 5 million to $ **646. 4 million in 2023 from $** 648. 0 million in 2022 ~~from $ 552. 5 million in 2021~~. The ~~increase~~ **decrease in gross profit** was primarily due to **higher** ~~organic sales growth, favorable pricing in excess of~~ raw material costs ~~, favorable product mix, incremental simplification / modernization benefits~~ of approximately $ ~~11~~ **72** million **, unfavorable foreign currency exchange of approximately $ 33 million, higher wages** and ~~restructuring~~ **general inflation, under** - **absorption** ~~related charges included in cost~~ of **approximately** ~~goods sold of~~ $ ~~6~~ **10** million ~~compared to~~ **within the Infrastructure segment and temporary supply chain disruptions of approximately** $ ~~11~~ **5** million **. These factors were** ~~in the prior year,~~ partially offset by higher **price realization and** ~~raw material costs of approximately $ 49 million~~ , ~~certain manufacturing inefficiencies including~~ **in the Metal Cutting segment,** higher ~~depreciation, and the restoration of salaries~~ --- **sales volumes** ~~and other cost control measures that were taken in the prior year~~. The gross profit margin for ~~2022~~ **2023** was **31. 1 percent compared to** 32. 2 percent ~~compared to 30. 0 percent~~ in ~~2021~~ **2022**. OPERATING EXPENSE Operating expense in ~~2022~~ **2023** was **$ 437. 3 million, an increase of $ 18. 2 million, or 4. 3 percent, from** $ 419. 1 million ~~, an increase of $ 11. 8 million, or 2. 9 percent, from $ 407. 2 million in 2021. The increase was primarily due to the restoration of previously reduced salaries and other cost- control measures that were taken in the prior year, partially offset by lower incentive compensation costs~~ in 2022. 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 $ ~~42~~ **43** . 1 million and $ ~~39~~ **42** . ~~5~~ **1** million for **2023 and** 2022 ~~and 2021~~, respectively. RESTRUCTURING AND ~~RELATED~~ **OTHER** CHARGES **, NET** ~~AND ASSET IMPAIRMENT CHARGES~~ In the ~~September~~ **June** quarter of fiscal ~~2020~~ **2023**, we announced ~~the~~ **an** ~~initiation~~ **initiative to streamline** ~~of restructuring actions in Germany associated with~~ our ~~simplification / modernization initiative to reduce structural costs~~ - **cost structure while continuing** ~~. Subsequently, we agreed with local employee representatives~~ to ~~downsize~~ **invest in** our ~~Essen, Germany~~ **high- return commercial and** ~~operations~~ **operational excellence initiatives** ~~instead of the previously proposed closure. During the fourth quarter of fiscal 2020, we also announced the acceleration of our other structural cost reduction plans~~. Total restructuring and related charges ~~since inception of $ 86. 4 million, compared to a target of approximately $ 85 million, were recorded~~ for this program **of $ 7. 4 million, compared to a target of approximately $ 20 million, were recorded** through June 30, ~~2022~~ **2023**, consisting of ~~:~~ $ ~~78~~ **6** . ~~1~~ **0** million in Metal Cutting and $ ~~8~~ **1** . ~~3~~ **4** million in

Infrastructure. ~~Inception~~ **The majority of the remaining charges are expected** to ~~date, we have achieved~~ **be recognized in fiscal 2024. This initiative is currently expected to deliver** annualized **run rate pre- tax** savings of approximately $ ~~71~~ **20** million **by the end of fiscal 2024** ~~. The FY21 Restructuring Actions are considered substantially complete~~ . Annual Restructuring Charges During **2023, we recorded restructuring and related charges of $ 6. 6 million, which consisted of $ 5. 3 million in Metal Cutting and $ 1. 3 million in Infrastructure. These amounts are inclusive of a reversal of restructuring charges of $ 0. 8 million related to prior actions. Also included in restructuring and other charges, net during 2023 is a net benefit of $ 2. 5 million primarily due to the sale of properties. During** 2022, we recorded restructuring and related charges of $ 4. 2 million, which consisted of $ 3. 6 million in Metal Cutting and $ 0. 6 million in Infrastructure. Of this amount, a net benefit from the reversal of restructuring charges totaled $ 1. 2 million and restructuring- related charges of $ 5. 5 ~~million were included in cost of goods sold. During 2021, we recorded restructuring and related charges of $ 40. 4 million, which consisted of $ 35. 6 million in Metal Cutting and $ 4. 8 million in Infrastructure. Of this amount, restructuring charges totaled $ 29. 6 million, of which $ 0. 5 million was related to inventory and was recorded in cost of goods sold. Restructuring- related charges of $ 10. 8~~ million were included in cost of goods sold. GAIN ON DIVESTITURE During the year ended June 30, 2020, 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 year ended June 30, 2020 was $ 6. 5 million. Transaction proceeds were primarily used for capital expenditures related to our simplification / modernization efforts. During the year ended June 30, 2022, we recorded a pre- tax gain of $ 1. 0 million on the New Castle divestiture due to proceeds held in escrow until November 2021. AMORTIZATION OF INTANGIBLES Amortization expense was $ **12. 6 million and $** 13. 0 million ~~and $ 14. 0 million~~ in **2023 and** 2022 ~~and 2021~~ , respectively. INTEREST EXPENSE Interest expense in ~~2022~~ **2023** was **$ 28. 5 million, an increase of $ 2. 6 million, compared to** $ 25. 9 million ~~, a decrease of $ 20. 5 million, compared to $ 46. 4 million~~ in ~~2021~~ **2022** . The ~~decrease~~ **increase** was ~~primarily~~ due to **increased** ~~the early extinguishment of the $ 300. 0 million of 3. 875 percent Senior Unsecured Notes due 2022 (the 2022 Senior Notes) in the prior period, which includes a make- whole premium of $ 9. 6 million and the acceleration of a loss in the amount~~ **amounts outstanding under** ~~of $ 2. 6 million from other~~ - **the Credit Agreement and higher market** ~~comprehensive loss related to forward starting~~ interest ~~rate~~ **rates during** ~~contracts that were used to hedge the interest payments of the 2022~~ **2023** ~~Senior Notes, as well as achieving a lower interest rate with the $ 300. 0 million of 2. 800 percent Senior Unsecured Notes due 2031 (the 2031 Senior Notes). See Note 11" Long- Term Debt" in the consolidated financial statements for further details~~ . The portion of our debt subject to variable rates of interest was ~~3 percent at June 30, 2022 and~~ less than 1 percent at June 30, ~~2021~~ **2023 and 3 percent at June 30, 2022** . There were **no** ~~$ 19. 0 million of~~ borrowings outstanding under the Credit Agreement as of June 30, ~~2022~~ **2023** . OTHER **EXPENSE (** INCOME **)** , NET In ~~2022~~ **2023** , **other expense, net was $ 4. 3 million compared to** other income, net ~~was~~ **of** $ 14. 5 million ~~, an~~ **in 2022. The** ~~increase~~ **decrease** of $ ~~5~~ **18** . ~~6~~ **8** million ~~from $ 8. 9 million in 2021. The increase~~ was primarily due to ~~higher~~ **lower** net periodic pension income and a ~~foreign currency effect of~~ $ **3** ~~0. 8~~ million ~~in~~ **litigation settlement related to legacy operations recognized during** ~~2022~~ **2023** . INCOME TAXES The effective tax rate for ~~2022~~ **2023** was **22. 7 percent compared to** 27. 3 percent ~~compared to 9. 7 percent~~ for ~~2021~~ **2022** . The year- over- year change in the effective tax rate is primarily due to ~~higher pretax income in~~ the current year **release of** ~~, non- recurring adjustments in the prior year including (i)~~ a **valuation allowance** ~~tax benefit from a provision to return adjustment~~ related to ~~our fiscal 2020 U. S. income tax return that included an election pursuant to Global Intangible Low- Taxed Income (GILTI) tax regulations issued during fiscal 2021, (ii) a tax benefit from the recognition of a stranded deferred tax balance in accumulated other comprehensive loss associated with the forward starting interest rate swaps that were terminated during fiscal 2021, and (iii) a tax charge related to enacted tax rate changes in the U. K., and geographical mix. As of June 30, 2022, we have $ 25. 9 million of U. S.~~ net deferred tax assets **in Brazil, a current year tax benefit** ~~. Within this amount is $ 46. 2 million~~ related to **Swiss** ~~net operating loss,~~ tax **reform** ~~credit,~~ and **geographical mix** ~~other carryforwards that can be used to offset future U. S. taxable income. Certain of these carryforwards will expire if they are not used within a specified timeframe. At this time, we consider it more likely than not that we will have sufficient U. S. taxable income in the future that will allow us to realize these net deferred tax assets. However, it is possible that some or all of these tax attributes could ultimately expire unused. Therefore, if we are unable to generate sufficient U. S. taxable income from our operations, a valuation allowance to reduce the U. S. net deferred tax assets may be required, which would materially increase income tax expense in the period in which the valuation allowance is recorded~~ . 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 tax authority served notice in the September quarter of fiscal 2020 requiring payment in the amount of € 36. 0 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~~ **35** . 6 million, or $ 38. ~~0~~ **8** million, of which penalties and interest is € ~~21~~ **20. 9 million, or $ 22** . 8 million ~~, or $ 22~~ . ~~7 million~~ **During the current year, the Italian government launched a tax amnesty program aimed at reducing the number of tax disputes pending before the Italian courts. Pursuant to program guidelines, payments made to successfully resolve a dispute must be received by the Italian government no later than September 30, 2023. We are currently evaluating whether this program could facilitate a resolution to this litigation** . NET INCOME ATTRIBUTABLE TO KENNAMETAL Net income attributable to Kennametal was $ ~~144~~ **118** . ~~6~~ **5** million, or $ 1. ~~72~~ **46** of earnings per diluted share (EPS) in ~~2022~~ **2023** , compared to $ ~~54~~ **144** . ~~4~~ **6** million, or EPS of $ ~~0~~ **1** . ~~65~~ **72** in ~~2021~~ **2022** . The ~~increase~~ **decrease** is a result of the factors previously discussed. BUSINESS SEGMENT REVIEW We operate in two reportable operating segments consisting of Metal Cutting and Infrastructure. Corporate expenses that are not allocated are reported in Corporate. Segment determination is based upon internal organizational structure, the manner in which we organize segments for making operating decisions and assessing performance and the availability of separate financial results. See Note 21 of our consolidated financial statements set forth in Item 8 of this Annual Report. Our sales and operating income by segment are as follows: (in thousands) ~~20222021Sales~~ **20232022Sales** : Metal Cutting $ 1, **269, 765 $ 1,** 227, 273 ~~$ 1, 150, 746 Infrastructure785~~ **Infrastructure808 , 419 785** , 183 ~~690, 695~~ Total sales $ 2, **078, 184 $ 2,** 012, 456 ~~$ 1, 841, 441~~ Operating income: Metal Cutting $ **135, 763 $** 121, 386 ~~$ 45, 855 Infrastructure98~~ **Infrastructure59 , 757 98** , 871 ~~59, 461~~ Corporate (**3, 103) (** 2, 117 ~~) (3, 148~~) Total operating ~~income218~~ **income192 , 417 218** , 140 ~~102, 168~~ Interest ~~expense25~~ **expense28 , 496 25** , 914 ~~46, 375~~ Other **expense (** income **)** , ~~net~~ **net4 , 300** (14, 507 ~~) (8, 867~~) Income before income taxes $ **159, 621 $** 206, 733 ~~$ 64, 660~~ METAL CUTTING (in thousands) ~~20222021Sales~~ **20232022Sales** $ 1, **269, 765 $ 1,** 227, 273 ~~$ 1, 150, 746~~ Operating ~~income121~~ **income135 , 763 121** , 386 ~~45, 855~~ Operating ~~margin9~~ **margin10 . 7 % 9** . 9 % ~~4. 0 %~~ (in percentages) ~~2022Organic~~ **2023Organic** sales ~~growth9~~ **growth10** % Foreign currency exchange effect (~~2~~ **6) Business days impact (1**) Sales ~~growth7~~ **growth3** % ~~2022~~ **2023** (in percentages) As ReportedConstant CurrencyEnd market sales growth (decline): ~~Aerospace21~~ -- **Aerospace & Defense17** % ~~23~~ **22** % General **engineering38Transportation18Energy** ~~engineering1013Energy56Transportation (3)~~ (1) ~~Regional~~ **4Regional** sales growth (decline): ~~Americas14~~ **Americas12** % ~~14~~ **12** % ~~EMEA410Asia~~ **EMEA — 10Asia** Pacific (**6)** 2 ~~) (2)~~ In ~~2022~~ **2023** , Metal Cutting sales of $ 1, ~~227~~ **269** . ~~3~~ **8** million increased by $ ~~76~~ **42** . 5 million, or ~~7~~ **3** percent, from ~~2021~~ **2022 . This was driven by organic growth of 10 percent, partially offset by an unfavorable foreign currency exchange effect of 6 percent and an unfavorable business days effect of 1 percent** . Aerospace **and defense** end market sales increased in all regions as **a result of our focused execution on our strategic initiatives and a continuing expansion in** global travel **following** ~~levels and airplane manufacturing continue to recover, despite increasing supply chain issues on certain components. Energy sales increased in~~ the **COVID- 19 slowdown** ~~Americas and EMEA as oil and gas drilling and power generation improved as countries develop alternative supply chains in response to the Russia sanctions~~ , **the effects of which were** partially offset by **unfavorable foreign currency exchange** ~~declines in Asia Pacific and the impact of COVID- 19 lockdowns~~ . Sales in ~~our~~ **the** general engineering end market increased ~~in all regions,~~ as manufacturing activity continues to recover from the COVID- 19 pandemic and ~~strong~~ **as** underlying ~~demand continues~~ **economic activity expands** , ~~though inflation~~ **the effects of which were partially offset by unfavorable foreign currency exchange, our exit from Russia** and ~~supply chain challenges mitigated growth~~ **a slower recovery in China. Energy end market sales increased in the Americas and to a lesser extent Asia Pacific due to pricing efforts, the effects of which were offset by unfavorable foreign currency exchange and a decline in EMEA** . Transportation end market sales ~~increased~~ **benefited from improving customer supply chains and execution on our strategic initiatives in key growth areas** in the Americas ~~due to improved automotive manufacturing levels~~ and ~~continued strong underlying demand. The increase was more than offset by declines in~~ EMEA ~~and Asia Pacific driven by ongoing supply chain challenges accelerated by Russia' s conflict in Ukraine and COVID- 19 lockdowns in China. On a regional basis~~ , the **effects** ~~sales increase in the Americas was driven by increases in all end markets supported by the easing~~ of **which were** ~~COVID- 19 restrictions and strong underlying demand. The sales increase in EMEA was driven by the general engineering, aerospace, and energy end markets,~~ partially offset by a decline in ~~the transportation end market. The sales decrease in~~ Asia Pacific ~~was driven by declines~~ **due to lower economic activity** in **China** ~~the energy~~ and ~~transportation~~ **unfavorable foreign currency exchange. On a regional basis, sales in the Americas increased primarily due to the successful execution on our strategic initiatives and continued broad and resilient demand of our** end markets **. Sales growth in EMEA reflects the execution on our strategic initiatives** , ~~partially~~ **the effects of which were** offset by ~~an increase in~~ **unfavorable foreign currency exchange.** ~~sales~~ **Sales** in ~~the general engineering~~ **Asia Pacific benefited from our strategic initiatives** and ~~aerospace end markets~~ **the continuing expansion of travel, the effects of which were offset by a slower recovery in China from COVID- related disruptions and unfavorable foreign currency exchange** . In ~~2022~~ **2023** , Metal Cutting operating income was $ ~~121~~ **135** . ~~4~~ **8** million, a $ ~~75. 5 million increase from 2021. The primary drivers for the increase were organic sales growth, favorable pricing in excess of raw material costs, restructuring and related charges of $ 4 million compared to $ 34 million in the prior year, incremental simplification / modernization benefits of approximately $ 12 million, lower incentive compensation costs and favorable product mix. These benefits were partially offset by certain manufacturing inefficiencies including higher depreciation, the restoration of salaries and other cost- control measures of approximately $ 19 million that were taken in the prior year and higher raw material costs of approximately $ 9 million. INFRASTRUCTURE (in thousands) 20222021Sales $ 785, 183 $ 690, 695 Operating income98, 871 59, 461 Operating margin12. 6 % 8. 6 % (in percentages) 2022Organic sales growth14 % Foreign currency exchange effect — Sales growth14 % 2022 (in percentages) As ReportedConstant CurrencyEnd market sales growth: Energy27 % 27 % Earthworks109General engineering910Regional sales growth: Americas18 % 18 % Asia Pacific97EMEA710 In 2022, Infrastructure sales of $ 785. 2 million increased by $ 94. 5 million, or~~ 14 ~~percent, from 2021. Energy end market sales increased as U. S. oil and gas contributed to the year- over- year increase and as land rig counts continue to increase. Earthworks end market sales increased primarily due to growth in underground and surface mining. General engineering end market sales increased driven primarily by strong demand across all regions. On a regional basis, the sales increase in the Americas was driven by growth primarily in the energy and earthworks end markets, and to a lesser extent the general engineering end market. The sales increase in EMEA was primarily driven by the general engineering and earthworks end market. The sales increase in Asia Pacific was driven by growth in all end markets. In 2022, Infrastructure operating income was $ 98. 9 million, a $ 39~~ . 4 million increase from ~~2021~~ **2022** . The ~~primary drivers for the~~ increase ~~were organic~~ **in operating income was primarily due to higher price realization, higher** sales **volumes** ~~growth, favorable pricing in excess of raw material costs, favorable product mix~~ and **a gain** ~~restructuring and related charges~~ of **approximately** $ ~~1~~ **3** million **on property sales** ~~compared to $ 5 million in the prior year~~ . These ~~benefits~~ **factors** were partially offset by higher raw material costs of approximately $ ~~41~~ **24** million, ~~the~~

~~restoration of salaries~~ **higher wages and general inflation, including** ~~and~~ **an** ~~other cost- control measures~~ **inflationary bonus of $ 2 million for certain German employees, unfavorable foreign currency exchange** of approximately $ ~~5~~ **12** million ~~taken~~ **and temporary supply chain disruptions. Metal Cutting operating margin in 2023 was 10. 7 percent compared to 9. 9 percent** in the prior year **. INFRASTRUCTURE (in thousands) 20232022Sales $ 808, 419 $ 785, 183 Operating income59, 757 98, 871 Operating margin7. 4 % 12. 6 % (in percentages) 2023Organic sales growth7 % Foreign currency exchange effect (4) Sales growth3 % 2023 (in percentages) As ReportedConstant CurrencyEnd market sales growth (decline): Energy14 % 14 % General engineering26Earthworks — 5Aerospace & Defense (9) (6) Regional sales growth (decline): Americas4 % 5 % EMEA415Asia Pacific (2) 5 In 2023, Infrastructure sales of $ 808. 4 million increased by $ 23. 2 million, or 3 percent, from 2022. This was driven by organic growth of 7 percent, partially offset by** ~~and~~ **an** ~~certain manufacturing inefficiencies including~~ **unfavorable foreign currency exchange effect of 4 percent. Energy end market sales increased primarily due to strength in U. S. oil and gas. Sales in the general engineering end market increased in all regions primarily due to strong demand in wear components, which was partially offset by unfavorable foreign currency exchange. Earthworks end market sales increased in all regions primarily due to underlying demand in mining, the effects of which were offset by unfavorable foreign currency exchange. Aerospace and defense end market sales were negatively affected by order timing and unfavorable foreign currency exchange. On a regional basis, sales in EMEA increased in all end markets, the effects of which were partially offset by unfavorable foreign currency exchange. Sales increased in Asia Pacific primarily in earthworks and general engineering, the effects of which were offset by unfavorable foreign currency exchange and a decline in the energy end market. Sales in the Americas increased in energy, general engineering and to a lesser extent earthworks, the effects of which were partially offset by decreases in aerospace and defense and unfavorable foreign currency exchange. In 2023, Infrastructure operating income was $ 59. 8 million, a $ 39. 1 million decrease from 2022. The decrease in operating income was primarily due to** higher ~~depreciation~~ **raw material costs of approximately $ 48 million, higher wages and general inflation, under- absorption of approximately $ 10 million, unfavorable foreign currency exchange of approximately $ 4 million and temporary supply chain disruptions. These factors were partially offset by higher price realization. Infrastructure operating margin in 2023 was 7. 4 percent compared to 12. 6 percent in the prior year** . CORPORATE (in thousands) ~~20222021Corporate~~ ---- **20232022Corporate** expense $ (**3, 103) $ (** 2, 117) ~~$ (3, 148)~~ In ~~2022~~ **2023** , Corporate expense ~~decreased~~ **increased** $ 1. 0 million from ~~2021~~ **2022** . LIQUIDITY AND CAPITAL RESOURCES Cash flow from operations is the primary source of funding for working capital requirements, reinvesting in our business through capital expenditures and returning value to shareholders through dividends and share repurchases. During the year ended June 30, ~~2022~~ **2023** , cash flow provided by operating activities was $ ~~181~~ **257** . ~~4~~ **9** million. ~~Credit Agreement~~ During fiscal 2022, we entered into the Sixth Amended and Restated Credit Agreement dated as of June 14, 2022 (the Credit Agreement). The Credit Agreement is a five- year, multi- currency, revolving credit facility, which we use to augment cash from operations and as 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) Euro Interbank Offered Rate (EURIBOR), Sterling Overnight Index Average (SONIA), Tokyo Interbank Offered Rate (TIBOR), Secured Overnight Financing Rate (SOFR), and Canadian Dollar Offered Rate (CDOR) for any borrowings in euros, pounds sterling, yen, U. S. dollars, and Canadian dollars, respectively, 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 2027. The Credit Agreement requires us to comply with various restrictive and affirmative covenants, including one financial covenant: a maximum leverage ratio where debt, net of domestic cash in excess of $ 25 million and sixty percent of the unrestricted cash held outside of the United States, must be less than or equal to 3. 75 times trailing twelve months EBITDA, adjusted for certain non- cash expenses. As of June 30, ~~2022~~ **2023** , we were in compliance with all covenants of the Credit Agreement and we had ~~$ 19. 0 million of borrowings outstanding and $ 681. 0 million of availability. There were~~ no borrowings outstanding **and $ 700. 0 million of availability. There were $ 19 million of borrowings outstanding** as of June 30, ~~2021~~ **2022** . Borrowings on other lines of credit and notes payable were $ **0. 7 million and $** 2. 2 ~~million and $ 8. 4~~ million at June 30, **2023 and** 2022 ~~and 2021~~ , respectively. The lines of credit represented short- term borrowings under credit lines with commercial banks in the various countries in which we operate. The availability of the credit lines, translated into U. S. dollars at June 30, ~~2022~~ **2023** exchange rates, totaled $ ~~60~~ **54** . ~~7~~ **5** million. For the year ended June 30, ~~2022~~ **2023** , average daily borrowings outstanding under the Credit Agreement were approximately $ ~~24~~ **79** . ~~0~~ **8** million. The weighted average interest rate on borrowings under the Credit Agreement was ~~1~~ **5** . ~~4~~ **0** percent for the year ended June 30, ~~2022~~ **2023** . Based upon our debt structure at June 30, ~~2022~~ **2023** , ~~3~~ **less than 1** percent of our debt was exposed to variable rates of interest. At June 30, ~~2021~~ **2022** , **3** ~~less than 1~~ percent was exposed to variable rates of interest. We consider the majority of the $ 1. 5 billion 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. Determination of the amount of unrecognized deferred tax liability related to indefinitely reinvested earnings is not practicable due to our legal entity structure and the complexity of U. S. and local tax laws. 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. The deferred tax liability associated with unremitted earnings of our non- U. S. subsidiaries not permanently reinvested is $ ~~7~~ **4** . ~~2~~ **8** million as of June 30, ~~2022~~ **2023** . At June 30, ~~2022~~ **2023** , we had cash and cash equivalents of $ ~~85~~ **106** . ~~6~~ **0** million. Total Kennametal Shareholders' equity was $ 1, ~~252~~ **275** . ~~6~~ **4** million and total debt was $ ~~615~~ **595** . ~~6~~ **9** million. Our current senior credit ratings are considered investment grade. We believe that our current financial position, liquidity and credit ratings provide us access to the capital markets. We continue to closely monitor our liquidity position and the condition of the capital markets, as well as the counterparty risk of our credit providers. Cash generated from operations is expected to meet our planned capital expenditures of approximately $ 100 million to $ ~~120~~ **110** million and expected dividend payments of approximately $ ~~67~~ **65** million in fiscal ~~2023~~ **2024** . There can be no assurance, however, that we will generate cash from operations in line with our expectations, or that these projections will remain constant throughout fiscal ~~2023~~ **2024** . If cash generated from operations is not sufficient to support these activities, we may be required to use existing cash and cash equivalents, reduce capital expenditures or borrow under the Credit Agreement. We believe that our cash and cash equivalents, cash flow from operations, and available borrowings are sufficient to meet both the short- term and long- term capital needs of the Company. The following is a summary of our contractual obligations and other commercial commitments as of June 30, ~~2022~~ **2023** : Contractual Obligations (in thousands) ~~Total20232024~~ **Total20242025** - ~~20252026~~ **20262027** - ~~2027ThereafterLong~~ **2028ThereafterLong** - term debt, including current maturities (1) $ ~~758~~ **754** , ~~578~~ **016** $ 22, ~~275~~ **964** $ 44, 550 $ ~~44~~ **344** , 550 $ ~~647~~ **341** , ~~203~~ **952** Borrowings under Credit ~~Agreement19~~ -- **Agreement — —** ~~, 000 19, 000~~ — — — Other lines of credit and notes ~~payable2~~ **payable689 689** ~~, 299 2, 299~~ — — — Pension benefit payments (2) **55,** ~~53~~ **543 110** , ~~208~~ **705** 109, **314** ~~269 108, 945~~ (2) Postretirement benefit payments (2) 1, ~~197~~ **121 1, 962 1, 660 (** 2 ~~, 106 1, 783 (2~~) Operating ~~leases54~~ **leases50** ~~, 763 13~~ , 383 ~~17~~ **12** , **445** ~~569 7, 782~~ 16, ~~029~~ **476 6, 941 14, 521** Purchase obligations (3) ~~155~~ **60** , ~~581 139~~ **123 50** , ~~316 16~~ **705 9** , ~~265~~ **418** — — Unrecognized tax benefits (4) ~~8~~ **7** , **994** ~~975 2, 606~~ 6, ~~369~~ **548 1, 446** — — Total $ ~~253~~ **150** , ~~284~~ **015** $ ~~196~~ **184** , ~~128~~ **557** $ ~~163~~ **462** , ~~060~~ **465** (1) Long- term debt includes interest obligations of $ ~~158~~ **153** . ~~9~~ **4** million and excludes debt issuance costs of $ ~~4~~ **3** . ~~2~~ **6** million. (2) Annual payments are expected to continue into the foreseeable future at the amounts noted in the table. (3) Purchase obligations consist of purchase commitments for materials, supplies and machinery and equipment as part of the ordinary conduct of business. Purchase obligations with variable price provisions were determined assuming market prices as of June 30, ~~2022~~ **2023** remain constant. (4) Unrecognized tax benefits are positions taken or expected to be taken on an income tax return that may result in additional payments to tax authorities. These amounts include interest of $ 1. ~~4~~ **0 million and a penalty of $ 0. 1** million accrued related to such positions as of June 30, ~~2022~~ **2023** . If a tax authority agrees with the tax position taken or expected to be taken or the applicable statute of limitations expires, then additional payments will not be necessary. Other Commercial Commitments (in thousands) ~~Total20232024~~ **Total20242025** - ~~20252026~~ **20262027** - ~~2027ThereafterStandby~~ **2028ThereafterStandby** letters of credit $ **4, 326 $ 3, 246 $ 1, 080 $ — $ — Guarantees4, 876 2, 361 263 60 2, 192 Total $ 9, 202 $** 5, **607** ~~735 $ 4, 483~~ $ 1, ~~252~~ **343** $ ~~—~~ **60** $ **2** ~~— Guarantees12~~ , **192** ~~774 9, 191 143 10 3, 430 Total $ 18, 509 $ 13, 674 $ 1, 395 $ 10 $ 3, 430~~ The standby letters of credit relate to insurance and other activities. The guarantees are non- debt guarantees with financial institutions, which are required primarily for security deposits, product performance guarantees and advances. Share Repurchase Program In July 2021, the Board of Directors of the Company approved a share repurchase program authorizing the Company to purchase up to $ 200 million of the Company' s common stock over a three- year period. During ~~2022~~ **2023** , the Company repurchased 2 ~~. 7~~ million shares of common stock for $ ~~85~~ **49** million. Dividends In fiscal ~~2022~~ **2023** , the Board of Directors of the Company declared a dividend of $ 0. 20 per share in each quarter for a total of $ ~~67~~ **65** million in dividends returned to the shareholders. Cash Flow Provided by Operating Activities During ~~2022~~ **2023** , cash flow provided by operating activities was $ **257. 9 million, compared to $** 181. 4 million **in 2022** ~~, compared to $ 235~~ . ~~7~~ **During 2023, cash flow provided by operating activities consisted of net income and non- cash items amounting to $ 284. 0** million **and changes** in **certain assets and liabilities netting to an outflow of $ 26. 1 million. Contributing to the change in certain assets and liabilities were a decrease in accounts payable and accrued liabilities of $ 32. 5 million, an increase in accounts receivable of $ 11. 5 million and a decrease in accrued pension and postretirement benefits of $ 10. 1 million, partially offset by a decrease in inventories of $ 17. 6 million. Cash flow provided by operating activities was $ 181. 4 million in** ~~2021~~ **2022** . During 2022, cash flow provided by operating activities consisted of net income and non- cash items amounting to $ 310. 2 million and changes in certain assets and liabilities netting to an outflow of $ 128. 7 million. Contributing to the change in certain assets and liabilities were an increase in inventories of $ 127. 4 million in part due to increased safety stock for potential supply chain disruptions and higher raw material costs, a decrease in accrued pension and postretirement benefits of $ 24. 2 million and an increase in accounts receivable of $ 14. 4 million, partially offset by an increase in accounts payable and accrued liabilities of $ 32. 0 million and an increase in accrued income taxes of $ 10. 2 ~~million. Cash flow provided by operating activities was $ 235. 7 million for 2021. During 2021, cash flow provided by operating activities consisted of net income and non- cash items amounting to $ 210. 0 million and changes in certain assets and liabilities netting to an inflow of $ 25. 7 million. Contributing to the changes in certain assets and liabilities were an increase in accounts payable and accrued liabilities of $ 46. 8 million and a decrease in inventories of $ 61. 3 million, partially offset by an increase in accounts receivable of $ 53. 3 million, a decrease in accrued pension and postretirement benefits of $ 31. 6 million and a decrease in accrued income taxes of $ 18. 3~~ million. Cash Flow Used for Investing Activities Cash flow used for investing activities was $ **89. 2 million for 2023, a decrease of $ 5. 7 million, compared to $** 94. 9 million ~~for~~ **in** 2022 ~~, a decrease of $ 28. 0 million, compared to $ 123. 0 million in 2021~~ . During ~~2022~~ **2023** , cash flow used for investing activities included capital expenditures, net of $ ~~96~~ **89** . ~~0~~ **4** million, which consisted primarily of equipment upgrades ~~, partially offset by proceeds of $ 1. 0 million from the New Castle divestiture~~ . Cash flow used for investing activities was $ ~~123~~ **94** . ~~0~~ **9** million for ~~2021~~ **2022** . During ~~2021~~ **2022** , cash flow used for investing activities included capital expenditures, net of $ ~~122~~ **96** . ~~9~~ **0** million, which consisted primarily of ~~expenditures related to our simplification / modernization initiatives~~ **equipment upgrades, partially offset by proceeds of $ 1. 0 million from the New Castle divestiture** . Cash Flow Used for Financing Activities Cash flow used for financing activities was $ **143. 1 million for 2023 compared to $ 150. 7 million in 2022. During 2023, cash flow used for financing activities primarily included $ 64. 5 million of cash dividends paid to shareholders, $ 49. 3 million in common shares repurchased, primarily under the share repurchase program, $ 19. 0 million from the repayment of borrowings under the Credit Agreement and $ 6. 0 million of the effect of employee benefit and stock plans and dividend**

reinvestment. Cash flow used for financing activities was $ 150. 7 million for 2022 ~~, compared to $ 574. 2 million in 2021~~ . During 2022, cash flow used for financing activities included $ 85. 5 million in common shares repurchased, primarily under the share repurchase program, $ 66. 6 million of cash dividends paid to shareholders, $ 6. 9 million of the effect of employee benefit and stock plans and dividend reinvestment and $ 6. 1 million of a decrease in notes payable, partially offset by $ 19. 0 million from borrowings under the Credit Agreement. ~~Cash flow used for financing activities was $ 574. 2 million for 2021. During 2021, cash flow used for financing activities included $ 500. 0 million of a net decrease in the revolving and other lines of credit, the debt refinancing (see Note 11." Long- Term Debt" to our consolidated financial statements set forth in Part II, Item 8 of this Annual Report on Form 10- K for further discussion) and $ 66. 7 million of cash dividends paid to shareholders.~~ FINANCIAL CONDITION At June 30, ~~2022~~ **2023** , total assets were $ 2, **547. 2 million, a decrease of $ 26. 3 million from $ 2,** 573. 5 million **at June 30** , ~~a~~ **2022. Total liabilities** ~~decrease~~ **decreased** ~~of~~ $ ~~92~~ **49** . 2 million from $ ~~2~~ **1** , ~~665~~ **282. 3 million at June 30, 2022 to $ 1, 233. 1 million at June 30, 2023. Working capital was $ 592** . 8 million at June 30, ~~2021~~ **2023** ~~. Total liabilities decreased~~ **, an increase of** $ ~~15~~ **53** . ~~3~~ **8** million from ~~$ 1, 297. 6 million at June 30, 2021 to $ 1, 282. 3 million at June 30, 2022. Working capital was~~ $ 539. 1 million at June 30, 2022 ~~, a decrease of $ 28. 4 million from $ 567. 4 million at June 30, 2021~~ . The ~~decrease~~ **increase** in working capital was primarily driven by a decrease in ~~cash~~ **accounts payable** of $ ~~68~~ **24** . 5 million, **a decrease in revolving and other lines of credit and notes payable of $ 20. 5 million,** an increase in ~~accounts payable~~ **cash and cash equivalents** of $ ~~50~~ **20** . ~~2~~ **4** million, ~~and~~ an increase in **accounts receivable, net** ~~revolving and other lines of credit and notes payable~~ of $ 12. ~~8~~ **0 million and a decrease in accrued income taxes of $ 4. 3** million. Partially offsetting these items **was** ~~were an increase in inventories of $ 94. 5 million and~~ a decrease in other current ~~liabilities~~ **assets** of $ ~~19~~ **17. 1 million and a decrease in inventories of $ 13** . 2 million. Currency exchange rate effects decreased working capital by a total of approximately $ ~~48.~~ 0 **. 1** million, the effects of which are included in the aforementioned changes. Property, plant and equipment, net decreased $ ~~53~~ **33** . ~~1~~ **0** million from $ 1, ~~055~~ **002. 0 million at June 30, 2022 to $ 969** . 1 million at June 30, ~~2021~~ **2023** ~~to $ 1, 002. 0 million at June 30, 2022~~ , primarily due to depreciation of $ ~~118~~ **121** . ~~7~~ **4** million and **disposals** ~~an unfavorable currency exchange effect~~ of ~~approximately~~ $ ~~36~~ **5** . ~~3~~ **0** million, partially offset by capital additions of $ ~~96~~ **94** . ~~9~~ **4 million and a favorable currency exchange effect of approximately $ 1. 5** million. At June 30, ~~2022~~ **2023** , other assets were $ ~~546~~ **551** . ~~8~~ **4** million, ~~a~~ **an** ~~decrease~~ **increase** of $ ~~59~~ **4** . ~~0~~ **6** million from $ ~~605~~ **546** . 8 million at June 30, ~~2021~~ **2022** . The primary drivers for the ~~decrease~~ **increase** were an ~~unfavorable currency exchange effect, a decrease~~ **increase in deferred income taxes of $ 10. 9 million, an increase in goodwill of $ 5. 3 million and an increase** in long- term prepaid pension benefit of $ ~~22~~ **4** . ~~8~~ **1** million **. Partially offsetting these items** ~~as~~ **was** ~~well as~~ amortization of $ ~~13~~ **12** . ~~0~~ **6** million **and a decrease in operating right- of- use assets of $ 4. 2 million. Currency exchange rate effects increased other assets by a total of approximately $ 9 million, the effects of which are included in the aforementioned changes** . Kennametal Shareholders' equity was $ 1, ~~252~~ **275** . ~~6~~ **4** million at June 30, ~~2022~~ **2023** , ~~a~~ **an** ~~decrease~~ **increase** of $ ~~77~~ **22** . ~~0~~ **9** million from $ 1, ~~329~~ **252** . 6 million in the prior year. The ~~decrease~~ **increase** was primarily due to ~~the repurchase~~ **net income attributable to Kennametal** of **$ 118. 5 million and** capital stock **issued under employee benefit and stock plans** of $ ~~85~~ **17. 8 million, partially offset by cash dividends paid to Kennametal Shareholders of $ 64** . 5 **million and the repurchase of capital stock of $ 49. 3** million primarily under the share repurchase program ~~that was initiated during fiscal 2022, cash dividends paid to Kennametal Shareholders of $ 66. 6 million, and other comprehensive loss of $ 87. 2 million, partially offset by net income attributable to Kennametal of $ 144. 6 million~~ . EFFECTS OF INFLATION Rising costs, including the cost of certain raw materials, continue to affect our operations throughout the world. We experienced higher levels of inflation in ~~2022~~ **2023** and expect inflation will continue to be a challenge in fiscal ~~2023~~ **2024** . We will strive to minimize the effects through cost containment, productivity improvements and price increases. DISCUSSION OF CRITICAL ACCOUNTING POLICIES In preparing our consolidated financial statements in conformity with accounting principles generally accepted in the U. S., we make judgments and estimates about the amounts reflected in our consolidated financial statements. As part of our financial reporting process, our management collaborates to determine the necessary information on which to base our judgments and develops estimates used to prepare the consolidated financial statements. We use relevant information available at the end of each period to make these judgments and estimates. Our significant accounting policies are described in Note 2 of our consolidated financial statements, which are included in Item 8 of this Annual Report. We believe that the following discussion addresses our critical accounting policies. Revenue Recognition The Company' s contracts with customers are comprised of purchase orders, and for larger customers, may also include long- term agreements. We account for a contract when it has approval and commitment from both parties, the rights of the parties and payment terms are identified, the contract has commercial substance and collectability of consideration is probable. These contracts with customers typically relate to the manufacturing of products, which represent single performance obligations that are satisfied when control of the product passes to the customer. The Company considers the timing of right to payment, transfer of risk and rewards, transfer of title, transfer of physical possession and customer acceptance when determining when control transfers to the customer. As a result, revenue is generally recognized at a point in time- either upon shipment or delivery- based on the specific shipping terms in the contract. The shipping terms vary across all businesses and depend on the product, customary local commercial terms and the type of transportation. Shipping and handling activities are accounted for as activities to fulfill a promise to transfer a product to a customer and as such, costs incurred are recorded when the related revenue is recognized. Payment for products is due within a limited time period after shipment or delivery, typically within 30 to 90 calendar days of the respective invoice dates. The Company does not generally offer extended payment terms. Revenue is measured as the amount of consideration we expect to receive in exchange for transferring goods. Amounts billed and due from our customers are classified as accounts receivable, less allowance for doubtful accounts on the consolidated balance sheets. Certain contracts with customers, primarily distributor customers, have an element of variable consideration that is estimated when revenue is recognized under the contract. Variable consideration primarily includes volume incentive rebates, which are based on achieving a certain level of purchases and other performance criteria as established by our distributor programs. These rebates are estimated based on projected sales to the customer and accrued as a reduction of net sales as they are earned. The majority of our products are consumed by our customers or end users in the manufacture of their products. Historically, we have experienced very low levels of returned products and do not consider the effect of returned products to be material. We have recorded an estimated returned goods allowance to provide for any potential returns. We warrant that products sold are free from defects in material and workmanship under normal use and service when correctly installed, used and maintained. This warranty terminates 30 days after delivery of the product to the customer and does not apply to products that have been subjected to misuse, abuse, neglect or improper storage, handling or maintenance. Products may be returned to Kennametal only after inspection and approval by Kennametal and upon receipt by the customer of shipping instructions from Kennametal. We have included an estimated allowance for warranty returns in our returned goods allowance discussed above. The Company records a contract asset when it has a right to payment from a customer that is conditioned on events that have occurred other than the passage of time. The Company also records a contract liability when customers prepay but the Company has not yet satisfied its performance obligation. The Company did not have any material remaining performance obligations, contract assets or liabilities as of June 30, **2023 and** 2022 ~~and 2021~~ . The Company pays sales commissions related to certain contracts, which qualify as incremental costs of obtaining a contract. However, the Company applies the practical expedient that allows an entity to recognize incremental costs of obtaining a contract as an expense when incurred if the amortization period of the asset that would have been recognized is one year or less. These costs are recorded within operating expense in our consolidated statements of income. Stock- Based Compensation We recognize stock- based compensation expense for all stock options, restricted stock awards and restricted stock units over the period from the date of grant to the date when the award is no longer contingent on the employee providing additional service (substantive vesting period). Forfeitures are recorded as incurred. We utilize the Black- Scholes valuation method to establish the fair value of all stock option awards. Time vesting stock units are valued at the market value of the stock on the grant date. Performance vesting stock units with a market condition are valued using a Monte Carlo model. Accounting for Contingencies We accrue for contingencies when it is probable that a liability or loss has been incurred and the amount can be reasonably estimated. Contingencies by their nature relate to uncertainties that require the exercise of judgment in both assessing whether or not a liability or loss has been incurred and estimating the amount of probable loss. The significant contingencies affecting our consolidated financial statements include environmental, health and safety matters and litigation. Long- Lived Assets We evaluate the recoverability of property, plant and equipment, operating lease right- of- use (ROU) assets and intangible assets that are amortized whenever events or changes in circumstances indicate the carrying amount of such assets may not be fully recoverable. Changes in circumstances include technological advances, changes in our business model, capital structure, economic conditions or operating performance. Our evaluation is performed at the asset group level, based upon, among other things, our assumptions about the estimated future undiscounted cash flows these assets are expected to generate. When the sum of the undiscounted cash flows is less than the carrying value, we will recognize an impairment loss to the extent that carrying value exceeds fair value. We apply our best judgment when performing these evaluations to determine if a triggering event has occurred, the undiscounted cash flows used to assess recoverability and the fair value of the asset group. Goodwill and Indefinite- Lived Intangible Assets We evaluate the recoverability of goodwill of each of our reporting units by comparing the fair value of each reporting unit with its carrying value. The fair values of our reporting units are determined using a combination of a discounted cash flow analysis and market multiples based upon historical and projected financial information. We perform our annual impairment tests during the June quarter in connection with our annual planning process unless there are impairment indicators based on the results of an ongoing cumulative qualitative assessment that warrant a test prior to that quarter. We apply our best judgment when assessing the reasonableness of the financial projections used to determine the fair value of each reporting unit. The discounted cash flow method was used to measure the fair value of our equity under the income approach. A terminal value utilizing a constant growth rate of cash flows was used to calculate a terminal value after the explicit projection period. The estimates and assumptions used in our calculations include revenue and gross margin growth rates, expected capital expenditures to determine projected cash flows, expected tax rates and an estimated discount rate to determine present value of expected cash flows. These estimates are based on historical experiences, our projections of future operating activity and our weighted average cost of capital (WACC). In order to determine the discount rate, the Company uses a market perspective WACC approach. The WACC is calculated incorporating weighted average returns on debt and equity from market participants. Therefore, changes in the market, which are beyond the control of the Company, may have an effect on future calculations of estimated fair value. As of June 30, ~~2022~~ **2023** , there is no goodwill allocated to the Infrastructure reporting unit. As of June 30, ~~2022~~ **2023** , $ ~~264~~ **269** . ~~2~~ **6** million of goodwill was allocated to the Metal Cutting reporting unit. We completed an annual quantitative test of goodwill impairment and determined that the fair value of the reporting unit substantially exceeded the carrying value and, therefore, no impairment was recorded during ~~2022~~ **2023** . Further, an indefinite- lived trademark intangible asset of $ 10. ~~4~~ **8** million in the Metal Cutting reporting unit had a fair value that ~~exceeded~~ **approximated** its carrying value as of the date of the annual impairment test and, therefore, no impairment was recorded during ~~2022~~ **2023** . To determine fair value, we assumed revenue growth rates inclusive of macroeconomic uncertainties and a residual period growth rate of 3 percent. We assumed a royalty rate of 1 percent, and the future period cash flows were discounted at 20 **. 5** percent per annum. 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 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 affect the estimated fair values of the Metal Cutting reporting unit and of the indefinite- lived trademark may include such items as: (i) a decrease in expected future cash flows, specifically, a decrease in sales volume driven by a prolonged weakness in customer demand or other pressures ~~, including those related to the COVID- 19 pandemic~~

~~and the broader economic effects from Russia' s conflict in Ukraine,~~ adversely affecting our long- term sales trends and (ii) inability to achieve the sales from our strategic growth initiatives. Pension and Other Postretirement Benefits We sponsor pension and other postretirement benefit plans for certain employees and retirees. Accounting for the cost of these plans requires the estimation of the cost of the benefits to be provided well into the future and attributing that cost over either the expected work life of employees or over the average life of participants participating in these plans, depending on plan status and on participant population. This estimation requires our judgment about the discount rate used to determine these obligations, expected return on plan assets, rate of future compensation increases, rate of future health care costs, withdrawal and mortality rates and participant retirement age. Differences between our estimates and actual results may significantly affect the cost of our obligations under these plans. In the valuation of our pension and other postretirement benefit liabilities, management utilizes various assumptions. Our discount rates are derived by identifying a theoretical settlement portfolio of high quality corporate bonds sufficient to provide for a plan' s projected benefit payments. This rate can fluctuate based on changes in the corporate bond yields. At June 30, ~~2022~~ **2023** , a hypothetical 25 basis point increase or decrease in our discount rates would be immaterial to our pre- tax income. The long- term rate of return on plan assets is estimated based on an evaluation of historical returns for each asset category held by the plans, coupled with the current and short- term mix of the investment portfolio. The historical returns are adjusted for expected future market and economic changes. This return will fluctuate based on actual market returns and other economic factors. The rate of future health care cost increases is based on historical claims and enrollment information projected over the next fiscal year and adjusted for administrative charges. ~~This rate is expected to decrease until 2027.~~ At June 30, ~~2022~~ **2023** , a hypothetical 1 percent increase or decrease in our health care cost trend rates would be immaterial to our pre- tax income. Future compensation rates, withdrawal rates and participant retirement age are determined based on historical information. These assumptions are not expected to significantly change. Mortality rates are determined based on a review of published mortality tables. We expect to contribute approximately $ ~~8~~ **9. 3** million and $ **1.** 1 million to our pension and other postretirement benefit plans, respectively, in ~~2023~~ **2024** . Expected pension contributions in ~~2023~~ **2024** are primarily for international plans. Allowance for Doubtful Accounts We record allowances for estimated losses resulting from the inability of our customers to make required payments. We assess the creditworthiness of our customers based on multiple sources of information and analyze additional factors such as our historical bad debt experience, industry concentrations of credit risk, current economic trends, changes in customer payment terms and forward- looking information. This assessment requires significant judgment. If the financial condition of our customers was to deteriorate, additional allowances may be required, resulting in future operating losses that are not included in the allowance for doubtful accounts at June 30, ~~2022~~ **2023** . Inventories We use the last- in, first- out method for determining the cost of a significant portion of our U. S. inventories, and they are stated at the lower of cost or market. The cost of the remainder of our inventories is measured using approximate costs determined on the first- in, first- out basis or using the average cost method, and are stated at the lower of cost or net realizable value. When market conditions indicate an excess of carrying costs over market value, a lower of cost or net realizable value provision or a lower of cost or market provision, as applicable, is recorded. Once inventory is determined to be excess or obsolete, a new cost basis is established that is not subsequently written back up in future periods. Income Taxes The Company' s provision for income taxes is calculated based on income and statutory tax rates in the various jurisdictions in which the Company operates and requires the use of management' s estimates and judgments. Management judgment is required in determining the Company' s worldwide provision for income taxes and recording the related assets and liabilities, including accruals for unrecognized tax benefits and assessing the need for valuation allowances on deferred tax assets. Realization of our deferred tax assets is primarily dependent on future taxable income, the timing and amount of which are uncertain. A valuation allowance is recognized if it is " more likely than not " that some or all of a deferred tax asset will not be realized. As of June 30, ~~2022~~ **2023** , the deferred tax assets net of valuation allowances relate primarily to net operating loss and other carryforwards, pension benefits, accrued employee benefits and inventory. In the event that we were to determine that we would not be able to realize our deferred tax assets in the future, an increase in the valuation allowance would be required. In the event we were to determine that we are able to use our deferred tax assets for which a valuation allowance is recorded, a decrease in the valuation allowance would be required. ~~Swiss tax reform~~ Legislation was effectively enacted during the December quarter of fiscal 2020 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 multi- 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 December quarter of fiscal 2020. We ~~consider~~ **considered** the deferred tax asset from Swiss tax reform to be an estimate based on our current interpretation of the legislation, which ~~is~~ **was** subject to change based on further legislative guidance, review with the Swiss federal and cantonal authorities and modifications to the underlying valuation. ~~We anticipate finalization~~ **During the December quarter** of **the current year, we adjusted the calculation of the transitional provisions of Swiss tax reform after a review and receipt of a ruling from the Swiss federal and cantonal authorities and recorded a $ 2. 2 million tax benefit to adjust** the deferred tax asset ~~within the next six months~~ **and income tax liabilities related to fiscal years 2021 and 2022** . NEW ACCOUNTING STANDARDS The Company did not adopt any new accounting standards during ~~2022~~ **2023** that have had or are expected to have a material impact on the Company' s consolidated financial statements or disclosures. RECONCILIATION OF FINANCIAL MEASURES NOT DEFINED BY U. S. GAAP In accordance with SEC rules, we are providing descriptions of the non- GAAP financial measures included in this Annual Report and reconciliations to the most closely related GAAP financial measures. We believe that these measures provide useful perspective on underlying business trends and results and 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 and may, therefore, also be useful to investors as they are 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 Organic sales growth is a non- GAAP financial measure of sales growth (which is the most directly comparable GAAP measure) excluding the effects 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 on a consistent basis. We report organic sales growth 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 growth (decline) (which is the most directly comparable GAAP measure) by end market excluding the effects of acquisitions, divestitures and foreign currency exchange from year- over- year comparisons. We note that, unlike organic sales growth, constant currency end market sales growth (decline) does not exclude the effect of business days. We believe this measure provides investors with a supplemental understanding of underlying end market trends by providing end market sales decline on a consistent basis. We report constant currency end market sales growth (decline) at the consolidated and segment levels. 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 effects of acquisitions, divestitures and foreign currency exchange from year- over- year comparisons. We note that, unlike organic sales growth ~~(decline)~~, constant currency regional sales growth ~~(decline)~~ does not exclude the effect 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. We report constant currency regional sales growth ~~(decline)~~ at the consolidated and segment levels. Reconciliations of organic sales growth to sales growth are as follows: Year ended June 30, ~~2022Metal~~ **2023Metal** CuttingInfrastructureTotalOrganic sales ~~growth9~~ **growth10** % ~~14~~ **7** % ~~11~~ **9** % Foreign currency exchange effect (6) (~~2~~ **6) (4) (5) Business days effect (9) (1**) — (~~2~~ **1**) Sales ~~growth7~~ **growth3** % ~~14~~ **3** % ~~9~~ **3** % Reconciliations of constant currency end market sales growth (decline) to end market sales growth (decline), are as follows: Metal CuttingYear ended June 30, ~~2022General engineeringTransportationAerospaceEnergyConstant~~ **2023EnergyGeneral engineeringAerospace & DefenseTransportationConstant currency end market sales growth4 % 8 % 22 % 8 % Foreign currency exchange effect (6) (5) (5) (5) (7) End market sales (decline) growth (7) (1) % 3 % 17 % 1 % InfrastructureYear ended June 30, 2023EnergyGeneral engineeringAerospace & DefenseEarthworksConstant** currency end market sales growth (decline) **14** ~~13 % (1) % 23~~ % 6 **% (6) % 5** % Foreign currency exchange effect (6) **— (4)** (3) (**5** ~~2) (2) (1~~) End market sales growth (decline) (7) ~~10~~ **14** % **2** ~~(3)~~ % ~~21~~ **(9)** % ~~5~~ **—** % ~~InfrastructureYear~~ **TotalYear** ended June 30, ~~2022EnergyEarthworksGeneral engineeringConstant~~ **2023EnergyGeneral engineeringAerospace & DefenseTransportationEarthworksConstant** currency end market sales ~~growth27~~ **growth11** % ~~9~~ **7** % ~~10~~ **14 % 8 % 5** % Foreign currency exchange effect (6) ~~— 1~~ (~~1~~ **2) (5) (4) (7) (5**) End market sales growth (7) ~~27~~ **9 % 2** % 10 % ~~9~~ **1** % **—** ~~TotalYear ended June 30, 2022General engineeringTransportationAerospaceEnergyEarthworksConstant currency end market sales growth (decline) 12 % (1) % 23 % 20 % 9 % Foreign currency exchange effect (6) (2) (2) (2) (1) 1End market sales growth (7) 10 % (3) % 21 % 19 % 10~~ % Reconciliations of constant currency regional sales growth (decline) to reported regional sales growth (decline), are as follows: Year Ended June 30, ~~2022AmericasEMEAAsia~~ **2023AmericasEMEAAsia** PacificMetal CuttingConstant currency regional sales ~~growth (decline) 14 % 10 % (2) % Foreign currency exchange effect (6) — (6) — Regional sales growth (decline) (8) 14 % 4 % (2) % InfrastructureConstant currency regional sales growth18~~ **growth12** ~~% 10 % 7 % Foreign currency exchange effect (6) — (3) 2Regional sales growth (8) 18 % 7 % 9 % TotalConstant currency regional sales growth16~~ % 10 % 2 % Foreign currency exchange effect (6) — (~~5~~ **10**) ~~—~~ **(8)** Regional sales growth (**decline) (** 8) ~~16~~ **12 % — % (6) % InfrastructureConstant currency regional sales growth5 % 15** % 5 % **Foreign currency exchange effect (6) (1) (11) (7) Regional sales growth (decline) (8) 4 % 4 % (** 2 **) % TotalConstant currency regional sales growth9 % 11 % 3 % Foreign currency exchange effect (6) (1) (10) (7) Regional sales growth (decline) (8) 8 % 1 % (4)** % (6) Foreign currency exchange effect is calculated by dividing the difference between current period sales and current period sales at prior period foreign exchange rates by prior period sales. (7) Aggregate sales for all end markets sum to the sales amount presented on Kennametal' s consolidated financial statements. (8) Aggregate sales for all regions sum to the sales amount presented on Kennametal' s consolidated financial statements **. (9) Business days effect 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** . ITEM 7A- QUANTITATIVE AND QUALITATIVE DISCLOSURES ABOUT MARKET RISK MARKET RISK We are exposed to certain market risks arising from transactions that are entered into in the normal course of business. As part of our financial risk management program, we use certain derivative financial instruments to manage these risks. We do not enter into derivative transactions for speculative purposes and, therefore, hold no derivative instruments for trading purposes. We may use derivative financial instruments to provide predictability to the effects of changes in foreign exchange rates on our consolidated results. Our objective in managing foreign exchange exposures with derivative instruments is to reduce volatility in cash flow, allowing us to focus more of our attention on business operations. With respect to interest rate management, we **have** ~~use~~ **used** forward- starting interest rate swaps to effectively hedge the variability in future benchmark interest payments attributable to changes in interest rates on forecasted issuances of fixed- rate debt. See Notes 2 and 17 of our consolidated financial statements set forth in Item 8 of this Annual Report. We are exposed to counterparty credit risk for nonperformance of derivative contracts and, in the event of nonperformance, to market risk for changes in interest and currency exchange rates, as well as settlement risk. We manage exposure to counterparty credit risk through credit standards, diversification of counterparties and procedures to monitor concentrations of credit risk. We do not anticipate nonperformance by any of the counterparties. Included below is a sensitivity analysis that is based upon a hypothetical 10 percent change on the effective interest rates under our current borrowing arrangements as of June 30, ~~2022~~ **2023** . We compared our borrowing arrangements in effect at June 30, ~~2022~~ **2023** to the hypothetical interest rates in the sensitivity analysis to determine the effect on interest expense, pre- tax income and accumulated other comprehensive loss. DEBT, REVOLVING AND OTHER LINES OF CREDIT AND NOTES PAYABLE At June 30, **2023 and** 2022 ~~and 2021~~ , we had $ **595. 9 million and $** 615. 6 ~~million and $ 600. 5~~ million, respectively, of outstanding debt, including revolving and other lines of credit and notes payable. The effective interest rate was 3. 7 percent as of June 30, **2023 and** 2022 ~~and 2021~~ **, respectively** . A hypothetical change of 10 percent in market interest rates from June 30, ~~2022~~ **2023** levels would be immaterial. CURRENCY EXCHANGE RATE FLUCTUATIONS Currency exchange rate fluctuations decreased diluted earnings per share by $ 0. ~~10~~ **19** in ~~2022~~ **2023** and decreased diluted earnings per share by $ 0. ~~03~~ **10** in ~~2021~~ **2022** . Currency exchange rate fluctuations may have a material effect on future earnings in the short term and long term. ITEM 8- FINANCIAL STATEMENTS AND SUPPLEMENTARY DATA MANAGEMENT' S REPORT ON INTERNAL CONTROL OVER FINANCIAL REPORTING Management is responsible for establishing and maintaining adequate internal control over financial reporting. Management has conducted an assessment of the Company' s internal controls over financial reporting as of June 30, ~~2022~~ **2023** using the criteria in Internal Control – Integrated Framework (2013), issued by the Committee of Sponsoring Organizations of the Treadway Commission (COSO). The Company' s internal control over financial reporting is designed to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with accounting principles generally accepted in the United States of America. Because of its inherent limitations, internal control over financial reporting may not prevent or detect misstatements. Also, projections of any evaluation of effectiveness to future periods are subject to the risk that controls may become inadequate because of changes in conditions, or that the degree of compliance with the policies or procedures may deteriorate. Based on its assessment, management has concluded that the Company maintained effective internal control over financial reporting as of June 30, ~~2022~~ **2023** , based on the criteria in Internal Control – Integrated Framework (2013) issued by the COSO. The effectiveness of the Company' s internal control over financial reporting as of June 30, ~~2022~~ **2023** has been audited by PricewaterhouseCoopers LLP, an independent registered public accounting firm, as stated in their report which is included in this Annual Report on Form 10- K. Report of Independent Registered Public Accounting Firm To the Board of Directors and Shareholders of Kennametal Inc. Opinions on the Financial Statements and Internal Control over Financial Reporting We have audited the accompanying consolidated balance sheets of Kennametal Inc. and its subsidiaries (the " Company ") as of June 30, **2023 and** 2022 ~~and 2021~~ , and the related consolidated statements of income, of comprehensive income, of shareholders' equity and of cash flows for each of the three years in the period ended June 30, ~~2022~~ **2023** , including the related notes and financial statement schedule listed in the index appearing under Item 15 (a) (2) (collectively referred to as the " consolidated financial statements "). We also have audited the Company' s internal control over financial reporting as of June 30, ~~2022~~ **2023** , based on criteria established in Internal Control- Integrated Framework (2013) issued by the Committee of Sponsoring Organizations of the Treadway Commission (COSO). In our opinion, the consolidated financial statements referred to above present fairly, in all material respects, the financial position of the Company as of June 30, **2023 and** 2022 ~~and 2021~~ , and the results of its operations and its cash flows for each of the three years in the period ended June 30, ~~2022~~ **2023** in conformity with accounting principles generally accepted in the United States of America. Also in our opinion, the Company maintained, in all material respects, effective internal control over financial reporting as of June 30, ~~2022~~ **2023** , based on criteria established in Internal Control- Integrated Framework (2013) issued by the COSO. Basis for Opinions The Company' s management is responsible for these consolidated financial statements, for maintaining effective internal control over financial reporting, and for its assessment of the effectiveness of internal control over financial reporting, included in ~~the accompanying~~ Management' s Report on Internal Control over Financial Reporting **appearing under Item 8** . Our responsibility is to express opinions on the Company' s consolidated financial statements and on the Company' s internal control over financial reporting based on our audits. We are a public accounting firm registered with the Public Company Accounting Oversight Board (United States) (PCAOB) and are required to be independent with respect to the Company in accordance with the U. S. federal securities laws and the applicable rules and regulations of the Securities and Exchange Commission and the PCAOB. We conducted our audits in accordance with the standards of the PCAOB. Those standards require that we plan and perform the audits to obtain reasonable assurance about whether the consolidated financial statements are free of material misstatement, whether due to error or fraud, and whether effective internal control over financial reporting was maintained in all material respects. Our audits of the consolidated financial statements included performing procedures to assess the risks of material misstatement of the consolidated financial statements, whether due to error or fraud, and performing procedures that respond to those risks. Such procedures included examining, on a test basis, evidence regarding the amounts and disclosures in the consolidated financial statements. Our audits also included evaluating the accounting principles used and significant estimates made by management, as well as evaluating the overall presentation of the consolidated financial statements. Our audit of internal control over financial reporting included obtaining an understanding of internal control over financial reporting, assessing the risk that a material weakness exists, and testing and evaluating the design and operating effectiveness of internal control based on the assessed risk. Our audits also included performing such other procedures as we considered necessary in the circumstances. We believe that our audits provide a reasonable basis for our opinions. Definition and Limitations of Internal Control over Financial Reporting A company' s internal control over financial reporting is a process designed to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with generally accepted accounting principles. A company' s internal control over financial reporting includes those policies and procedures that (i) pertain to the maintenance of records that, in reasonable detail, accurately and fairly reflect the transactions and dispositions of the assets of the company; (ii) provide reasonable assurance that transactions are recorded as necessary to permit preparation of financial statements in accordance with generally accepted accounting principles, and that receipts and expenditures of the company are being made only in accordance with authorizations of management and directors of the company; and (iii) provide reasonable assurance regarding prevention or timely detection of unauthorized acquisition, use, or disposition of the company' s assets that could have a material effect on the financial statements. Critical Audit Matters The critical audit matter communicated below is a matter arising from the current period audit of the consolidated financial statements that was communicated or required to be communicated to the audit committee and that (i) relates to accounts or disclosures that are material to the consolidated financial statements and (ii) involved our especially challenging, subjective, or complex judgments. The communication of critical audit matters does not alter in any way our opinion on the consolidated financial statements, taken as a whole, and we are not, by communicating the critical audit matter below, providing a separate opinion on the critical audit matter or on the accounts or disclosures to which it relates. Provision for Income Taxes As described in Notes 2 and 13 to the consolidated financial statements, the Company recorded a provision for income taxes of $ ~~56~~ **36** . ~~5~~ **3** million for the year ended June 30, ~~2022~~ **2023** . The Company' s provision for income taxes is calculated based on income and statutory tax rates in the various jurisdictions in which the Company operates and requires the use of management' s estimates and judgments. Management judgment is required in determining the Company' s worldwide provision for income taxes and recording the related assets and liabilities, including accruals for unrecognized tax benefits and assessing the need for valuation allowances on deferred tax assets. The principal considerations for our determination that performing procedures relating to the provision for income taxes is a critical audit matter are (i) a high degree of auditor effort in performing procedures and evaluating management' s provision for income taxes and the related assets and liabilities, including the accruals for unrecognized tax benefits, as well as management' s assessment of the need for valuation allowances on deferred tax assets and (ii) the audit effort involved the use of professionals with specialized skill and knowledge. Addressing the matter involved performing procedures and evaluating audit evidence in connection with forming our overall opinion on the consolidated financial statements. These procedures included testing the effectiveness of controls relating to the provision for income taxes, including controls over accruals for unrecognized tax benefits and valuation allowances on deferred tax assets. These procedures also included, among others (i) testing the accuracy of the provision for income taxes, which included the effective tax rate reconciliation and permanent and temporary differences, (ii) evaluating whether the data utilized in the calculations of the provision for income taxes and deferred tax assets and liabilities were appropriate and consistent with evidence obtained in other areas of the audit, (iii) evaluating the identification of accruals for unrecognized tax benefits and the reasonableness of the more likely than not determination in consideration of court decisions, legislative actions, statutes of limitations, and developments in tax examinations by jurisdiction, and (iv) evaluating the reasonableness of management' s assessment of the realizability of its deferred tax assets based on expectations of the ability to utilize its tax attributes through testing of historical and estimated future taxable income. Professionals with specialized skill and knowledge were used to assist in evaluating the reasonableness of management' s judgments and estimates related to the application of foreign and domestic tax laws and regulations. / s / PricewaterhouseCoopers LLP August ~~10~~ **9** , ~~2022~~ **2023** We have served as the Company' s auditor since 2002. CONSOLIDATED STATEMENTS OF INCOME Year ended June 30 (in thousands, except per share data) ~~202220212020Sales~~ ---- **20232022 2021Sales** $ 2, **078, 184 $ 2,** 012, 456 $ 1, 841, 441 ~~$ 1, 885, 305~~ Cost of goods sold1, **431, 745 1,** 364, 479 1, 288, 963 ~~1, 355, 834~~ Gross ~~profit647~~ **profit646 , 439 647** , 977 552, 478 ~~529, 471~~ Operating ~~expense419~~ **expense437 , 292 419** , 093 407, 246 ~~388, 436~~ Restructuring **and other** ~~(benefits)~~ charges **, net** ~~and asset impairment charges~~ (Note 16) **4, 106** (1, 243) 29, 061 ~~68, 228 Goodwill and other intangible assets impairments (Note 8) — — 30, 227 (~~ Gain ~~) loss~~ on divestiture (Note 4) **—** (1, 001) — ~~6, 517~~ Amortization of intangibles12 **, 624 12** , 988 14, 003 ~~13, 811~~ Operating ~~income218~~ -- **income192 , 417 218** , 140 102, 168 ~~22, 252~~ Interest ~~expense25~~ **expense28 , 496 25** , 914 46, 375 ~~35, 154~~ Other **expense (** income **)** , ~~net~~ **net4 , 300** (14, 507) (8, 867 ~~) (14, 862~~) Income before income ~~taxes206~~ **taxes159, 621 206** , 733 64, 660 ~~1, 960~~ Provision for income taxes (Note 13) **36, 255** 56, 532 6, 243 ~~7, 007~~ Net ~~income~~ **income123 , 366** ~~(loss)~~ 150, 201 58, 417 ~~(5, 047)~~ Less: Net income attributable to noncontrolling ~~interests5~~ **interests4 , 907 5** , 578 3, 983 ~~614~~ Net income ~~(loss)~~ attributable to Kennametal $ **118, 459 $** 144, 623 $ 54, 434 ~~$ (5, 661)~~ PER SHARE DATA ATTRIBUTABLE TO KENNAMETAL SHAREHOLDERSBasic earnings ~~(loss)~~ per share $ 1. **47 $ 1.** 74 $ 0. 65 ~~$ (0. 07)~~ Diluted earnings ~~(loss)~~ per share $ 1. **46 $ 1.** 72 $ 0. 65 ~~$ (0. 07)~~ Basic weighted average shares ~~outstanding83~~ **outstanding80 , 803 83** , 252 83, 602 ~~83, 047~~ Diluted weighted average shares ~~outstanding83~~ **outstanding81 , 402 83** , 944 84, 333 ~~83, 047~~ CONSOLIDATED STATEMENTS OF COMPREHENSIVE INCOME Year ended June 30 (in thousands) ~~202220212020Net~~ **20232022 2021Net** ~~income~~ **income123 , 366** ~~(loss)~~ $ 150, 201 $ 58, 417 ~~$ (5, 047)~~ Other comprehensive (loss) income, net of taxUnrealized gain ~~(loss)~~ on derivatives designated and qualified as cash flow hedges — **—** 9, 255 ~~(582)~~ Reclassification of unrealized ~~(~~ gain ~~) loss~~ on expired derivatives designated and qualified as cash flow hedges (770) (**770) (** 401) ~~679~~ Unrecognized net pension and other postretirement benefit plans (loss) gain (**10, 402) (** 4, 163) 9, 107 ~~(18, 299)~~ Reclassification of net pension and other postretirement benefit plans ~~loss8~~ **loss3 , 373 8** , 929 10, 355 ~~7, 935~~ Foreign currency translation ~~adjustments~~ **adjustments6 , 815** (91, 185) 60, 528 ~~(35, 891)~~ Total other comprehensive (loss) income, net of tax (**984) (** 87, 189) 88, 844 ~~(46, 158)~~ Total comprehensive ~~income~~ **income122 , 382** ~~(loss)~~ 63, 012 147, 261 ~~(51, 205)~~ Less: comprehensive income ~~(loss)~~ attributable to noncontrolling ~~interests2~~ **interests4 , 315 2** , 013 5, 910 ~~(1, 846)~~ Comprehensive income ~~(loss)~~ attributable to Kennametal Shareholders $ **118, 067 $** 60, 999 $ 141, 351 ~~$ (49, 359)~~ The accompanying notes are an integral part of these consolidated financial statements. CONSOLIDATED BALANCE SHEETS As of June 30 (in thousands, except per share data) ~~20222021ASSETSCurrent~~ ---- **20232022ASSETSCurrent** assets: Cash and cash equivalents $ **106, 021 $** 85, 586 ~~$ 154, 047~~ Accounts receivable, less allowance for doubtful accounts of $ **8, 759 and $** 9, 422 ~~and $ 9, 734 respectively295~~ **respectively307 , 313 295** , 346 ~~302, 945~~ Inventories (Note 7) **557, 630** 570, 836 ~~476, 345~~ Other current ~~assets72~~ **assets55 , 825 72** , 940 ~~71, 470~~ Total current assets1, **026, 789 1,** 024, 708 ~~1, 004, 807~~ Property, plant and equipment: Land and ~~buildings410~~ **buildings416 , 291 410** , 039 ~~413, 865~~ Machinery and equipment1, **951, 535 1,** 904, 872 ~~1, 959, 176~~ Less accumulated depreciation (1, **398, 758) (1,** 312, 870) ~~(~~ **Property, plant and equipment, net969, 068** 1, ~~317, 906) Property, plant and equipment, net1,~~ 002, 041 ~~1, 055, 135~~ Other assets: Goodwill (Note 8) **269, 551** 264, 230 ~~277,~~

~~615~~ Other intangible assets, less accumulated amortization of $ **173, 346 and $** 160, 699 ~~and $ 153, 972~~ , respectively (Note 8) **93, 164** 105, 725 ~~120, 041~~ Operating lease right- of- use assets (Note 9) **43, 036** 47, 206 ~~50, 341~~ Deferred income taxes (Note 13) **65, 519** 54, 602 ~~58, 742~~ Long- term prepaid pension benefit (Note 14) **70, 567** 66, 433 ~~89, 233 Other8~~ **Other9 , 540 8** , 579 ~~9, 847~~ Total other ~~assets546~~ **assets551 , 377 546** , 775 ~~605, 819~~ Total assets $ 2, **547, 234 $ 2,** 573, 524 ~~$ 2, 665, 761~~ LIABILITIESCurrent liabilities: Revolving and other lines of credit and notes payable (Note 12) $ **689 $** 21, 186 ~~$ 8, 365~~ Current operating lease liabilities (Note 9) **11, 379** 12, 387 ~~14, 220~~ Accounts ~~payable227~~ **payable203 , 341 227** , 887 ~~177, 659~~ Accrued income ~~taxes29~~ **taxes25 , 143 29** , 476 ~~18, 059~~ Accrued vacation ~~pay15~~ **pay14 , 501 15** , 340 ~~17, 100~~ Accrued ~~payroll40~~ **payroll41 , 134 40** , 970 ~~44, 389~~ Other current liabilities (Note 10) **137, 788** 138, 403 ~~157, 602~~ Total current ~~liabilities485~~ **liabilities433 , 975 485** , 649 ~~437, 394~~ Long- term debt, less current maturities (Note 11) **595, 172** 594, 364 ~~592, 108~~ Operating lease liabilities (Note 9) **32, 178** 35, 342 ~~36, 800~~ Deferred income taxes (Note 13) 32, **062 32,** 185 ~~23, 710~~ Accrued postretirement benefits (Note 14) **6, 800** 7, 924 ~~10, 131~~ Accrued pension benefits (Note 14) **108, 736** 105, 071 ~~160, 936~~ Accrued income ~~taxes6~~ **taxes1 , 446 6** , 369 ~~4, 246~~ Other ~~liabilities15~~ **liabilities22 , 697 15** , 373 ~~32, 231~~ Total liabilities1, **233, 066 1,** 282, 277 ~~1, 297, 556~~ Commitments and contingencies (Note 20) EQUITY Kennametal Shareholders' Equity: Preferred stock, no par value; 5, 000 shares authorized; none issued — — Capital stock, $ 1. 25 par value; 120, 000 shares authorized; **79, 835 and** 81, 337 ~~and 83, 614~~ shares issued, ~~respectively101~~ **respectively99 , 794 101** , 671 ~~104, 518~~ Additional paid- in ~~capital494~~ **capital465 , 406 494** , 202 ~~562, 820~~ Retained earnings1, **124, 590 1,** 070, 655 ~~992, 597~~ Accumulated other comprehensive loss (Note 15) (**414, 343) (** 413, 951 ~~) (330, 327~~) Total Kennametal Shareholders' Equity1, **275, 447 1,** 252, 577 ~~1, 329, 608~~ Noncontrolling interests38, **721 38,** 670 ~~38, 597~~ Total equity1, **314, 168 1,** 291, 247 ~~1, 368, 205~~ Total liabilities and equity $ 2, **547, 234 $ 2,** 573, 524 ~~$ 2, 665, 761~~ CONSOLIDATED STATEMENTS OF CASH FLOWS Year ended June 30 (in thousands) ~~202220212020OPERATING~~ ---- **202320222021OPERATING** ACTIVITIESNet income ~~(loss)~~ **$ 123, 366** $ 150, 201 $ 58, 417 ~~$ (5, 047)~~ Adjustments to reconcile to cash from operations: ~~Depreciation118~~ - **Depreciation121 , 401 118** , 690 112, 485 ~~106, 049~~ Amortization12 **, 624 12** , 988 14, 003 ~~13, 811~~ Stock- based compensation ~~expense20~~ **expense24 , 657 20** , 985 24, 799 **Restructuring and other charges, net (Note** 16 ~~, 048 Restructuring (benefits~~) **4,** ~~charges and asset impairment charges (Notes 8 and 16~~ **106** ~~)~~ (753) 5, 664 ~~34, 175~~ Deferred income ~~tax~~ **taxes** ~~provision~~ (~~benefit~~ **9, 219**) 11, 292 (21, 189) ~~(23, 899) (~~ Gain ~~) loss~~ on divestiture (Note 4) **—** (1, 001) — ~~6, 517~~ Debt refinancing charge (Note 11) — **—** 9, 071 ~~— Other~~ **Other7 , 079** (2, 243) 6, 754 ~~2, 613~~ Changes in certain assets and liabilities: Accounts receivable (**11, 543) (** 14, 432) (53, 324) ~~128, 715 Inventories~~ **Inventories17 , 582** (127, 409) 61, 270 ~~28, 185~~ Accounts payable and accrued ~~liabilities31~~ -- **liabilities (32, 514) 31** , 997 46, 775 ~~(46, 315)~~ Accrued income ~~taxes10~~ **taxes852 10** , 238 (18, 273 ~~) (8, 645~~) Accrued pension and postretirement benefits (**10, 103) (** 24, 216) (31, 585) **Other9, 657** (**4, 893)** 20, ~~022) Other (4, 893) 20,~~ 815 ~~(8, 447)~~ Net cash flow provided by operating ~~activities181~~ **activities257 , 945 181** , 444 235, 682 ~~223, 738~~ INVESTING ACTIVITIESPurchases of property, plant and equipment (**94, 385) (** 96, 924) (127, 302) ~~(244, 151)~~ Disposals of property, plant and ~~equipment924~~ **equipment5 , 029 924** 4, 373 ~~2, 622~~ Proceeds from divestiture (Note 4) **—** 1, 001 — ~~23, 950 Other60~~ - **Other126 60** (47 ~~) (757~~) Net cash flow used for investing activities (**89, 230) (** 94, 939) (122, 976 ~~) (218, 336~~) FINANCING ACTIVITIESNet (decrease) increase in notes payable (**1, 270) (** 6, 067) 605 ~~(175)~~ Net **(decrease)** increase ~~(decrease)~~ in revolving and other lines of ~~credit19~~ -- **credit (19** , 000 **) 19, 000** (500, 000) ~~500, 364~~ Term debt borrowings — **—** 297, 867 ~~—~~ Term debt repayments — **—** (300, 000) ~~—~~ Make- whole premium on early extinguishment of debt (Note 11) — **—** (9, 639) ~~—~~ Settlement of interest rate swap agreement (Note 6) — **—** 10, 198 ~~—~~ Purchase of capital stock (**49, 290) (** 85, 542) (197 ~~) (209~~) The effect of employee benefit and stock plans and dividend reinvestment (6, **042) (6,** 909) 821 ~~(5, 464)~~ Cash dividends paid to Shareholders (**64, 524) (** 66, 565) (66, 735) ~~(66, 303)~~ Other (**2, 982) (** 4, 652) (7, 165 ~~) (2, 762~~) Net cash flow ~~(~~ used for ~~) provided by~~ financing activities (**143, 108) (** 150, 735) (574, 245) ~~425, 451~~ Effect of exchange rate changes on cash and cash equivalents (**5, 172) (** 4, 231) 8, 902 ~~(6, 184)~~ CASH AND CASH EQUIVALENTSNet **increase** (decrease) ~~increase~~ in cash **and cash equivalents20, 435 (68, 461) (452, 637) Cash** and cash equivalents ~~(~~ **, beginning of year85, 586 154, 047 606,** ~~68~~ **684** ~~, 461) (452, 637) 424, 669~~ Cash and cash equivalents, ~~beginning~~ **end** of ~~year154~~ **year $ 106, 021 $ 85, 586 $ 154** , 047 ~~606, 684 182, 015 Cash and cash equivalents, end of year $ 85, 586 $ 154, 047 $ 606, 684~~ CONSOLIDATED STATEMENTS OF SHAREHOLDERS' EQUITY ~~202220212020Year~~ ---- **202320222021Year** ended June 30 (in thousands) SharesAmountSharesAmountSharesAmountCAPITAL STOCKBalance at beginning of ~~year83~~ **year81 , 337 $ 101, 671 83** , 614 $ 104, 518 82, 923 $ 103, 654 ~~82, 421 $ 103, 026~~ Dividend ~~reinvestment6~~ **reinvestment7 9 6** 7 6 7 ~~7 9~~ Capital stock issued under employee benefit and stock ~~plans444~~ - **plans494 618 444** 554 691 864 ~~502 628~~ Purchase of capital stock (2, **003) (2, 504) (2,** 727) (3, 408) (6) (7 ~~) (7) (9~~) Balance at end of ~~year81~~ **year79, 835 99, 794 81** , 337 101, 671 83, 614 104, 518 ~~82, 923 103, 654~~ ADDITIONAL PAID- IN CAPITALBalance at beginning of ~~year562~~ **year494, 202 562** , 820 538, 575 ~~528, 827~~ Dividend ~~reinvestment182~~ - **reinvestment178 182** 191 ~~201~~ Capital stock issued under employee benefit and stock ~~plans13~~ **plans17 , 812 13** , 334 24, 556 ~~9, 748~~ Purchase of noncontrolling interests — **—** (311) ~~—~~ Purchase of capital stock (**46, 786) (** 82, 134) (191 ~~) (201~~) Balance at end of year **465, 406** 494, 202 562, 820 ~~538, 575~~ RETAINED EARNINGSBalance at beginning of ~~year992~~ **year1, 070, 655 992** , 597 1, 004, 898 ~~1, 076, 862~~ Net income ~~(loss)~~ attributable to ~~Kennametal144~~ **Kennametal118 , 459 144** , 623 54, 434 ~~(5, 661)~~ Cash dividends ($ 0. 80 per share in **2023,** 2022 ~~,~~ **and** 2021 ~~and 2020~~ , respectively) (**64, 524) (** 66, 565) (66, 735 ~~) (66, 303~~) Balance at end of year 1, **124, 590 1,** 070, 655 992, 597 ~~1, 004, 898~~ ACCUMULATED OTHER COMPREHENSIVE LOSSBalance at beginning of year (**413, 951) (** 330, 327) (417, 242 ~~) (373, 543~~) Unrealized gain ~~(loss)~~ on derivatives designated and qualified as cash flow hedges — **—** 9, 255 ~~(582)~~ Reclassification of unrealized ~~(~~ gain ~~) loss~~ on expired derivatives designated and qualified as cash flow hedges (770) (**770) (** 401) ~~679~~ Unrecognized net pension and other postretirement benefit plans (loss) gain (**10, 402) (** 4, 163) 9, 107 ~~(18, 299)~~ Reclassification of net pension and other postretirement benefit plans ~~loss8~~ **loss3 , 373 8** , 929 10, 355 ~~7, 935~~ Foreign currency translation adjustments **7, 407** (87, 620) 58, 599 ~~(33, 432)~~ Other comprehensive (loss) income, net of tax (**392) (** 83, 624) 86, 915 ~~(43, 699)~~ Balance at end of year (**414, 343) (** 413, 951) (330, 327 ~~) (417, 242~~) NONCONTROLLING INTERESTSBalance at beginning of year38, **670 38,** 597 38, 903 ~~39, 532~~ Net ~~income5~~ **income4 , 907 5** , 578 3, 983 ~~614~~ Other comprehensive (loss) income, net of tax (**592) (** 3, 565) 1, 927 ~~(2, 459)~~ Purchase of ~~noncontrolling interests — (1, 319) — Additions to~~ noncontrolling interests — — **(** 1, ~~527~~ **319)** Cash dividends (**4, 264) (** 1, 940) (4, 897 ~~) (311~~) Balance at end of year 38, **721 38,** 670 38, 597 ~~38, 903~~ Total equity, June 30 $ 1, **314, 168 $ 1,** 291, 247 $ 1, 368, 205 ~~$ 1, 268, 788~~ NOTES TO CONSOLIDATED FINANCIAL STATEMENTS NOTE 1 — NATURE OF OPERATIONS With more than 80 years of materials expertise, the Company is a global industrial technology leader, helping customers across the aerospace **and defense** , earthworks, energy, general engineering and transportation end markets 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. Unless otherwise specified, any reference to a " year " is to a fiscal year ended June 30. When used in this Annual Report on Form 10-K, unless the context requires otherwise, the terms " we, " " our " and " us " refer to Kennametal Inc. and its subsidiaries. NOTE 2 — SUMMARY OF SIGNIFICANT ACCOUNTING POLICIES The summary of our significant accounting policies is presented below to assist in evaluating our consolidated financial statements. PRINCIPLES OF CONSOLIDATION The consolidated financial statements include our accounts and those of our subsidiaries in which we have a controlling interest. All intercompany balances and transactions are eliminated. USE OF ESTIMATES IN THE PREPARATION OF FINANCIAL STATEMENTS In preparing our consolidated financial statements in conformity with accounting principles generally accepted in the United States of America (U. S. GAAP), we make judgments and estimates about the amounts reflected in our consolidated financial statements. As part of our financial reporting process, our management collaborates to determine the necessary information on which to base our judgments and develop estimates used to prepare the consolidated financial statements. We use historical experience and available information to make these judgments and estimates. Actual amounts could differ from the estimates reflected in our consolidated financial statements. CASH AND CASH EQUIVALENTS Cash investments having original maturities of three months or less are considered cash equivalents. Cash equivalents principally consist of investments in money market funds and bank deposits at June 30, ~~2022~~ **2023** . ACCOUNTS RECEIVABLE We market our products to a diverse customer base throughout the world. Trade credit is extended based upon periodically updated evaluations of each customer' s ability to satisfy its obligations. We record allowances for estimated losses resulting from the inability of our customers to make required payments. We assess the creditworthiness of our customers based on multiple sources of information and analyze additional factors such as our historical bad debt experience, industry concentrations of credit risk, current economic trends, changes in customer payment terms and forward- looking information. INVENTORIES We use the last- in, first- out (LIFO) method for determining the cost of a significant portion of our United States (U. S.) inventories, and they are stated at the lower of cost or market. The cost of the remainder of our inventories is measured using approximate costs determined on the first- in, first- out basis or using the average cost method, and are stated at the lower of cost or net realizable value. When market conditions indicate an excess of carrying costs over market value, a lower of cost or net realizable value provision or a lower of cost or market provision, as applicable, is recorded. Once inventory is determined to be excess or obsolete, a new cost basis is established that is not subsequently written back up in future periods. PROPERTY, PLANT AND EQUIPMENT Property, plant and equipment are carried at cost. Major improvements are capitalized, while maintenance and repairs are expensed as incurred. Retirements and disposals are removed from cost and accumulated depreciation accounts, with the gain or loss reflected in operating income. Interest related to the construction of major facilities is capitalized as part of the construction costs and is depreciated over the facilities' estimated useful lives. Depreciation for financial reporting purposes is computed using the straight- line method over the following estimated useful lives: building and improvements over 15- 40 years; machinery and equipment over 4- 15 years; furniture and fixtures over 5- 10 years and computer hardware and software over 3- 5 years. LONG- LIVED ASSETS We evaluate the recoverability of property, plant and equipment, operating lease right- of- use (ROU) assets and intangible assets that are amortized, whenever events or changes in circumstances indicate the carrying amount of any such assets may not be fully recoverable. Changes in circumstances include technological advances, changes in our business model, capital structure, economic conditions or operating performance. Our evaluation is performed at the asset group level, based upon, among other things, our assumptions about the estimated future undiscounted cash flows these assets are expected to generate. When the sum of the undiscounted cash flows is less than the carrying value, we will recognize an impairment loss to the extent that carrying value exceeds fair value. We apply our best judgment when performing these evaluations to determine if a triggering event has occurred, the undiscounted cash flows used to assess recoverability and the fair value of the asset group. GOODWILL AND OTHER INTANGIBLE ASSETS Goodwill represents the excess of cost over the fair value of the net assets of acquired companies. Goodwill and other intangible assets with indefinite lives are tested at least annually for impairment. We perform our annual impairment tests during the June quarter in connection with our annual planning process unless there are impairment indicators based on the results of an ongoing cumulative qualitative assessment that warrant a test prior to that quarter. As of June 30, ~~2022~~ **2023** , only the Metal Cutting reporting unit has goodwill recorded. We evaluate the recoverability of goodwill for the reporting unit by comparing the fair value of the reporting unit with its carrying value. The fair value of our reporting unit is 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 the reporting unit. We evaluate the recoverability of indefinite- lived intangible assets using a discounted cash flow analysis based on projected financial information. This evaluation is sensitive to changes in market interest rates and other external factors. The majority of our intangible assets with definite lives are amortized on a straight- line basis, while certain customer- related intangible assets are amortized on an accelerated method. Identifiable assets with finite lives are reviewed for impairment when events or circumstances indicate that the carrying value may not be recoverable. PENSION AND OTHER POSTRETIREMENT BENEFITS We sponsor these types of benefit plans for certain employees and retirees. Accounting for the cost of these plans requires the estimation of the cost of the benefits to be provided well into the future and attributing that cost over either the expected work life of employees or over the average life of participants participating in these plans, depending on plan status and on participant population. This estimation requires our judgment about the discount rate used to determine these obligations, expected return on plan assets, rate of future compensation increases, rate of future health care costs, withdrawal and mortality rates and participant retirement age. Differences between our estimates and actual results may significantly affect the cost of our obligations under these plans. In the valuation of our pension and other postretirement benefit liabilities, management utilizes various assumptions. Discount rates are derived by identifying a theoretical settlement portfolio of high quality corporate bonds sufficient to provide for a plan' s projected benefit payments. This rate can fluctuate based on changes in the corporate bond yields. The rate of future health care costs is based on historical claims and enrollment information projected over the next year and adjusted for administrative charges. ~~This~~ **Future compensation** ~~rate~~ **rates** ~~is~~ **, withdrawal rates and participant retirement age are determined based on historical information. These assumptions are not** expected to ~~decrease until 2027~~ **significantly change. Mortality rates are determined based on a review of published mortality tables** . EARNINGS PER SHARE Basic earnings per share is computed using the weighted average number of shares outstanding during the period, while diluted earnings per share is calculated to reflect the potential dilution that 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: (in thousands) ~~20222021Weighted~~ **202320222021Weighted** - average shares outstanding during ~~period83~~ **period80 , 803 83** , 252 83, 602 Add: Unexercised stock options and unvested restricted stock ~~units692~~ **units599 692** 731 Number of shares on which diluted earnings per share is ~~calculated83~~ **calculated81 , 402 83** , 944 84, 333 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- ~~dilutive260~~ -- **dilutive642 260** 295 ~~In 2020, the effect of unexercised capital stock options, unvested performance awards 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 calculation.~~ REVENUE RECOGNITION The Company' s contracts with customers are comprised of purchase orders, and for larger customers, may also include long- term agreements. We account for a contract when it has approval and commitment from both parties, the rights of the parties and payment terms are identified, the contract has commercial substance and collectability of consideration is probable. These contracts with customers typically relate to the manufacturing of products, which represent single performance obligations that are satisfied when control of the product passes to the customer. The Company considers the timing of right to payment, transfer of risk and rewards, transfer of title, transfer of physical possession and customer acceptance when determining when control transfers to the customer. As a result, revenue is generally recognized at a point in time- either upon shipment or delivery- based on the specific shipping terms in the contract. The shipping terms vary across all businesses and depend on the product, customary local commercial terms and the type of transportation. Shipping and handling activities are accounted for as activities to fulfill a promise to transfer a product to a customer and as such, costs incurred are recorded when the related revenue is recognized. Payment for products is due within a limited time period after shipment or delivery, typically within 30 to 90 calendar days of the respective invoice dates. The Company does not generally offer extended payment terms. SHIPPING AND HANDLING FEES AND COSTS All fees billed to customers for shipping and handling are classified as a component of sales. All costs associated with shipping and handling are classified as a component of cost of goods sold. STOCK- BASED COMPENSATION We recognize stock- based compensation expense for all stock options, restricted stock awards and restricted stock units over the period from the date of grant to the date when the award is no longer contingent on the employee providing additional service (substantive vesting period). Forfeitures are recorded as incurred. We utilize the Black- Scholes valuation method to establish the fair value of all stock option awards. Time vesting stock units are valued at the market value of the stock on the grant date. Performance vesting stock units with a market condition are valued using a Monte Carlo model. Capital stock options are granted to eligible employees at fair market value at the date of grant. Capital stock options are exercisable under specified conditions for up to 10 years from the date of grant. The Kennametal Inc. Stock and Incentive Plan of 2010, as Amended and Restated on October 22, 2013, and further amended on January 27, 2015 (A / R 2010 Plan), by the Kennametal Inc. 2016 Stock and Incentive Plan, and on October 27, 2020 by the Kennametal Inc. 2020 Stock and Incentive Plan (2020 Plan) authorize the issuance of up to 9, 500, 000 shares of the Company' s capital stock plus any shares remaining unissued under the Kennametal Inc. Stock and Incentive Plan of 2002, as amended (2002 Plan). Under the provisions of the A / R 2010 Plan and 2020 Plan, participants may deliver stock, owned by the holder for at least six months, in payment of the option price and receive credit for the fair market value of the shares on the date of delivery. The fair market value of shares delivered during **2023,** 2022 ~~,~~ **and** 2021 ~~and 2020~~ was immaterial. In addition to stock option grants, the A / R 2010 Plan and the 2020 Plan permit the award of stock appreciation rights, performance share awards, performance unit awards, restricted stock awards, restricted unit awards and share awards to directors, officers and key employees. RESEARCH AND DEVELOPMENT COSTS Research and development costs of $ ~~42~~ **43** . 1 million, $ **42. 1 million and $** 39. 5 million ~~and $ 38. 7 million~~ in **2023,** 2022 ~~,~~ **and** 2021 ~~and 2020~~ , respectively, were expensed as incurred. These costs are included in operating expense in the consolidated statements of income. INCOME TAXES The Company' s provision for income taxes is calculated based on income and statutory tax rates in the various jurisdictions in which the Company operates and requires the use of management' s estimates and judgments. Management judgment is required in determining the Company' s worldwide provision for income taxes and recording the related assets and liabilities, including accruals for unrecognized tax benefits and assessing the need for valuation allowances on deferred tax assets. Deferred income taxes are recognized based on the future income tax effects (using enacted tax laws and rates) of differences in the carrying amounts of assets and liabilities for financial reporting and tax purposes. Valuation allowances are recorded to reduce deferred tax assets when it is more likely than not (greater than 50 percent) that a tax benefit will not be realized. In evaluating the need for a valuation allowance, we consider all potential sources of taxable income, including income available in carryback periods, future reversals of taxable temporary differences, projections of taxable income, and income from tax planning strategies, as well as all available positive and negative evidence. Positive evidence includes factors such as a history of profitable operations, and projections of future profitability within the carry forward period, including taxable income from tax planning strategies. Negative evidence includes items such as cumulative losses, projections of future losses, or carryforward periods that are not long enough to allow for the utilization of the deferred tax asset based on existing projections of income. Upon changes in facts and circumstances, we may conclude that deferred tax assets for which no valuation allowance is currently recorded may not be realized, resulting in a charge to establish a valuation allowance. Existing valuation allowances are re- examined under the same standards of positive and negative evidence. If it is determined that it is more likely than not that a deferred tax asset will be realized, the appropriate amount of the valuation allowance, if any, is released. DERIVATIVE INSTRUMENTS AND HEDGING ACTIVITIES As part of our financial risk management program, we use certain derivative financial instruments. We do not enter into derivative transactions for speculative purposes and, therefore, hold no derivative instruments for trading purposes. We use derivative financial instruments to provide predictability to the effects of changes in foreign exchange rates on our consolidated results. Our objective in managing foreign exchange exposures with derivative instruments is to reduce volatility in cash flow, allowing us to focus more of our attention on business operations. With respect to interest rate management, we **have** ~~use~~ **used** forward- starting interest rate swaps to effectively hedge the variability in future benchmark interest payments attributable to changes in interest rates on forecasted issuances of fixed- rate debt. We account for derivative instruments as a hedge of the related asset, liability, firm commitment or anticipated transaction, when the derivative is specifically designated as a hedge of such items. We measure hedge effectiveness by assessing the changes in the fair value or expected future cash flows of the hedged item. Certain currency forward contracts hedging significant cross- border intercompany loans are considered other derivatives and, therefore, do not qualify for hedge accounting. NET INVESTMENT HEDGES We designate financial instruments as net investment hedges from time to time to hedge the foreign exchange exposure of our net investment in foreign currency- based subsidiaries. The remeasurements of these non- derivatives designated as net investment hedges are calculated each period with changes reported in foreign currency translation adjustment within accumulated other comprehensive loss. Such amounts will remain in accumulated other comprehensive loss unless we complete or substantially complete liquidation or disposal of our investment in the underlying foreign operations. CURRENCY TRANSLATION Assets and liabilities of international operations are translated into U. S. dollars using year- end exchange rates, while revenues and expenses are translated at average exchange rates throughout the year. The resulting net translation adjustments are recorded as a component of accumulated other comprehensive loss. The local currency is the functional currency of most of our locations. Losses of $ **3. 9 million, $** 2. 5 million ~~,~~ **and** $ 3. 3 ~~million and $ 3. 4~~ million from currency transactions were included in other **expense (** income **)** , net in **2023,** 2022 ~~,~~ **and** 2021 ~~and 2020~~ , respectively. NOTE 3 — SUPPLEMENTAL CASH FLOW DISCLOSURES Year ended June 30 (in thousands) ~~202220212020Cash~~ ---- **202320222021Cash** paid during the period for: Interest $ **28, 192 $** 25, 277 $ 43, 601 ~~$ 25, 796~~ Income ~~taxes36~~ - **taxes43 , 730 36** , 105 48, 910 ~~36, 852~~ Supplemental disclosure of non- cash information: Changes in accounts payable related to purchases of property, plant and ~~equipment9~~ - **equipment (2, 248) 9** , 800 (17, 500 ~~) (9, 400~~) Changes in notes payable related to purchases of property, plant and equipment — **—** 7, 254 ~~—~~ NOTE 4 — DIVESTITURE The net book value of these assets at closing was $ 29. 5 million, and the pre- tax loss on divestiture recognized during the year ended June 30, 2020 was $ 6. 5 million. Transaction proceeds were primarily used for capital expenditures related to our simplification / modernization efforts. During the year ended June 30, 2022, we recorded a pre- tax gain of $ 1. 0 million on the New Castle divestiture due to proceeds held in escrow until November 2021. NOTE 5 — FAIR VALUE MEASUREMENTS Fair value is defined as the price that would be received to sell an asset or paid to transfer a liability in an orderly transaction between market participants at the measurement date. The fair value hierarchy consists of three levels to prioritize the inputs used in valuations, as defined below: Level 1: Unadjusted quoted prices in active markets that are accessible at the measurement date for identical, unrestricted assets or liabilities. Level 2: Inputs other than quoted prices included within Level 1 that are observable for the asset or liability, either directly or indirectly, including quoted prices for similar assets or liabilities in active markets; quoted prices for identical or similar assets or liabilities in markets that are not active; inputs other than quoted prices that are observable for the asset or liability (e. g., interest rates); and inputs that are derived principally from or corroborated by observable market data by correlation or other means. Level 3: Inputs that are unobservable. As of June 30, ~~2022~~ **2023** , the fair values of the Company' s financial assets and financial liabilities measured at fair value on a recurring basis are categorized as follows: (in thousands) Level 1Level 2Level 3TotalAssets: Derivatives (1) $ — $ ~~176~~ **68** $ — $ ~~176~~ **68** Total assets at fair value $ — $ ~~176~~ **68** $ — $ ~~176~~ **68** Liabilities: Derivatives (1) $ — $ ~~574~~ **100** $ — $ ~~574~~ **100** Total liabilities at fair value $ — $ ~~574~~ **100** $ — $ ~~574~~ **100** As of June 30, ~~2021~~ **2022** , the fair value of the Company' s financial assets and financial liabilities measured at fair value on a recurring basis are categorized as follows: (in thousands) Level 1Level 2Level 3TotalAssets: Derivatives (1) $ — $ ~~36~~ **176** $ — $ ~~36~~ **176** Total assets at fair value $ — $ ~~36~~ **176** $ — $ ~~36~~ **176** Liabilities: Derivatives (1) $ — $ ~~87~~ **574** $ — $ ~~87~~ **574** Total liabilities at fair value $ — $ ~~87~~ **574** $ — $ ~~87~~ **574** (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. NOTE 6 — DERIVATIVE INSTRUMENTS AND HEDGING ACTIVITIES As part of our financial risk management program, we use certain derivative financial instruments. See Note 2 for discussion on our derivative instruments and hedging activities policy. There are no derivatives designated as hedging instruments as of June 30, **2023 or** 2022 ~~or 2021~~ . The fair value of derivatives not designated as hedging instruments in the consolidated balance sheets are as follows: (in thousands) ~~20222021Derivatives~~ ---- **20232022Derivatives** not designated as hedging instrumentsOther current assets- currency forward contracts $ **68 $** 176 ~~$ 36~~ Other current liabilities- currency forward contracts (**100) (** 574 ~~) (87~~) Total derivatives not designated as hedging instruments (**32) (** 398 ~~) (51~~) Total derivatives $ (**32) $ (** 398 ~~) $ (51~~) Certain currency forward contracts that hedge significant cross- border intercompany loans are considered as other derivatives and therefore do not qualify for hedge accounting. These contracts are recorded at fair value in the consolidated balance sheets, with the offset to other **expense (** income **)** , net. **(Gains)** ~~Losses~~ **losses** related to derivatives not designated as hedging instruments have been recognized as follows: (in thousands) ~~202220212020Other~~ ---- **202320222021Other expense (** income **)** , net- currency forward contracts $ **(435) $** 377 $ 2 ~~$ 210~~ CASH FLOW HEDGES During fiscal 2020 we entered into seven forward- starting interest rate swap contracts with an aggregate notional amount totaling $ 200. 0 million. A forward- starting interest rate swap is an agreement that effectively hedges the variability in future benchmark interest payments attributable to changes in interest rates on the forecasted issuance of fixed- rate debt. During fiscal 2021, upon issuance of the Senior Unsecured Notes due 2031 (see Note 11 for more information) we settled the forward starting interest rate swap contracts for a gain of $ 10. 2 million in other comprehensive **(loss)** income ~~(loss)~~ . The gain will be amortized out of accumulated other comprehensive ~~income (~~ loss ~~)~~ and into interest expense (as a benefit) over the life of the Senior Unsecured Notes due 2031. There were no interest rate swap contracts outstanding at June 30, **2023 or** 2022 ~~or 2021~~ . As of June 30, **2023 we had no net investment hedges in place. As of June 30,** 2022 ~~and 2021~~ we had foreign currency- denominated intercompany loans payable ~~with total~~ **in the** aggregate principal amounts of € 13 million ~~and € 5. 2 million, respectively,~~ designated as net investment hedges to hedge **a portion of** the foreign exchange exposure of our net investment in Euro- based subsidiaries. **During fiscal 2023, we did periodically utilize net investment hedges through foreign currency- denominated intercompany loans payable which resulted in an aggregate gain of $ 0. 7 million recorded as a component of foreign currency translation adjustments in other comprehensive loss during 2023.** A gain of $ 0. 8 million ~~,~~ **and** a loss of $ 1. 9 ~~million, and a gain of $ 0. 6~~ million were recorded as a component of foreign currency translation adjustments in other comprehensive **(loss)** income ~~(loss)~~ during 2022 ~~,~~ **and** 2021 ~~and 2020~~ , respectively. As of June 30, 2022 ~~and 2021~~ , the foreign currency- denominated intercompany loans payable designated as net investment hedges consisted of: (in thousands) ~~20222021InstrumentNotional~~ ---- **2022InstrumentNotional** ~~(EUR) (2) Notional (USD) (2) Notional~~ (EUR) (2) Notional (USD) (2) MaturityForeign currency- denominated intercompany loan payable € ~~0 $ 0 € 5, 173 $ 6, 146June 26, 2022Foreign currency- denominated intercompany loan payable €~~ 13, 013 $ 13, ~~531 € 0 $ 0August~~ **531August** 31, 2022 (2) Includes principal and accrued interest. NOTE 7 — INVENTORIES Inventories consisted of the following at June 30: (in thousands) ~~20222021Finished~~ ---- **20232022Finished** goods $ **328, 094 $** 316, 936 ~~$ 302, 524~~ Work in process and powder ~~blends231~~ **blends233 , 346 231** , 214 ~~173, 671~~ Raw ~~materials107~~ -- **materials81 , 552 107** , 024 ~~72, 551~~ Inventories at current ~~cost655~~ **cost642, 992 655** , 174 ~~548, 746~~ Less: LIFO valuation (**85, 362) (** 84, 338 ~~) (72, 401~~) Total inventories $ **557, 630 $** 570, 836 ~~$ 476, 345~~ We used the LIFO method of valuing inventories for approximately ~~39~~ **33** percent of total inventories at June 30, ~~2022~~ **2023** ~~and 2021, respectively~~ . NOTE 8 — GOODWILL AND OTHER INTANGIBLE ASSETS As of June 30, ~~2022~~ **2023** , $ ~~264~~ **269** . ~~2~~ **6** million of goodwill was allocated to the Metal Cutting reporting unit. We completed an annual quantitative test of goodwill impairment and determined that the fair value of the reporting unit substantially exceeded the carrying value and, therefore, no impairment was recorded during ~~2022~~ **2023** . Further, an indefinite- lived trademark intangible asset of $ 10. ~~4~~ **8** million in the Metal Cutting reporting unit had a fair value that ~~exceeded~~ **approximated** its carrying value as of the date of the annual impairment test and, therefore, no impairment was recorded during ~~2022~~ **2023** ~~. December Quarter of Fiscal 2020 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 the fiscal 2019 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 former 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 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 former Widia segment, which is now part of the Metal Cutting segment as of July 1, 2020, of which $ 13. 1 million was for goodwill and $ 1. 5 million was for an indefinite- lived trademark intangible asset. These impairment charges were recorded in goodwill and other intangible assets impairments in our consolidated statements of income. No impairment was recorded for the other long- lived assets. March Quarter of Fiscal 2020 Impairment Charge In the March quarter of fiscal 2020, the decline in actual and projected financial results for the former Widia reporting unit, primarily as a result of the COVID- 19 pandemic, represented an interim impairment triggering event because there was essentially zero cushion between the reporting unit' s carrying value and fair value as of March 31 2020. This is because the former Widia reporting unit was recorded at fair value as of the December 31, 2019 interim impairment testing date. 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 interim test, we recorded a non- cash pre- tax impairment charge during the three months ended March 31, 2020 of $ 15. 6 million in the former Widia segment, of which $ 13. 7 million was for goodwill and $ 1. 9 million was for an indefinite- lived trademark intangible asset. These impairment charges were recorded in goodwill and other intangible assets impairments in our consolidated statements of income. No impairment was recorded for the other long- lived assets~~ . A summary of the carrying amount of goodwill attributable to each segment, as well as the changes in such, is as follows: (in thousands) Metal CuttingInfrastructureTotalGross goodwill $ ~~448~~ **455** , ~~241~~ **276** $ 633, 211 $ 1, ~~081~~ **088** , ~~452~~ **487** Accumulated impairment losses (177, 661) (633, 211) (810, 872) Balance as of June 30, ~~2020~~ **2021** $ ~~270~~ **277** , ~~580~~ **615** $ — $ ~~270~~ **277** , ~~580~~ **615** Activity for the year ended June 30, ~~2021~~ **2022** : Change in gross goodwill due to ~~translation7~~ - **translation (13** , ~~035~~ **385)** — ~~7~~ **(13** , ~~035~~ **385)** Gross ~~goodwill455~~ **goodwill441** , ~~276~~ **891** 633, 211 1, ~~088~~ **075** , ~~487~~ **102** Accumulated impairment losses (177, 661) (633, 211) (810, 872) Balance as of June 30, ~~2021~~ **2022** $ ~~277~~ **264** , ~~615~~ **230** $ — $ ~~277~~ **264** , ~~615~~ **230** Activity for the year ended June 30, ~~2022~~ **2023** : Change in gross goodwill due to ~~translation~~ **translations5** ~~(13~~ , **321** ~~385)~~ —

5 ~~(13~~ , 321 ~~385)~~ Gross ~~goodwill441~~ goodwill447 , ~~891~~ 212 633, 211 1, ~~075~~ 080 , ~~102~~ 423 Accumulated impairment losses (177, 661) (633, 211) (810, 872) Balance as of June 30, ~~2022~~ 2023 $ ~~264~~ 269 , ~~230~~ 551 $ — $ ~~264~~ 269 , ~~230~~ 551 The components of our other intangible assets were as follows: EstimatedUseful Life (in years) June 30, ~~2022June~~ 2023June 30, ~~2021~~ 2022 (in thousands) Gross CarryingAmountAccumulatedAmortizationGross CarryingAmountAccumulatedAmortizationTechnology-based and other4 to 20 $ 31, 872 $ (23, 838) $ 31, 592 $ (22, 734 ~~) $ 33, 632 $ (24, 413~~) Customer- related10 to 21179, 889 (112, 890) ~~21180~~ -- 180 , 263 (104, 698 ~~) 183, 338 (98, 901~~) Unpatented technology10 to 3031, 487 (25, 177) 31, 807 (22, 950) ~~31, 957 (20, 575)~~ Trademarks5 to 2012, 426 (11, 441) 12, 403 (10, 317) ~~13~~ TrademarksIndefinite10 , ~~268 (~~ 836 — 10 ~~, 083) TrademarksIndefinite10~~ , 359 — ~~11, 818 —~~ Total $ 266, 510 $ (173, 346) $ 266, 424 $ (160, 699 ~~) $ 274, 013 $ (153, 972~~) Amortization expense for intangible assets was $ 12. 6 million, $ 13. 0 million ~~,~~ and $ 14. 0 million ~~and $ 13. 8 million~~ for 2023, 2022 ~~,~~ and 2021 ~~and 2020~~ , respectively. Estimated amortization expense for ~~2023~~ 2024 through ~~2027~~ 2028 is $ ~~12~~ 10. 9 million, $ 9. 7 million, $ 9 . 3 million, $ ~~10.~~ 7 . 8 million, and $ ~~9.~~ 6 ~~million, $ 9~~ . 8 ~~2 million, and $ 7. 7~~ million, respectively. NOTE 9 — 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 $ 7. 0 million, $ 3. 7 million ~~,~~ and $ 2 ~~. 4 million and $ 6~~ . 4 million for the years ended June 30, 2023, 2022 ~~,~~ and 2021 ~~and 2020~~ , 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 ~~year~~ years ended June 30, 2023, 2022 ~~,~~ and 2021 ~~and 2020~~ . 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. Operating lease expense is recognized on a straight-line basis over the lease term and is included in operating expense on our consolidated statements of income. Operating lease cost was $ 22. 0 million, $ 21. 3 million ~~,~~ and $ 20. 2 million ~~and $ 22. 6 million~~ in 2023, 2022 ~~,~~ and 2021 ~~and 2020~~ , respectively. The following table sets forth supplemental balance sheet information related to our operating leases: Year Ended June ~~30202220212020Weighted~~ ---- 30202320222021Weighted average remaining lease term8. 0 years8. 1 years8. 0 ~~years8. 6~~ yearsWeighted average discount rate3. ~~2~~ 8 % 3. ~~3~~ 2 % 3. 3 % The following table sets forth supplemental cash flow information related to our operating leases: Year Ended June 30 (in thousands) ~~202220212020Operating~~ ---- 202320222021Operating cash outflows from operating leases $ 15, 040 $ 17, 592 $ 17, 651 ~~$ 15, 635~~ ROU assets obtained in exchange for new operating lease liabilities $ 8, 066 $ 15, 430 $ ~~17~~ 7 , 235 ~~$ 16, 171~~ 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 consolidated balance sheet as of June 30, ~~2022~~ 2023 : Year Ended June 30 (in thousands) ~~2023 $ 13, 383 202410, 195 20257, 374 20264~~ - 2024 $ 12 , ~~672~~ 445 20259, 695 20266, 781 ~~20273~~ 20274 , ~~110~~ 448 20282, 493 ~~Thereafter16~~ Thereafter14 , ~~029~~ 521 Total undiscounted operating lease payments $ ~~54~~ 50 , ~~763~~ 383 Less: discount to net present ~~value7~~ value6 , ~~034~~ 826 Total operating lease liabilities $ ~~47~~ 43 , ~~729~~ 557 NOTE 10 — OTHER CURRENT LIABILITIES Other current liabilities consisted of the following at June 30: (in thousands) ~~20222021Accrued~~ 20232022Accrued employee benefits $ 36, 980 $ 35, 270 ~~$ 51, 783~~ Payroll, state and local ~~taxes9~~ taxes11 , 606 9 , 989 ~~6, 873~~ Accrued professional and legal fees 10, 730 9, 489 ~~8, 428~~ Accrued environmental 1, 658 7, 938 ~~2, 561~~ Accrued restructuring (Note 16) 9, 379 6, 019 ~~19, 851~~ Accrued interest3, 425 3, 394 ~~3, 520 Other66~~ Other64 , 010 66 , 304 ~~64, 586~~ Total other current liabilities $ 137, 788 $ 138, 403 ~~$ 157, 602~~ NOTE 11 — LONG- TERM DEBT Long-term debt consisted of the following at June 30: (in thousands) ~~202220212~~ 202320222 . 800 % Senior Unsecured Notes due fiscal 2031, net of discount of $ 0. 1 million for 2023 and $ 0. 2 million for 2022 ~~and $ 0. 2 million for 2021~~ $ 299, 860 $ 299, 842 ~~$ 299, 823~~ 4. 625 % Senior Unsecured Notes due fiscal 2028, net of discount of $ 1. 1 million for 2023 and $ 1. 3 million for ~~2022 and $ 1. 5 million for 2021298~~ 2022298 , 920 298 , 702 ~~298, 483~~ Total term debt598, 780 598, 544 ~~598, 306~~ Less unamortized debt issuance costs (3, 608) (4, 180 ~~) (6, 198~~) Total long- term debt $ 595, 172 $ 594, 364 ~~$ 592, 108 Senior Unsecured Notes~~ In February 2021, we issued $ 300. 0 million of 2. 800 percent Senior Unsecured Notes with a maturity date of March 1, 2031. Interest is paid semi- annually on March 1 and September 1 of each year. During 2021, we settled forward starting interest rate swap contracts for a gain of $ 10. 2 million related to the bond issuance as discussed in Note 6. In March 2021, we used the net proceeds from the bond issuance, plus cash on hand, for the early extinguishment of our $ 300. 0 million of 3. 875 percent Senior Unsecured Notes due 2022 (the 2022 Senior Notes). Due to the early extinguishment, interest expense during 2021 includes a make- whole premium of $ 9. 6 million and the acceleration of a loss in the amount of $ 2. 6 million from other comprehensive loss related to forward starting interest rate contracts that were used to hedge the interest payments of the 2022 Senior Notes. A stranded tax benefit associated with the termination of this hedge was also recognized during 2021. Refer to Note 13 for more information related to the stranded tax benefit. On June 7, 2018, we issued $ 300. 0 million of 4. 625 percent Senior Unsecured Notes with a maturity date of June 15, 2028. Interest on these notes is paid semi- annually on June 15

and December 15 of each year. Future principal maturities of long- term debt are $ 300. 0 million in 2028 and $ 300. 0 million in 2031. Fixed rate debt had a fair market value of $ **527. 4 million and $** 536. 1 ~~million and $ 644. 2~~ million at June 30, **2023 and** 2022 ~~and 2021~~, respectively. The Level 2 fair value is determined based on the quoted market prices for similar debt instruments as of June 30, **2023 and** 2022 ~~and 2021~~, respectively. NOTE 12 — REVOLVING AND OTHER LINES OF CREDIT AND NOTES PAYABLE ~~Credit Agreement~~ During fiscal 2022, we entered into the Sixth Amended and Restated Credit Agreement dated as of June 14, 2022 (the Credit Agreement). The Credit Agreement is a five- year, multi- currency, revolving credit facility, which we use to augment cash from operations and as 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) Euro Interbank Offered Rate (EURIBOR), Sterling Overnight Index Average (SONIA), Tokyo Interbank Offered Rate (TIBOR), Secured Overnight Financing Rate (SOFR), and Canadian Dollar Offered Rate (CDOR) for any borrowings in euros, pounds sterling, yen, U. S. dollars and Canadian dollars, respectively, 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 2027. As of June 30, ~~2022~~ **2023**, we were in compliance with all covenants of the Credit Agreement and we had ~~$ 19. 0 million of borrowings outstanding and $ 681. 0 million of availability. There were~~ no borrowings outstanding **and $ 700. 0 million of availability. There were $ 19 million of borrowings outstanding** as of June 30, ~~2021~~ **2022**. The weighted average interest rate on borrowings under the Credit Agreement was ~~1~~ **5**. ~~4~~ **0** percent for the year ended June 30, ~~2022~~ **2023**. Borrowings on other lines of credit and notes payable were $ **0. 7 million and $** 2. 2 ~~million and $ 8. 4~~ million at June 30, **2023 and** 2022 ~~and 2021~~, respectively. The lines of credit represented short- term borrowings under credit lines with commercial banks in the various countries in which we operate. The availability of these credit lines, translated into U. S. dollars at June 30, ~~2022~~ **2023** exchange rates, totaled $ ~~60~~ **54**. ~~7~~ **5** million. NOTE 13 — INCOME TAXES Income (loss) before income taxes consisted of the following for the years ended June 30: (in thousands) ~~202220212020Income~~ ---- **202320222021Income** (loss) before income taxes: United States $ **(14, 702) $** 10, 109 $ (60, 775) ~~$ (76, 107) International196~~ **International174 , 323 196**, 624 125, 435 ~~78, 067~~ Total income before income taxes $ **159, 621 $** 206, 733 $ 64, 660 ~~$ 1, 960~~ Current income taxes: Federal $ **2, 007 $** 1, 115 $ 39 ~~$ (3, 558) State106~~ **State546 106** 133 ~~905 International44~~ **International42 , 921 44**, 019 30, 726 ~~33, 559~~ Total current income taxes45, **474 45,** 240 30, 898 ~~30, 906~~ Deferred income taxes: Federal $ **(3, 394) $** 10, 841 $ (23, 170) ~~$ (9, 113) State~~ **State683** (676) (2, 948) ~~724 International1~~ - **International (6, 508) 1**, 127 1, 463 ~~(15, 510)~~ Total deferred income taxes: **(9, 219)** 11, 292 (24, 655 ~~) (23, 899~~) Provision for income taxes $ **36, 255 $** 56, 532 $ 6, 243 ~~$ 7, 007~~ Effective tax ~~rate27~~ **rate22 . 7 % 27**. 3 % 9. 7 % ~~357. 5 % Coronavirus Aid, Relief, and Economic Security Act (CARES Act) On March 27, 2020, the CARES Act was enacted in response to the COVID- 19 pandemic. The CARES Act, among other things, allows net operating losses arising in taxable years beginning after December 31, 2017 and before January 1, 2021 to be carried back to each of the five preceding taxable years to generate a refund of previously paid income taxes; permits net operating loss carryovers and carrybacks to offset 100 percent of taxable income for taxable years beginning before January 1, 2021; and modifies the limitation on business interest by increasing the allowable business interest deduction from 30 percent of adjusted taxable income to 50 percent of adjusted taxable income for taxable years beginning in 2019 or 2020. We carried back our taxable loss in the U. S. for fiscal 2020 under the provisions of the CARES Act and recorded a benefit in our tax provision during fiscal 2020.~~ 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 December quarter of fiscal 2020. We ~~consider~~ **considered** the deferred tax asset from Swiss tax reform to be an estimate based on our current interpretation of the legislation, which ~~is~~ **was** subject to change based on further legislative guidance, review with the Swiss federal and cantonal authorities, and modifications to the underlying valuation. ~~We anticipate finalization~~ **During the December quarter** of **the current year, we adjusted the calculation of the transitional provisions of Swiss tax reform after a review and receipt of a ruling from the Swiss federal and cantonal authorities and recorded a $ 2. 2 million tax benefit to adjust** the deferred tax asset ~~within the next six months~~ **and income tax liabilities related to fiscal years 2021 and 2022**. The reconciliation of income taxes computed using the statutory U. S. income tax rate and the provision for income taxes was as follows for the years ended June 30: (in thousands) ~~202220212020Income~~ ---- **202320222021Income** taxes at U. S. statutory rate $ **33, 520 $** 43, 414 $ 13, 579 ~~$ 412~~ State income taxes, net of federal tax ~~benefit~~ **benefit971** (450) (1, 725) ~~1, 283~~ U. S. income taxes provided on international ~~income12~~ **income4 , 583 12**, 815 (6, 479) ~~12, 422~~ Combined tax effects of international ~~income2~~ **income5 , 761 2**, 747 5, 860 ~~10, 583 Impact of goodwill impairment charges — — 5, 651~~ Change in valuation allowance and other uncertain tax positions (**4, 060) (** 614) 1, 127 ~~755~~ U. S. research and development credit (**3, 325) (** 2, 814) (3, 055 ~~) (4, 093~~) Change in permanent reinvestment ~~assertion775~~ --- **assertion** — **775** — Combined effects of Swiss tax reform **(2, 225)** — — ~~(14, 500) Combined effects of the U. S. CARES Act — — (6, 913)~~ Recognition of stranded deferred tax balance — **—** (3, 465) ~~— Other659~~ **Other1, 030 659** 401 ~~1, 407~~ Provision for income taxes $ **36, 255 $** 56, 532 $ 6, 243 ~~$ 7~~ **During 2023**, ~~007~~ **we released a $ 2. 9 million valuation allowance that was previously recorded against our net deferred tax assets in Brazil. The impact of this item is included in the tax reconciliation table under the caption " Change in valuation allowance and other uncertain tax positions. " During 2023, we recorded a tax benefit of $ 2. 2 million to reflect the adjustment of our calculation of the transitional provisions of Swiss tax reform. The impact of this item is included in the tax reconciliation table under the caption " Combined effects of Swiss tax reform. "** During 2021, we recorded a tax benefit of $ 3. 5 million for the recognition of a stranded deferred tax balance in accumulated other comprehensive loss associated with the forward starting interest rate swap contracts that were terminated when the 2022 Senior Notes were extinguished. The impact of this item is included in the tax reconciliation table under the caption " Recognition of stranded deferred tax balance " and in the consolidated statements of cash flows as a non- cash item within the caption" Debt refinancing charge." During 2021, we recorded a net tax benefit of $ 9. 3 million related to a tax election made in our fiscal 2020 U. S. income tax return pursuant to global intangible low- taxed income (GILTI) regulations which were issued during the current fiscal year. The impact of this item is included in the tax reconciliation table under the caption " U. S. income taxes provided on international income. " The components of net deferred tax assets and liabilities were as follows at June 30: (in thousands) ~~20222021Deferred~~ ---- **20232022Deferred** tax assets: Net operating loss (NOL) carryforwards $ **24, 111 $** 25, 868 ~~$ 44, 258~~ Inventory valuation and ~~reserves11~~ **reserves9 , 677 11** , 747 ~~11, 068 Pension benefits — 7, 136 Other postretirement benefits3, 050 3, 486~~ Accrued employee ~~benefits11~~ **benefits14** , ~~775 11~~ **758 14** , ~~168~~ **825** Operating lease liabilities11, **229 11,** 995 ~~12, 652~~ Other accrued ~~liabilities12~~ **liabilities13 , 963 12** , 992 ~~15~~ **Capitalized research and development costs25** , ~~596~~ **187 7, 244** Tax credits and other ~~carryforwards34~~ **carryforwards22** , ~~930 32~~ **601 27** , ~~490~~ **686** Intangible ~~assets4~~ **assets5 , 209 4** , 246 ~~7, 784 Total116~~ **Total126 , 735 116** , 603 ~~145, 638~~ Valuation ~~allowance14~~ **allowance8 , 281 14** , 385 ~~21, 263~~ Total deferred tax assets $ **118, 454 $** 102, 218 ~~$ 124, 375~~ Deferred tax liabilities: Tax depreciation in excess of book $ **62, 763 $** 57, 109 ~~$ 63, 020~~ Operating lease right- of- use assets11, **084 11,** 852 ~~12, 502~~ Unremitted earnings not permanently ~~reinvested7~~ **reinvested4 , 831 7** , 242 ~~6, 429~~ Pension benefits1, **808 1,** 061 ~~— Other2~~ **Other4 , 511 2** , 537 ~~7, 392~~ Total deferred tax liabilities $ **84, 997 $** 79, 801 ~~$ 89, 343~~ Total net deferred tax assets (liabilities) $ **33, 457 $** 22, 417 ~~$ 35, 032~~ Included in deferred tax assets at June 30, ~~2022~~ **2023** is $ ~~34~~ **22** . ~~9~~ **6** million associated with tax credits and other carryforward items in the U. S. and Europe. Of that amount, $ 2. ~~5~~ **7** million expires through ~~2032~~ **2038** , $ ~~4~~ **18** . ~~6~~ **7** million expires through ~~2037~~ - **2043** , **and** $ ~~19.~~ 1 ~~million expires through 2042, $ 1~~ . ~~5~~ **2** million does not expire ~~, and $ 7. 2 million is amortizable over ten years~~ . Included in deferred tax assets at June 30, ~~2022~~ **2023** is $ ~~25~~ **24** . ~~9~~ **1** million associated with NOL carryforwards in U. S. state and foreign jurisdictions. Of that amount, $ ~~4~~ **3** . ~~7~~ **3** million expires through ~~2027~~ **2028** , $ ~~2.~~ 0 **. 8** million expires through ~~2032~~ **2033** , $ ~~3~~ **0** . ~~2~~ **4** million expires through ~~2037~~ **2038** , $ ~~2~~ **5** . ~~2~~ **4** million expires through ~~2042~~ **2043** , and the remaining $ ~~13~~ **14** . ~~8~~ **2** million does not expire. The realization of these tax benefits is primarily dependent on future taxable income in these jurisdictions. A valuation allowance of $ ~~14~~ **8** . ~~4~~ **3** million has been placed against deferred tax assets primarily in U. S. state ~~, Brazil~~ , Bolivia, and Russia jurisdictions, all of which would be allocated to income tax expense upon realization of the deferred tax assets. As the respective operations generate sufficient income, the valuation allowances will be partially or fully reversed at such time we believe it will be more likely than not that the deferred tax assets will be realized. In ~~2022~~ **2023** , the valuation allowance related to these deferred tax assets decreased by $ 6. ~~9~~ **1** million. We consider the majority of the $ 1. 5 billion 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. Determination of the amount of unrecognized deferred tax liability related to indefinitely reinvested earnings is not practicable due to our legal entity structure and the complexity of U. S. and local tax laws. 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. The deferred tax liability associated with unremitted earnings of our non- U. S. subsidiaries not permanently reinvested is $ ~~7~~ **4** . ~~2~~ **8** million as of June 30, ~~2022~~ **2023** . A reconciliation of the beginning and ending amount of unrecognized tax benefits (excluding interest and penalty) is as follows as of June 30: (in thousands) ~~202220212020Balance~~ ---- **202320222021Balance** at beginning of year $ **7, 598 $** 8, 656 $ 8, 680 ~~$ 8, 952~~ **(Decreases) /** Increases for tax positions of prior ~~years105~~ --- **years — (658) 105** — Decreases related to lapse of statute of limitations (**99) (** 779) (229 ~~) (214~~) Foreign currency ~~translation~~ **translation94** (384) 205 ~~(58)~~ Balance at end of year $ **6, 935 $** 7, 598 $ 8, 656 ~~$ 8, 680~~ The total amount of unrecognized tax benefits that, if recognized, would affect the effective tax rate in **2023,** 2022 ~~,~~ **and** 2021 ~~and 2020~~ is $ **6. 9 million, $** 7. 6 ~~million, $ 8. 7~~ million and $ 8. 7 million, respectively. We believe that it is reasonably possible that the amount of unrecognized tax benefits will decrease by approximately $ ~~2~~ **5** . ~~0~~ **6** million within the next twelve months. Our policy is to recognize interest and penalties related to income taxes as a component of the provision for income taxes in the consolidated statements of income. We recognized **a decrease of $ 0. 3 million and $ 0. 2 million in 2023 and 2021, respectively, and** an increase of $ 0. 1 million ~~and $ 1. 0 million~~ in 2022 ~~and 2020, respectively, and a decrease of $ 0. 2 million in 2021~~ . As of June 30, **2023 and** 2022 ~~and 2021~~ , the amount of interest accrued was $ 1. **0 million and $ 1.** 4 million **, respectively** ~~in both periods~~ . As of June 30, ~~2022~~ **2023** ~~and 2021~~ , **the amount of penalty accrued was $ 0. 1 million.** ~~there~~ **There** was no penalty accrued **of June 30, 2022** . With few exceptions, we are no longer subject to income tax examinations by tax authorities for years prior to ~~2015~~ **2019** . The Internal Revenue Service has audited **,** or the statute of limitations has expired **,** for all U. S. tax years prior to ~~2018~~ **2019** . Various state and foreign jurisdiction tax authorities are in the process of examining our income tax returns for various tax years ranging from ~~2015 to~~ 2019 **to 2022** . We continuously review our uncertain tax positions and evaluate any potential issues that may lead to an increase or decrease in the total amount of unrecognized tax benefits recorded. NOTE 14 — PENSION AND OTHER POSTRETIREMENT BENEFITS Defined Benefit Pension Plans We have defined benefit pension plans that cover certain employees in the U. S., Germany, the UK, Switzerland, Canada and Israel. Pension benefits under defined benefit pension plans are based on years of service and, for certain plans, on average compensation for specified years preceding retirement. We fund pension costs in accordance with the funding requirements of the Employee Retirement Income Security Act of 1974 (ERISA), as amended, for U. S. plans and in accordance with local regulations or customs for non- U. S. plans. The accrued benefit for all participants in the Kennametal Inc. Retirement Income Plan was frozen as of December 31, 2016. The majority of our defined benefit pension plans are closed to future participation. We have an Executive Retirement Plan for certain executives and a Supplemental Executive Retirement Plan both of which are closed to future participation as of June 15, 2017 and July 26, 2006, respectively. We presently provide varying levels of postretirement health care and life insurance benefits to certain employees and retirees. By fiscal 2019, participants over the age of 65 were transitioned to a private exchange and some received a fixed Health Retirement Account (HRA) contribution to offset the cost of their coverage. Postretirement health and life benefits are closed to future participants as of December 31, 2016. We use a June 30 measurement date for all of our plans. During fiscal 2021, as part of the plan to wind- up the fully frozen, overfunded Canadian defined benefit pension plans, the Company purchased an upfront annuity for retirees resulting in a non-cash settlement charge of $ 2. 8 million. The Company expects to complete the wind- up of the Canadian plans by fiscal 2024. **During 2023, the Company annuitized a portion of its UK defined benefit pension plans through the purchase of a full buy- in policy. The Company expects to progress to a buy- out and an eventual wind- up of this portion of the UK plans after completing customary procedures including obtaining relevant regulatory approvals, the timing of which is expected to occur over the course of approximately two years.** The funded status of our pension plans and amounts recognized in the consolidated balance sheets as of June 30 were as follows: (in thousands) ~~20222021Change~~ **20232022Change** in benefit obligation: Benefit obligation, beginning of year $ **741, 009 $** 968, 725 ~~$~~ **Service cost963** 1, ~~004, 005 Service cost1,~~ 117 ~~1, 685~~ Interest ~~cost22~~ - **cost32 , 235 22** , 532 ~~23, 188~~ Participant ~~contributions479~~ **contributions486** ~~548~~ **479** Actuarial gains (**32, 622) (** 170, 055 ~~) (16, 794~~) Benefits and expenses paid (**52, 625) (** 53, 149 ~~) (52, 719~~) Currency translation ~~adjustments~~ **adjustments7 , 372** (27, 074) ~~23, 276~~ Plan amendments (**50) (** 66 ~~) (129~~) Plan settlements (1, **260) (1,** 805 ~~) (13, 966~~) Plan curtailments (3) (~~10~~ **3**) Other ~~adjustments308~~ **adjustments406 308** ~~(359)~~ Benefit obligation, end of year $ **695, 911 $** 741, 009 ~~$ 968, 725~~ Change in plans' assets: Fair value of plans' assets, beginning of year $ **695, 965 $** 890, 104 ~~$ 876, 036~~ Actual return on plans' assets (**4, 063) (** 133, 374) ~~54, 026~~ Company ~~contributions8~~ **contributions7 , 842 8** , 170 ~~9, 998~~ Participant ~~contributions479~~ **contributions486** ~~548~~ **479** Plan settlements (1, **260) (1,** 805 ~~) (13, 966~~) Benefits and expenses paid (**52, 625) (** 53, 149 ~~) (52, 719~~) Currency translation ~~adjustments~~ **adjustments3 , 842** (14, 455) ~~16, 032~~ Other adjustments (**7) (** 5) ~~149~~ Fair value of plans' assets, end of year $ **650, 180 $** 695, 965 ~~$ 890, 104~~ Funded status of plans $ (45, **731) $ (45,** 044 ~~) $ (78, 621~~) Amounts recognized in the balance sheets consist of: Long- term prepaid benefit $ **70, 567 $** 66, 433 ~~$ 89, 233~~ Short- term accrued benefit obligation (**7, 562) (** 6, 406 ~~) (6, 918~~) Accrued pension benefits (**108, 736) (** 105, 071 ~~) (160, 936~~) Net amount recognized $ (45, **731) $ (45,** 044 ~~) $ (78, 621~~) The pre- tax amounts related to our defined benefit pension plans recognized in accumulated other comprehensive loss were as follows at June 30: (in thousands) ~~20222021Unrecognized~~ ---- **20232022Unrecognized** net actuarial losses $ **284, 054 $** 274, 416 ~~$ 279, 628~~ Unrecognized net prior service costs1, **772 1,** 822 ~~2, 001~~ Unrecognized transition ~~obligations158~~ **obligations76** ~~277~~ **158** Total $ **285, 902 $** 276, 396 ~~$ 281, 906~~ To the best of our knowledge and belief, the asset portfolios of our defined benefit pension plans do not contain our capital stock. Apart from the partial annuitization of the Canadian plans as previously mentioned, we do not issue insurance contracts to cover future annual benefits of defined benefit pension plan participants. Transactions between us and our defined benefit pension plans include the reimbursement of plan expenditures incurred by us on behalf of the plans. To the best of our knowledge and belief, the reimbursement of cost is permissible under current ERISA rules or local government law. The accumulated benefit obligation for all defined benefit pension plans was $ **695. 3 million and $** 740. 4 million ~~and $ 967. 5 million~~ as of June 30, **2023 and** 2022 ~~and 2021~~ , respectively. Included in the above information are plans with accumulated benefit obligations exceeding the fair value of plan assets as of June 30 as follows: (in thousands) ~~20222021Projected~~ ---- **20232022Projected** benefit obligation $ **123, 065 $** 118, 199 ~~$ 174, 973~~ Accumulated benefit ~~obligation117~~ **obligation122 , 395 117** , 614 ~~173, 684~~ Fair value of plan assets6, **739 6,** 718 ~~7, 116~~ The components of net periodic pension income include the following as of June 30: (in thousands) ~~202220212020Service~~ ---- **202320222021Service** cost $ **963 $** 1, 117 $ 1, 685 ~~$ 1, 796~~ Interest ~~cost22~~ - **cost32 , 235 22** , 532 23, 188 ~~27, 320~~ Expected return on plans' assets (**40, 124) (** 51, 928) (53, 653) ~~(53, 943)~~ Amortization of transition ~~obligation94~~ **obligation84** 94 ~~88~~ **94** Amortization of prior service ~~cost13~~ **cost5 13** 34 ~~50~~ Curtailment (**1) (** 2) (7) ~~(115) Settlement205~~ **Settlement18 205** 3, 190 ~~(51)~~ Recognition of actuarial ~~losses11~~ **losses4 , 440 11** , 702 13, 606 ~~10, 359~~ Other ~~adjustments277~~ **adjustments431 277** (473) ~~288~~ Net periodic pension income $ (**1, 950) $ (** 15, 990) $ (12, 336 ~~) $ (14, 208~~) As of June 30, ~~2022~~ **2023** , the projected benefit payments, including future service accruals for these plans for ~~2023~~ **2024** through ~~2027~~ **2028** , are $ ~~53~~ **55. 5 million, $ 55. 6 million, $ 55. 1 million, $ 55. 1 million and $ 54** . 2 million, **respectively, and** $ ~~54~~ **258** . ~~4~~ **2** million ~~, $ 54. 9 million, $ 54. 5 million and $ 54. 5 million, respectively, and $ 260. 4 million~~ in ~~2028~~ **2029** through ~~2032~~ **2033** . The amounts of accumulated other comprehensive loss expected to be recognized in net periodic pension cost during ~~2023~~ **2024** related to net actuarial losses are $ ~~4.~~ 5 **. 7** million. The amount of accumulated other comprehensive income expected to be recognized in net periodic pension cost during ~~2023~~ **2024** related to transition obligations and prior service cost is ~~immaterial~~ **$ 0. 1 million** . We expect to contribute approximately $ ~~7.~~ 9 **. 3** million to our pension plans in ~~2023~~ **2024** , which is primarily for international plans. Other Postretirement Benefit Plans The funded status of our other postretirement benefit plans and the related amounts recognized in the consolidated balance sheets were as follows: (in thousands) ~~20222021Change~~ **20232022Change** in benefit obligation: Benefit obligation, beginning of year $ **9, 113 $** 11, 383 ~~$ 12, 365~~ Interest ~~cost288 307~~ **cost417 288** Actuarial losses (**442) (** 1, 402) ~~60~~ Benefits paid (1, **067) (1,** 224) ~~(1, 281) Other68~~ -- **Other** (**130)** 68 ~~)~~ Benefit obligation, end of year $ **7, 891 $** 9, 113 ~~$ 11, 383~~ Funded status of plan $ (**7, 891) $ (** 9, 113 ~~) $ (11, 383~~) Amounts recognized in the balance sheets consist of: Short- term accrued benefit obligation $ (1, **091) $ (1,** 189 ~~) $ (1, 252~~) Accrued postretirement benefits (**6, 800) (** 7, 924 ~~) (10, 131~~) Net amount recognized $ (**7, 891) $ (** 9, 113 ~~) $ (11, 383~~) The pre- tax amounts related to our other postretirement benefit plans which were recognized in accumulated other comprehensive loss were as follows at June 30: (in thousands) ~~20222021Unrecognized~~ ---- **20232022Unrecognized** net actuarial losses $ 2, **023 $ 2,** 657 ~~$ 4, 355~~ Unrecognized net prior service credits (1, **378) (1,** 649) ~~(~~ **Total $ 645 $** 1, ~~924) Total $ 1,~~ 008 ~~$ 2, 431~~ The components of net periodic other postretirement benefit cost include the following for the years ended June 30: (in thousands) ~~202220212020Interest~~ ---- **202320222021Interest** cost $ **417 $** 288 $ 307 ~~$ 404~~ Amortization of prior service credit (**271) (** 276) (276) ~~(276)~~ Recognition of actuarial ~~loss297~~ **loss192 297** 307 ~~257~~ Net periodic other postretirement benefit cost $ **338 $** 309 $ 338 ~~$ 385~~ As of June 30, ~~2022~~ **2023** , the projected benefit payments, including future service accruals for our other postretirement benefit plans for ~~2023~~ **2024** through ~~2027~~ **2028** , are ~~$ 1. 2 million,~~ $ 1. 1 million, $ 1. 0 million, $ 0. 9 million ~~and~~ **,** $ 0. 9 million **and $ 0. 8 million** , respectively, and $ 3. ~~4~~ **1** million in ~~2028~~ **2029** through ~~2032~~ **2033** . The amounts of accumulated other comprehensive loss expected to be recognized in net periodic pension cost during ~~2023~~ **2024** related to net actuarial losses and related to prior service credit are costs of $ 0. ~~2~~ **1** million and income of $ 0. 3 million, respectively. We expect to contribute ~~approximately~~ $ 1. ~~2~~ **1** million to our other postretirement benefit plans in ~~2023~~ **2024** . The service cost component of net periodic pension income of $ 1. **0 million, $ 1.** 1 million ~~,~~ **and** $ 1. 7 million ~~and $ 1. 8 million~~ for **2023,** 2022 ~~,~~ **and** 2021 ~~and 2020~~ , respectively, was reported as a component of cost of goods sold and operating expense. The other components of net periodic pension income and net periodic other postretirement benefit cost totaling a net benefit of $ **2. 6 million, $** 16. 8 million ~~,~~ **and** $ 13. 7 million ~~and $ 15. 6 million~~ for **2023,** 2022 ~~,~~ **and** 2021 ~~and 2020~~ , respectively, were presented as a component of other **expense (** income **)** , net. Assumptions The significant actuarial assumptions used to determine the present value of net benefit obligations for our defined benefit pension plans and other postretirement benefit plans were as follows: ~~202220212020Discount~~ ---- **202320222021Discount** Rate: U. S. ~~plans4~~ **plans5 . 6- 6. 3 % 4** . 3- 5. 0 % 1. 2- 3. 0 % ~~1~~ **International plans1** . ~~6~~ **8** - **5. 4 %** 2 ~~. 9 % International plans2~~ . 0- 5. 0 % 0. 3- 3. 2 ~~% 0. 2- 2. 4~~ % Rates of future salary increases: U. S. plans (Executive Retirement Plan only) 4. 0 % 4. 0 % 4. 0 % International plans1. ~~5~~ **8** % 1. 5 % 1. 5 % The significant assumptions used to determine the net periodic income for our pension and other postretirement benefit plans were as follows: ~~202220212020Discount~~ ---- **202320222021Discount** Rate: U. S. ~~plans1~~ **plans4 . 3- 5. 0 % 1** . 2- 3. 0 % 1. 6- 2. 9 % ~~2~~ **International plans1** . ~~7~~ **8** - ~~3~~ **5** . ~~6~~ **0** % **0** ~~International plans0~~ . 3- 3. 2 % 0. 2- 2. 4 ~~% 0. 4- 2. 9~~ % Rates of future salary increases: U. S. plans (Executive Retirement Plan only) 4. 0 % 4. 0 % 4. 0 % International plans1. 5 % 1. 5 % 1. **5** ~~8- 3. 0~~ % Rate of return on plans assets: U. S. ~~plans6~~ **plans5 . 2 % 6** . 5 % 6. 8 % ~~7~~ **International plans2. 0- 5** . 0 % **0** ~~International plans0~~ . 3- 5. 0 % 0. 2 ~~- 5. 3 % 0. 4~~ - 5. 3 % The rates of return on plan assets are based on historical performance, as well as future expected returns by asset class considering macroeconomic conditions, current portfolio mix, long- term investment strategy and other available relevant information. The annual assumed rate of increase in the per capita cost of covered benefits (the health care cost trend rate) for our postretirement benefit plans was as follows: ~~202220212020Health~~ ---- **202320222021Health** care costs trend rate assumed for next ~~year6~~ **year7 . 0 % 6** . 3 % 6. 5 ~~% 6. 8~~ % Rate to which the cost trend rate gradually declines5. 0 % 5. 0 % 5. 0 % Year that the rate reaches the rate at which it is assumed to ~~remain202720272027~~ **remain203120272027** A change of one percentage point in the assumed health care cost trend rates would have an immaterial effect on both the total service and interest cost components of our other postretirement cost and other postretirement benefit obligation at June 30, ~~2022~~ **2023** . Plan Assets The primary objective of certain of our pension plans' investment policies is to ensure that sufficient assets are available to provide the benefit obligations at the time the obligations come due. The overall investment strategy for the defined benefit pension plans' assets combines considerations of preservation of principal and moderate risk- taking. The assumption of an acceptable level of risk is warranted in order to achieve satisfactory results consistent with the long- term objectives of the portfolio. Fixed income securities comprise a significant portion of the portfolio due to their plan- liability- matching characteristics and to address the plans' cash flow requirements. Additionally, diversification of investments within each asset class is utilized to further reduce the effect of losses in single investments. Investment management practices for U. S. defined benefit pension plans must comply with ERISA and all applicable regulations and rulings thereof. The use of derivative instruments is permitted where appropriate and necessary for achieving overall investment policy objectives. Currently, the use of derivative instruments is not significant when compared to the overall investment portfolio. The Company utilizes a liability driven investment strategy (LDI) for the assets of its U. S. defined benefit pension plans in order to reduce the volatility of the funded status of these plans and to meet the obligations at an acceptable cost over the long term. This LDI strategy entails modifying the asset allocation and duration of the assets of the plans to more closely match the liability profile of these plans. The asset reallocation involves increasing the fixed income allocation, reducing the equity component and adding alternative investments. Longer duration interest rate swaps have been utilized periodically in order to increase the overall duration of the asset portfolio to more closely match the liabilities. Our defined benefit pension plans’ asset allocations as of June 30, **2023 and** 2022 ~~and 2021~~ and target allocations for ~~2023~~ **2024** , by asset class, were as follows: ~~20222021Target~~ **20232022Target** % ~~Equity14~~ **Equity16** ~~% 20~~ % 14 % **13 %** Fixed ~~Income82~~ **Income80** % ~~76~~ **82** % ~~79~~ **78** % Other4 % 4 % ~~7~~ **9** % The following sections describe the valuation methodologies used ~~by the trustee~~ to measure the fair value of the defined benefit pension plan assets, including an indication of the level in the fair value hierarchy in which each type of asset is generally classified (see Note 5 for the definition of fair value and a description of the fair value hierarchy). Corporate fixed income securities Investments in corporate fixed income securities consist of corporate debt and asset backed securities. These investments are classified as level two and are valued using independent observable market inputs such as the treasury curve, swap curve and yield curve. Common stock Common stocks are classified as level one and are valued at their quoted market price. Government securities Investments in government securities consist of fixed income securities such as U. S. government and agency obligations and foreign government bonds and asset and mortgage backed securities such as obligations issued by government sponsored organizations. These investments are classified as level two and are valued using independent observable market inputs such as the treasury curve, credit spreads and interest rates. Other fixed income securities Investments in other fixed income securities are classified as level two and valued based on observable market data. Other Other investments consist primarily of state and local obligations and short term investments including cash, corporate notes, and various short term debt instruments which can be redeemed within a nominal redemption notice period. These investments are primarily classified as level two and are valued using independent observable market inputs. The fair value methods described may not be reflective of future fair values. Additionally, while the Company believes the valuation methods ~~used by the plans’ trustee~~ are appropriate and consistent with other market participants, the use of different methodologies or assumptions to determine the fair value of certain financial instruments could result in different fair value measurement at the reporting date. The following table presents the fair value of the benefit plans' assets by asset category as of June 30, ~~2022~~ **2023** : (in thousands) Level 1Level 2Level 3NAV (3) TotalCommon / collective trusts (3): Blend funds $ — $ — $ — $ ~~48~~ **50** , ~~973~~ **612** $ ~~48~~ **50** , ~~973~~ **612** Mutual funds — — — ~~24~~ **27** , ~~528 24~~ **800 27** , ~~528~~ **800** Corporate fixed income securities — ~~379~~ **356** , ~~324~~ **263** — — ~~379~~ **356** , ~~324~~ **263** Common ~~stock25~~

stock14 , ~~704~~ **438** — — — ~~25~~ **14** , ~~704~~ **438** Government securities: U. S. government securities — ~~130~~ **105** , ~~064~~ **624** — — ~~130~~ **105** , ~~064~~ **624** Foreign government securities — ~~40~~ **28** , ~~729~~ **050** — — ~~40~~ **28** , ~~729~~ **050** Other fixed income securities — ~~20~~ **55** , ~~248~~ **404** — — ~~20~~ **55** , ~~248~~ **404** ~~Other747~~ **Other717** ~~25~~ **11** , ~~648~~ **272** — — ~~26~~ **11** , ~~395~~ **989** Total investments $ ~~26~~ **15** , ~~451~~ **155** $ ~~596~~ **556** , ~~013~~ **613** $ — $ ~~73~~ **78** , ~~501~~ **412** $ ~~695~~ **650** , ~~965~~ **180** The following table presents the fair value of the benefit plans' assets by asset category as of June 30, ~~2021~~ **2022** : (in thousands) Level 1Level 2Level 3NAV (3) TotalCommon / collective trusts (3): Blend funds $ — $ — $ — $ ~~90~~ **48** , ~~338~~ **973** $ ~~90~~ **48** , ~~338~~ **973** Mutual funds — — — ~~48~~ **24** , ~~446 48~~ **528 24** , ~~446~~ **528** Corporate fixed income securities — ~~443~~ **379** , ~~948~~ **324** — — ~~443~~ **379** , ~~948~~ **324** Common ~~stock42~~ - **stock25** , ~~670~~ **704** — — — ~~42~~ **25** , ~~670~~ **704** Government securities: U. S. government securities — ~~149~~ **130** , ~~514~~ **064** — — ~~149~~ **130** , ~~514~~ **064** Foreign government securities — ~~57~~ **40** , ~~253~~ **729** — — ~~57~~ **40** , ~~253~~ **729** Other fixed income securities — ~~21~~ **20** , ~~107~~ **248** — — ~~21~~ **20** , ~~107 Other1~~ **248 Other747 25** , **648** ~~107 35, 721~~ — — ~~36~~ **26** , ~~828~~ **395** Total investments $ ~~43~~ **26** , ~~777~~ **451** $ ~~707~~ **596** , ~~543~~ **013** $ — $ ~~138~~ **73** , ~~784~~ **501** $ ~~890~~ **695** , ~~104~~ **965** (3) Investments in common / collective trusts invest primarily in publicly traded securities and are valued using net asset value (NAV) of units of a bank collective trust. Therefore, these amounts have not been classified in the fair value hierarchy and are presented in the tables to reconcile the fair value hierarchy to the total fair value of plan assets. Defined Contribution Plans We sponsor several defined contribution retirement plans. Costs for defined contribution plans were $ **15. 8 million, $** 14. 2 million ~~,~~ **and** $ 13. 3 million ~~and $ 14. 7 million~~ in **2023,** 2022 ~~,~~ **and** 2021 ~~and 2020~~ , respectively. Certain U. S. employees are eligible to participate in the Kennametal Thrift Plus Plan (Thrift), which is a qualified defined contribution plan under section 401 (k) of the Internal Revenue Code. Under the Thrift, eligible employees receive a full match of their contributions up to 6 percent of eligible compensation. All contributions, including the company match and discretionary, are made in cash and invested in accordance with participants' investment elections. There are no minimum amounts that must be invested in company stock, and there are no restrictions on transferring amounts out of company stock to another investment choice, other than excessive trading rules applicable to such investments. Employee contributions and our matching and discretionary contributions vest immediately as of the participants' employment dates. NOTE 15 — ACCUMULATED OTHER COMPREHENSIVE LOSS The components of and changes in accumulated other comprehensive loss (AOCL) were as follows, net of tax, for the year ended June 30, ~~2022~~ **2023** (in thousands): Attributable to Kennametal: Pension and other postretirement benefitsCurrency translation adjustmentDerivativesTotalBalance, June 30, **2022 $ (208, 406) $ (210, 048) $ 4, 503 $ (413, 951) Other comprehensive (loss) income before reclassifications (10, 402) 7, 407 — (2, 995) Amounts reclassified from AOCL3, 373 — (770) 2, 603 Net other comprehensive (loss) income (7, 029) 7, 407 (770) (392) AOCL, June 30, 2023 $ (215, 435) $ (** ~~2021~~ - **202** ~~$ (213~~ , ~~172~~ **641**) $ **3** ~~(122~~ , **733** ~~428)~~ $ ~~5, 273 $~~ (**414, 343) Attributable to noncontrolling interests: Balance, June** ~~330~~ - **30** , ~~327~~ **2022 $ — $ (7, 547) $ — $ (7, 547**) Other comprehensive loss before reclassifications **— (592) — (592) Net other comprehensive loss — (592) — (592) AOCL,June 30,2023 $ — $ (8,139) $ — $ (8,139)** The components of and changes in AOCL were as follows,net of tax,for the year ended June 30, ~~2020~~ **2022** (in thousands):Attributable to Kennametal:Pension and other postretirement benefitsCurrency translation adjustmentDerivativesTotalBalance,June 30, ~~2019~~ - **2021** $ (~~222~~ **213** , ~~270~~ **172**) $ (~~147~~ **122** , ~~595~~ **428**) $ **5** ~~(3~~ , **273** ~~678)~~ $ (~~373~~ **330** , ~~543~~ **327**) Other comprehensive loss before reclassifications ~~(18,299) (33,432) (582) (52,313) Amounts reclassified from AOCL7,935 — 679 8,614 Net other comprehensive (loss) income (10,364~~ (4, 163) (87, 620) — (91, 783) Amounts reclassified from AOCL8, 929 — (770) 8, 159 Net other comprehensive income (loss) 4, 766 (87, 620) (770) (83, 624) AOCL, June 30, 2022 $ (208, 406) $ (210, 048) $ 4, 503 $ (413, 951) Attributable to noncontrolling interests: Balance, June 30, 2021 $ — $ (3, 982) $ — $ (3, 982) Other comprehensive ~~income~~ **loss** before reclassifications — (3, 565) — (3, 565) Net other comprehensive loss — (3, 565) — (3, 565) AOCL, June 30, 2022 $ — $ (7, 547) $ — $ (7, 547) The components of and changes in AOCL were as follows, net of tax, for the year ended June 30, 2021 (in thousands): Attributable to Kennametal: Pension and other postretirement benefitsCurrency translation adjustmentDerivativesTotalBalance, June 30, 2020 $ (232, 634) $ (181, 027) $ (3, 581) $ (417, 242) Other comprehensive income before reclassifications9, 107 58, 599 9, 255 76, 961 Amounts reclassified from AOCL10, 355 — (401) 9, 954 Net other comprehensive income19, 462 58, 599 8, 854 86, 915 AOCL, June 30, 2021 $ (213, 172) $ (122, 428) $ 5, 273 $ (330, 327) Attributable to noncontrolling interests: Balance, June 30, 2020 $ — $ (5, 909) $ — $ (5, 909) Other comprehensive income before reclassifications — 1, 927 — 1, 927 Net other comprehensive income — 1, 927 — 1, 927 AOCL, June 30, 2021 $ — $ (3, 982) $ — $ (3, 982) The components of and changes in AOCL...... — $ (5, 909) Reclassifications out of AOCL for the years ended June 30, **2023,** 2022 ~~,~~ **and** 2021 ~~and 2020~~ consisted of the following: Year Ended June 30, Details about AOCL components (in thousands) ~~202220212020Affected~~ ---- **202320222021Affected** line item in the Income Statement (Gains) and losses on cash flow hedges: Forward starting interest rate swaps $ (1, 020) $ **(1, 020) $** 4, 082 ~~$ 2, 444~~ Interest expenseCurrency exchange contracts — **—** (24) ~~(1, 545)~~ Other **expense (** income **)** , netTotal before tax (1, 020) **(1, 020)** 4, 058 ~~899~~ Tax impact250 **250** (4, 459 ~~) (220~~) Provision for income taxesNet of tax $ (770) $ (**770) $ (** 401) ~~$ 679~~ Pension and other postretirement benefits: Amortization of transition obligations $ **84 $** 94 $ 94 ~~$ 88~~ Other **expense (** income **)** , netAmortization of prior service credit (**266) (** 263) (242) ~~(226)~~ Other **expense (** income **)** , netRecognition of actuarial ~~losses11~~ **losses4 , 632 11** , 999 13, 913 ~~10, 616~~ Other **expense (** income **)** , netTotal before ~~tax11~~ **tax4, 450 11** , 830 13, 765 ~~10, 478~~ Tax impact (**1, 077) (** 2, 901) (3, 410 ~~) (2, 543~~) Provision for income taxesNet of tax $ **3, 373 $** 8, 929 $ 10, 355 ~~$ 7, 935~~ The amount of income tax allocated to each component of other comprehensive ~~income~~ **loss** for the year ended June 30, ~~2022~~ **2023** : (in thousands) Pre- taxTax impactNet of taxReclassification of unrealized gain on expired derivatives designated and qualified as cash flow hedges $ (1, 020) $ 250 $ (770) Unrecognized net pension and other postretirement benefit plans loss (**13, 972) 3, 570 (10, 402) Reclassification of net pension and other postretirement benefit plans loss4, 450 (1, 077) 3, 373 Foreign currency translation adjustments6, 959 (144) 6, 815 Other comprehensive loss $ (3, 583) $ 2, 599 $ (984) The amount of income tax allocated to each component of other comprehensive loss for the year ended June 30, 2022: (in thousands) Pre- taxTax impactNet of taxReclassification of unrealized gain on expired derivatives designated and qualified as cash flow hedges (1, 020) 250 (770) Unrecognized net pension and other**

postretirement benefit plans loss (3, 894) (269) (4, 163) Reclassification of net pension and other postretirement benefit plans loss11, 830 (2, 901) 8, 929 Foreign currency translation adjustments (91, 012) (173) (91, 185) Other comprehensive loss $ (84, 096) $ (3, 093) $ (87, 189) The amount of income tax allocated to each component of other comprehensive ~~loss~~ **income** for the year ended June 30, 2021: (in thousands) Pre- taxTax impactNet of taxUnrealized gain on derivatives designated and qualified as cash flow hedges $ 12, 264 $ (3, 009) $ 9, 255 Reclassification of unrealized ~~loss (~~ gain ~~)~~ on expired derivatives designated and qualified as cash flow hedges4, 058 (4, 459) (401) Unrecognized net pension and other postretirement benefit plans gain11, 901 (2, 794) 9, 107 Reclassification of net pension and other postretirement benefit plans loss13, 765 (3, 410) 10, 355 Foreign currency translation adjustments61, 038 (510) 60, 528 Other comprehensive income $ 103, 026 $ (14, 182) $ 88, 844 ~~The amount of income tax allocated to each component of other comprehensive loss for the year ended June 30, 2020: (in thousands) Pre- taxTax impactNet of taxUnrealized loss on derivatives designated and qualified as cash flow hedges $ (771) $ 189 $ (582) Reclassification of unrealized loss on expired derivatives designated and qualified as cash flow hedges899 (220) 679 Unrecognized net pension and other postretirement benefit plans loss (23, 999) 5, 700 (18, 299) Reclassification of net pension and other postretirement benefit plans loss10, 478 (2, 543) 7, 935 Foreign currency translation adjustments (35, 936) 45 (35, 891) Other comprehensive loss $ (49, 329) $ 3, 171 $ (46, 158)~~ NOTE 16 — RESTRUCTURING AND ~~RELATED~~ **OTHER** CHARGES **, NET In the June quarter of fiscal 2023, we announced an initiative to streamline our cost structure while continuing to invest in our high- return commercial and operational excellence initiatives. Total restructuring and related charges for this program of $ 7. 4 million, compared to a target of approximately $ 20 million, were recorded through June 30, 2023, consisting of $ 6. 0 million in Metal Cutting and $ 1. 4 million in Infrastructure. The majority of the remaining charges are expected to be recognized in fiscal 2024.** ~~FY20~~ **FY21** Restructuring Actions In the ~~June~~ **September** quarter of ~~fiscal 2019, we implemented, and in~~ fiscal 2020 ~~substantially completed~~ , **we announced** the ~~FY20~~ **initiation of** ~~Restructuring~~ **restructuring** ~~Actions~~ **actions in Germany** associated with our simplification / modernization initiative to reduce structural costs **. Subsequently** , ~~improve~~ **we agreed with local employee representatives to downsize our Essen, Germany** ~~operational~~ **operations** ~~efficiency and position us for long- term profitable growth~~ **instead of the previously proposed closure. During the June quarter of fiscal 2020, we also announced the acceleration of our other structural cost reduction plans** . Total restructuring and related charges since inception of $ ~~54~~ **86** . ~~8~~ **4** million **, compared to a target of approximately $ 85 million,** were recorded for this program through June 30, ~~2021, consisting of: $ 46. 6 million in Metal Cutting and $ 8. 3 million in Infrastructure. The FY20 Restructuring Actions are considered complete. Total restructuring and related charges since inception of $ 86. 4 million, compared to a target of approximately $ 85 million, were recorded for this program through June 30,~~ 2022, consisting of: $ 78. 1 million in Metal Cutting and $ 8. 3 million in Infrastructure. The FY21 Restructuring Actions are considered ~~substantially~~ complete. During ~~2020~~ **2023** , we recorded restructuring and related charges of $ ~~83~~ **6. 6 million, which consisted of $ 5** . 3 **million in Metal Cutting and $ 1. 3 million in Infrastructure. These amounts are inclusive of a reversal of restructuring charges of $ 0. 8 million related to prior actions. Also included in restructuring and other charges, net during 2023 is a net benefit of $ 2. 5 million primarily due to the sale of properties. During 2021, we recorded restructuring and related charges of $ 40. 4** million which consisted of $ ~~73~~ **35** . ~~7~~ **6** million in Metal Cutting and $ ~~8~~ **4** . 8 million in Infrastructure. Of this amount, restructuring charges totaled $ ~~69~~ **29** . ~~2~~ **6** million, of which $ 0. ~~9~~ **5** million was related to inventory and was recorded in cost of goods sold. Restructuring- related charges of $ ~~14~~ **10** . ~~1~~ **8** million were included in cost of goods sold. As of June 30, ~~2022~~ **2023** , $ ~~6~~ **9** . ~~0~~ **4** million of the restructuring accrual is recorded in other current liabilities and $ ~~1~~ **0** . ~~9~~ **5** million is recorded in other liabilities in our consolidated balance sheet. As of June 30, ~~2021~~ **2022** , $ ~~19~~ **6** . ~~9~~ **0** million of the restructuring accrual is recorded in other current liabilities and $ ~~9~~ **1** . 9 million is recorded in other liabilities in our consolidated balance sheet. The amounts are as follows: (in thousands) June 30, ~~2021Expense~~ **2022ExpenseAsset Write- DownTranslationCash ExpendituresJune 30, 2023Severance $ 7, 919 $ 6, 605 $ — $ 29 $ (4, 668) $ 9, 885 Total7, 919 6, 605 — 29 (4, 668) 9, 885 (in thousands) June 30, 2021 (Reversal) expense** , netAsset Write- DownTranslationCash ExpendituresJune 30, 2022Severance $ 29, 723 $ (4, 628) $ — $ (1, 772) $ (15, 404) $ 7, 919 Facilities — 3, 385 (3, 385) — — — ~~Other — — — — — —~~ Total29, 723 (1, 243) (3, 385) (1, 772) (15, 404) 7, 919 ~~(in thousands) June 30, 2020ExpenseAsset Write- DownTranslationCash ExpendituresJune 30, 2021Severance $ 47, 303 $ 23, 917 $ — $ 2, 445 $ (43, 942) $ 29, 723 Facilities — 5, 664 (5, 664) — — — Other63 — — 2 (65) — Total47, 366 29, 581 (5, 664) 2, 447 (44, 007) 29, 723~~ NOTE 17 — FINANCIAL INSTRUMENTS The methods used to estimate the fair value of our financial instruments are as follows: Cash and Cash Equivalents, Revolving and Other Lines of Credit and Notes Payable The carrying amounts approximate their fair value because of the short maturity of the instruments. Long- Term Debt, Including Current Maturities Fixed rate debt had a fair market value of $ **527. 4 million and $** 536. 1 ~~million and $ 644. 2~~ million at June 30, **2023 and** 2022 ~~and 2021~~ , respectively. The Level 2 fair value is determined based on the quoted market prices for similar debt instruments as of June 30, **2023 and** 2022 ~~and 2021~~ , respectively. Interest Rate Swap Contracts During 2021, upon issuance of the Senior Unsecured Notes due 2031 (see Note 11 for more information) we settled the forward starting interest rate swap contracts used to hedge a portion of the interest rate risk related to the refinancing. The notional amount of the forward starting interest rate swap contracts at June 30, 2020 was $ 200. 0 million. There were no interest rate swap contracts outstanding at June 30, **2023 or** 2022 ~~or 2021~~ . Concentrations of Credit Risk Financial instruments that potentially subject us to concentrations of credit risk consist primarily of temporary cash investments and trade receivables. By policy, we make temporary cash investments with high credit quality financial institutions and limit the amount of exposure to any one financial institution. With respect to trade receivables, concentrations of credit risk are significantly reduced because we serve numerous customers in many industries and geographic areas. We are exposed to counterparty credit risk for nonperformance of derivatives and, in the unlikely event of nonperformance, to market risk for changes in interest and currency exchange rates, as well as settlement risk. We manage exposure to counterparty credit risk through credit standards, diversification of counterparties and procedures to monitor concentrations of credit risk. We do not anticipate nonperformance by any of the counterparties. As of June 30, **2023 and** 2022

~~and 2021~~ , we had no significant concentrations of credit risk. NOTE 18 — STOCK- BASED COMPENSATION Stock Options Changes in our stock options for ~~2022~~ **2023** were as follows: OptionsWeightedAverageExercise PriceWeightedAverageRemainingLife (years) AggregateIntrinsic value (in thousands) Options outstanding, June 30, ~~2021315~~ **2022271** , ~~012~~ **843** $ 37. ~~83~~ **45** Exercised **— —** ~~(6, 916) 31. 69~~ Lapsed and forfeited (~~36~~ **54** , ~~253~~ **229**) ~~41~~ **38** . ~~84~~ **10** Options outstanding, June 30, ~~2022271~~ **2023217** , ~~843~~ **614** $ 37. ~~45~~ **29** 1. ~~9~~ **4** $ ~~33~~ **105** Options vested and expected to vest, June 30, ~~2022271~~ **2023217** , ~~843~~ **614** $ 37. ~~45~~ **29** 1. ~~9~~ **4** $ ~~33~~ **105** Options exercisable, June 30, ~~2022271~~ **2023217** , ~~843~~ **614** $ 37. ~~45~~ **29** 1. ~~9~~ **4** $ ~~33~~ **105** As of June 30, **2023 and** 2022 ~~and June 30, 2021~~ , there was no unrecognized compensation cost related to options outstanding. All options were fully vested as of June 30, **2023 and** 2022 ~~and June 30, 2021~~ . Tax benefits relating to excess stock- based compensation deductions are presented in the consolidated statements of cash flows as operating cash inflows. Tax benefits resulting from stock- based compensation deductions were ~~less~~ **greater** than the amounts reported for financial reporting purposes by $ 0. ~~2~~ **8** million **and $ 0. 7 million** in ~~2022~~ **2023 and 2021** , ~~greater~~ **respectively, and less** than the amounts reported for financial reporting purposes by $ 0. ~~7~~ **2** million in ~~2021~~ **2022** ~~, and an immaterial amount in 2020~~ . The amount of cash received from the exercise of capital stock options during **2023,** 2022 ~~,~~ **and** 2021 ~~and 2020~~ was **zero,** $ 0. 2 million ~~,~~ **and** $ 6. 6 ~~million and $ 0. 9~~ million, respectively. The related tax benefit was zero in **2023 and** 2022, **respectively, and** $ 0. 6 million in 2021 ~~, and was immaterial in 2020~~ . The total intrinsic value of options exercised in **2023,** 2022 ~~,~~ **and** 2021 ~~and 2020~~ was **zero,** $ 0. 1 million ~~,~~ **and** $ 2. 4 ~~million and $ 0. 3~~ million, respectively. Restricted Stock Units – Time Vesting and Performance Vesting Performance vesting restricted stock units are earned based on both annual and three- year performance targets. The performance ~~and time~~ vesting restricted stock units are subject to a service condition that requires the individual to be employed by the Company at the payment date after a three- year period, with the exception of retirement eligible grantees, who upon retirement are entitled to receive payment for any units that have been earned, including a prorated portion in the partially completed fiscal year in which the retirement occurs. Time vesting stock units are valued at the market value of the stock on the grant date. Performance vesting stock units with a market condition are valued using a Monte Carlo model. Changes in our **performance vesting and** time ~~vesting and performance~~ vesting restricted stock units for ~~2022~~ **2023** were as follows: PerformanceVestingStockUnitsPerformanceVestingWeightedAverage FairValueTime VestingStock UnitsTime VestingWeightedAverage FairValueUnvested, June 30, ~~2021500~~ **2022350** , ~~477~~ **955** $ **33. 44 1, 213, 896 $ 33. 53 Granted189, 469 27. 27 738, 089 26. 92 Vested — — (642, 119)** 32. ~~53 1, 332, 740 $ 31. 72 Granted108, 234 36. 70 532, 638 36. 51 Vested (38, 620~~ - **62** ~~) 39. 69 (534, 462) 32. 14~~ Performance metric adjustments, net (~~150~~ **52** , ~~711~~ **111**) ~~31~~ **27** . ~~18~~ **58** — — Forfeited (~~68~~ **4** , ~~425) 33. 43 (117, 020) 32~~ **832) 30** . ~~79~~ **49 (102, 424) 29. 89** Unvested, June 30, ~~2022350~~ **2023483** , ~~955~~ **481** $ ~~33~~ **31** . ~~44~~ **68** 1, ~~213~~ **207** , ~~896~~ **442** $ ~~33~~ **30** . ~~53~~ **26** During **2023,** 2022 ~~,~~ **and** 2021 ~~and 2020~~ , compensation expense related to **performance vesting and** time ~~vesting and performance~~ vesting restricted stock units was $ **23. 3 million, $** 20. 1 million ~~,~~ **and** $ 23. 9 million ~~and $ 15. 3 million~~ , respectively. ~~Certain performance~~ **Performance** ~~metrics were not met, resulting in an adjustment of 150, 711 performance~~ vesting stock units **were adjusted by 52, 111 units** during **2023 related to the fiscal** 2022 **performance year** . As of June 30, ~~2022~~ **2023** , the total unrecognized compensation cost related to unvested **performance vesting and** time ~~vesting and performance~~ vesting restricted stock units was $ ~~23~~ **24** . ~~3~~ **6** million and is expected to be recognized over a weighted average period of 1. 7 years. NOTE 19 — 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 sites associated with our current or former operations. We establish and maintain accruals for **estimated liabilities associated with** certain ~~potential~~ environmental ~~liabilities~~ **matters** . At June 30, **2023 the balance of such accruals was $ 12. 0 million, of which $ 1. 7 million was current. At June 30,** 2022 ~~and 2021~~ , the ~~balances~~ - **balance was** ~~of these liabilities were~~ $ 12. 5 million, of which $ 7. 9 million was current, **respectively** ~~and $ 14~~ . **The decrease in the** ~~7 million, of which $ 2. 6 million was~~ current **balance reflects adjustments in estimated completion timelines based on currently available information** , ~~respectively~~ **while the composition of such accruals remains largely unchanged** . These accruals ~~represent anticipated costs associated with the remediation of these issues and~~ are generally not discounted **. We record a loss contingency when the available information indicates it is probable that we have incurred a liability and the amount of the loss is reasonably estimable. The likelihood of a loss with respect to a particular environmental matter is often difficult to predict, and determining a meaningful estimate of the loss or a range of loss may not be practicable based on information available. When a material loss contingency is probable but a reasonable estimate cannot be made, or when a material loss contingency is at least reasonably possible, disclosure is provided** . The accruals we have established for **estimated** environmental liabilities represent our best current estimate of the probable and reasonably estimable costs of addressing 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 the accruals currently appear to be sufficient to cover these environmental obligations, 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 **accrued** ~~recorded and unrecorded~~ 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 **or the courts** on these matters. Among other environmental laws, we are subject to the Comprehensive Environmental Response Compensation and Liability Act of 1980 **(CERCLA)** , under which we have been identified by the USEPA or other third party as a PRP with respect to environmental remedial costs at certain **Superfund** sites. We have evaluated our claims and ~~potential~~ **estimated** liability associated with these sites based upon the best information currently available to us. We believe our environmental accruals **are** ~~will be~~ adequate to cover our portion of the environmental remedial costs at ~~those~~ -- **the** sites where we have been designated a PRP, to the extent these expenses are probable and reasonably estimable. NOTE 20 — COMMITMENTS AND CONTINGENCIES Legal Matters Various lawsuits arising during the normal course of business are pending against us. In our opinion, the ultimate liability, if any, resulting from these matters will have no significant effect on our consolidated financial position or results of operations **. During 2023, we recorded a litigation settlement of $ 3 million related to legacy operations within other expense (income), net** . Lease Commitments We lease a wide variety of facilities and equipment under operating leases, primarily for warehouses, production and office facilities and equipment. Refer to Note 9 for more information. Purchase Commitments We have purchase commitments for materials, supplies and machinery and equipment as part of the ordinary conduct of business. Some of these commitments extend beyond one year and are based on minimum purchase requirements. We believe these commitments are not at prices in excess of current market. Other Contractual Obligations We do not have material financial guarantees or other contractual commitments that are reasonably likely to adversely affect our liquidity. Related Party Transactions Sales to affiliated companies were immaterial in **2023,** 2022 ~~,~~ **and** 2021 ~~and 2020~~ . We do not have any other related party transactions that affect our operations, results of operations, cash ~~flow~~ **flows** or financial condition. NOTE 21 — SEGMENT DATA The Company manages and reports its business in the following two segments: Metal Cutting and Infrastructure. The Company' s reportable operating segments have been determined in accordance with the Company' s internal management structure, which is organized based on operating activities, the manner in which we organize segments for making operating decisions and assessing performance and the availability of separate financial results. We do not allocate certain corporate expenses related to executive retirement plans, the Company' s Board of Directors and strategic initiatives, as well as certain other costs and report them in Corporate. Our reportable operating segments do not represent the aggregation of two or more operating segments. Sales to a single customer did not aggregate to five percent or more of total sales in **2023,** 2022 ~~,~~ **and** 2021 ~~and 2020~~ . METAL CUTTING The Metal Cutting segment develops and manufactures high performance tooling and metal cutting products and services and offers an assortment of standard and custom metal cutting solutions to diverse end markets, including aerospace **and defense** , general engineering, energy and transportation. The 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. Metal Cutting markets its products under the Kennametal ®, WIDIA ®, WIDIA Hanita ® and WIDIA GTD ® brands 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. INFRASTRUCTURE Our Infrastructure segment produces engineered tungsten carbide and ceramic components, earth- cutting tools, and advanced metallurgical powders, primarily for the **aerospace and defense,** 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; **high temperature critical wear components, tungsten penetrators and armor solutions for aerospace and defense;** and ceramics used by the packaging industry for metallization of films and papers. We combine deep metallurgical and engineering expertise with advanced manufacturing capabilities, such as 3D printing, 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. Segment data is summarized as follows: (in thousands) ~~202220212020Sales~~ ---- **20232022 2021Sales** : Metal Cutting $ 1, **269, 765 $ 1,** 227, 273 $ 1, 150, 746 ~~$ 1, 178, 053 Infrastructure785~~ - **Infrastructure808 , 419 785** , 183 690, 695 ~~707, 252~~ Total sales $ 2, **078, 184 $ 2,** 012, 456 $ 1, 841, 441 ~~$ 1, 885, 305~~ Operating income: Metal Cutting $ **135, 763 $** 121, 386 $ 45, 855 ~~$ 985 Infrastructure98~~ - **Infrastructure59 , 757 98** , 871 59, 461 ~~23, 113~~ Corporate (**3, 103) (** 2, 117) (3, 148 ~~) (1, 846~~) Total operating income $ **192, 417 $** 218, 140 $ 102, 168 ~~$ 22, 252~~ Interest expense $ **28, 496 $** 25, 914 $ 46, 375 ~~$ 35, 154~~ Other **expense (** income **)** , ~~net~~ **net4 , 300** (14, 507) (8, 867 ~~) (14, 862~~) Income before income taxes $ **159, 621 $** 206, 733 $ 64, 660 ~~$ 1, 960~~ Depreciation and amortization: Metal Cutting $ **90, 880 $** 87, 986 $ 81, 796 ~~$ 74, 664~~ Infrastructure43 **, 144 43** , 691 44, 661 ~~45, 176~~ Corporate1 **1** 31 ~~20~~ Total depreciation and amortization $ **134, 025 $** 131, 678 $ 126, 488 ~~$ 119, 860~~ Segment assets (4): Metal Cutting $ 1, **460, 757 $ 1,** 469, 835 $ 1, 532, 177 ~~$ 1, 452, 131 Infrastructure768~~ **Infrastructure734 , 944 768** , 226 698, 766 ~~748, 424 Corporate335~~ - **Corporate351 , 533 335** , 463 434, 818 ~~837, 036~~ Total assets $ 2, **547, 234 $ 2,** 573, 524 $ 2, 665, 761 ~~$ 3, 037, 591~~ Capital expenditures: Metal Cutting $ **58, 384 $** 64, 055 $ 103, 812 ~~$ 195, 167 Infrastructure32~~ **Infrastructure36 , 001 32** , 869 23, 490 ~~48, 984~~ Total capital expenditures $ **94, 385 $** 96, 924 $ 127, 302 ~~$ 244, 151~~ (4) Metal Cutting and Infrastructure segment assets are principally accounts receivable, less allowance for doubtful accounts; inventories; property, plant and equipment, net; goodwill; other intangible assets, net of accumulated amortization; and operating lease ROU assets. Corporate assets are principally cash and cash equivalents, other current assets, long- term prepaid pension benefit, deferred income taxes and other assets. Geographic information for sales, based on country where the sale originated, and long- lived assets is as follows: (in thousands) ~~202220212020Sales~~ ---- **20232022 2021Sales** : United States $ **848, 713 $** 797, 768 $ 692, 106 ~~$ 778, 054 Germany262~~ **Germany270 , 936 262** , 764 260, 792 ~~248, 796 China234~~ **China220 , 193 234** , 997 242, 815 ~~214~~ **India112** , ~~364 Canada94~~ **819 108, 695 94, 966 Canada103, 323 94** , 956 79, 891 ~~90, 247 India108, 695 94, 966 81, 366 Italy67~~ **Italy68 , 249 67** , 930 59, 955 ~~52, 699 France47~~ **France51 , 178 47** , 218 45, 356 ~~45~~ **South Africa42** , ~~817~~ **775 42, 402 36, 079 Mexico 42, 367 35, 099 29, 629 Brazil32, 946 26, 147 21, 292 Spain31, 064 29, 756 30, 577** United ~~Kingdom30~~ **Kingdom29 , 943 30** , 686 28, 464 ~~33, 305~~ Other (5) ~~367~~ **223** , ~~442 337~~ **678 234** , ~~096 340~~ **038 219** , ~~657~~ **519** Total sales $ 2, **078, 184 $ 2,** 012, 456 $ 1, 841, 441 ~~$ 1, 885, 305~~ Total long- lived assets: United States $ **552, 770 $** 585, 003 $ 611, 724 **Germany204** ~~$ 607~~ , ~~222 Germany195~~ **551 195** , 325 218, 250 ~~210~~ **China81** , ~~674 China92~~ **731 92** , 315 97, 404 ~~92, 658 India45~~ **India44 , 748 45** , 146

19, 144 ~~20, 508 Israel26~~ **Israel24 , 662 26** , 864 44, 504 ~~44, 673~~ Canada18 **, 934 18** , 478 21, 790 ~~22, 249~~ Other (5) **41, 672** 38, 910 42, 319 ~~40, 287~~ Total long- lived assets (6) $ **969, 068 $** 1, 002, 041 $ 1, 055, 135 ~~$ 1, 038, 271~~ (5) Other does not contain any country that individually exceeds 2 percent of total sales or total long- lived assets, respectively. (6) Total long- lived assets as of June 30, **2023,** 2022 ~~,~~ **and** 2021 ~~and 2020~~ include property, plant, and equipment, net. The following table presents Kennametal' s revenue disaggregated by segment by geography: Metal CuttingInfrastructureTotal ~~Kennametal202220212020202220212020202220212020Americas41~~ **Kennametal202320222021202320222021202320222021Americas44 % 41** % 38 % ~~42~~ **60** % 59 % 57 % ~~62~~ **50** % 48 % 45 % ~~49 % EMEA37~~ **EMEA36 37** 39 ~~37~~ **18** 18 19 ~~18~~ **29** 30 31 ~~30~~ Asia ~~Pacific22~~ **Pacific20 22** 23 ~~21~~ **22** 23 24 ~~20~~ **21** 22 24 ~~21~~ The following table presents Kennametal' s revenue disaggregated by segment by end market: Metal CuttingInfrastructureTotal ~~Kennametal202220212020202220212020202220212020General~~ **Kennametal202320222021202320222021202320222021General** ~~Engineering56~~ **Engineering55** % ~~54~~ **55** % 53 % 34 % ~~35~~ **34** % 34 % 47 % 47 % 46 % Transportation27 **27** 30 ~~27 — — —~~ **16** 17 19 ~~17 Aerospace9~~ - **Aerospace & Defense11 10 9** ~~8 12 — — —~~ 6 ~~5~~ 7 **9 9 9 9** ~~Energy8~~ **Energy7** 8 8 ~~29 26 28 16 15 16~~ **24 22 18 14 13 12** Earthworks — — — **36** 37 39 ~~38~~ 14 14 14 ITEM 9 — CHANGES IN AND DISAGREEMENTS WITH ACCOUNTANTS ON ACCOUNTING AND FINANCIAL DISCLOSURE ITEM 9A — CONTROLS AND PROCEDURES (a) Evaluation of Disclosure Controls and Procedures 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)) as of June 30, ~~2022~~ **2023** . The Company' s disclosure controls were designed to provide a reasonable assurance that information required to be disclosed in reports that we file or submit under the Exchange Act of 1934, as amended, is recorded, processed, summarized and reported within the time periods specified in the rules and forms of the Securities and Exchange Commission. It should be noted that the design of any system of controls is based in part upon certain assumptions about the likelihood of future events, and there can be no assurance that any design will succeed in achieving its stated goals under all potential future conditions, regardless of how remote. However, the controls have been designed to provide reasonable assurance of achieving the controls' stated goals. Based on that evaluation, the Company' s Chief Executive Officer and Chief Financial Officer have concluded that the Company' s disclosure controls and procedures are effective to provide reasonable assurance at June 30, ~~2022~~ **2023** 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. (b) Management' s Report on Internal Control over Financial Reporting Management' s Report on Internal Control over Financial Reporting is included in Item 8 of this Annual Report and incorporated herein by reference. (c) Attestation Report of the Independent Registered Public Accounting Firm The effectiveness of Kennametal' s internal control over financial reporting as of June 30, ~~2022~~ **2023** has been audited by PricewaterhouseCoopers LLP, an independent registered public accounting firm, as stated in their report included in Item 8 of this Annual Report, which is incorporated herein by reference. (d) Changes in Internal Control over Financial Reporting There have been no changes in internal control over financial reporting that occurred during the fourth quarter of ~~2022~~ **2023** that have materially affected, or are reasonably likely to materially affect, the Company' s internal control over financial reporting. ITEM 9B — OTHER INFORMATION **Rule 10b5- 1 Trading Arrangements In the quarter ended June 30, 2023, none of our directors or officers (as defined in Rule 16a- 1 (f) of the Exchange Act) adopted, modified or terminated a plan for the purchase or sale of our securities intended to satisfy the affirmative defense conditions of Rule 10b5- 1 (c) or a non- Rule 10b5- 1 trading arrangement for the purchase or sale of our securities, within the meaning of Item 408 of Regulation S- K.** ITEM 9C — DISCLOSURE REGARDING FOREIGN JURISDICTIONS THAT PREVENT INSPECTIONS PART III ITEM 10 — DIRECTORS, EXECUTIVE OFFICERS AND CORPORATE GOVERNANCE INFORMATION ABOUT OUR EXECUTIVE OFFICERS Information regarding the executive officers of Kennametal Inc. is as follows: Name, Age, Position, and Experience during the Past Five Years (1). Christopher Rossi, ~~58~~ **59** President and Chief Executive Officer President and Chief Executive Officer since August 2017; Formerly, Chief Executive Officer of Dresser- Rand at Siemens Aktiengesellschaft (provides custom- engineered rotating equipment for applications in the oil, gas, process, power, and other industries), from September 2015 to May 2017; Executive Vice President of Global Operations at Dresser- Rand Group Inc. from September 2012 to September 2015. Judith L. Bacchus, ~~60~~ **61** Vice President and Chief Administrative Officer Vice President and Chief Administrative Officer since May 2019; Vice President and Chief Human Resources and Corporate Relations Officer since December 2015; Vice President and Chief Human Resources Officer from June 2011 to November 2015. Franklin Cardenas, ~~54~~ **55** Vice President, Kennametal Inc. and President, Infrastructure Business Segment Vice President, Kennametal Inc. and President, Infrastructure Business Segment since February 2020; Formerly, Vice President of Asia Pacific for the Donaldson Company (a global leader in the filtration industry) from 2016 to 2020 and Vice President, Global Engine Aftermarket from 2010 to 2016. He started at Donaldson Company in 1995 and held roles of increasing responsibility until 2020. Sanjay Chowbey, ~~54~~ **55** President, Metal Cutting President, Metal Cutting since June 2021; Formerly, President, Services and Solutions of Flowserve from 2019 to 2021 and Senior Vice President and President of TE SubCom from 2017 to 2018. Previously spent over 11 years at Danaher / Fortive Corporation (from 2006 through 2017) serving in various roles of increasing responsibility, the latest being President, Thomson Industries. Michelle R. Keating, ~~46~~ **47** Vice President, Secretary and General Counsel, Kennametal Inc. Vice President, Secretary and General Counsel, Kennametal Inc. since December 2016; Vice President, Secretary and Interim General Counsel from July 2016 to December 2016; Vice President, Associate General Counsel & Assistant Secretary from March 2016 to July 2016; Assistant General Counsel & Assistant Secretary from August 2011 to February 2016. Carlonda R. Reilly, ~~54~~ **55** Vice President and Chief Technology Officer Vice President and Chief Technology Officer since September 2018; Formerly, Global Technology Director in Transportation and

Advanced Polymers business at DuPont (chemical company) from January 2016 to September 2018 and Global Technology Director in Building Innovations at DuPont from 2013 to January 2016. Patrick S. Watson, ~~49~~ **50** Vice President Finance and Chief Financial Officer Vice President Finance and Chief Financial Officer since June 2022; Formerly, Vice President Finance and Corporate Controller, Kennametal Inc. from March 2017 to June 2022; Vice President Finance- Industrial Business from March 2014 to February 2017; Director Finance, Kennametal EMEA from August 2011 to August 2014. John W. Witt, ~~43~~ **44** Vice President Finance and Corporate Controller since June 2022; Formerly, Director, Internal Audit, Kennametal Inc. from April 2019 to June 2022; Assistant Corporate Controller, Kennametal Inc. from August 2018 to April 2019; Assurance Director at PricewaterhouseCoopers (" PwC") from July 2016 to August 2018 and prior to this in other roles of increasing responsibility at PwC. (1) Each executive officer has been elected by the Board of Directors to serve until removed or until a successor is elected and qualified. Unless otherwise noted, none of the executive officers (i) has an arrangement or understanding with any other person (s) pursuant to which he or she was selected as an officer, (ii) has any family relationship with any director or executive officer of the Company, or (iii) is involved in any legal proceeding which would require disclosure under this item. Incorporated herein by reference is the information to be provided under the captions " Proposal I. Election of Directors " in our definitive proxy statement to be filed with the Securities and Exchange Commission within 120 days after June 30, ~~2022~~ **2023** (~~2022~~ **2023** Proxy Statement). Also incorporated herein by reference is the information to be set forth under the caption " Ethics and Corporate Governance- Code of Conduct " and" Ethics and Corporate Governance- Corporate Governance" in the ~~2022~~ **2023** Proxy Statement. The Company has a separately designated standing Audit Committee established in accordance with Section 3 (a) (58) (A) of the Exchange Act. The members of the Audit Committee are: William M. Lambert (Chair); ~~Lorraine M. Martin;~~ Sagar A. Patel; **Paul Sternlieb** and Steven H. Wunning. Incorporated herein by reference is the information provided under the caption " Board of Directors and Board Committees- Committee Functions- Audit Committee " in the ~~2022~~ **2023** Proxy Statement. ITEM 11 — EXECUTIVE COMPENSATION Incorporated herein by reference from our ~~2022~~ **2023** Proxy Statement is the information to be set forth under the captions " Executive Compensation, Compensation Discussion and Analysis, "" Compensation Committee Report,"" Analysis of Risk Inherent in our Compensation Policies and Practices,"" Executive Compensation Tables,"" ~~2022~~ **2023** Nonqualified Deferred Compensation,"" Retirement Programs" and" Potential Payments Upon Termination or Change in Control." Also incorporated herein by reference from our ~~2022~~ **2023** Proxy Statement is the information to be set forth under the captions " Board of Directors Compensation and Benefits " and " Board of Directors and Board Committees- Committee Functions- Compensation Committee Interlocks and Insider Participation." ITEM 12 — SECURITY OWNERSHIP OF CERTAIN BENEFICIAL OWNERS AND MANAGEMENT AND RELATED STOCKHOLDER MATTERS Incorporated herein by reference from our ~~2022~~ **2023** Proxy Statement are: (i) the information to be set forth under the caption " Equity Compensation Plans, " (ii) the information to be set forth under the caption " Ownership of Capital Stock by Directors, Nominees and Executive Officers " with respect to the directors' and officers' shareholdings; and (iii) the information to be set forth under the caption " Principal Holders of Voting Securities " with respect to other beneficial owners. ITEM 13 — CERTAIN RELATIONSHIPS AND RELATED TRANSACTIONS, AND DIRECTOR INDEPENDENCE Incorporated herein by reference is the information to be set forth under the captions " Ethics and Corporate Governance- Corporate Governance- Board of Director Review and Approval of Related Person Transactions, " " Executive Compensation, " " Executive Compensation Tables " and " Ethics and Corporate Governance- Corporate Governance- Board Composition and Independence " in the ~~2022~~ **2023** Proxy Statement. ITEM 14 — PRINCIPAL ACCOUNTING FEES AND SERVICES Incorporated herein by reference is the information with respect to pre- approval policies set forth under the caption " Proposal II. Ratification of PricewaterhouseCoopers LLP (PCAOB ID 238) as our Independent Registered Public Accounting Firm for the Fiscal Year ending June 30, ~~2023~~ **2024** - Audit Committee Pre- Approval Policy " and the information with respect to principal accountant fees and services set forth under " Proposal II. Ratification of PricewaterhouseCoopers LLP as our Independent Registered Public Accounting Firm for the Fiscal Year ending June 30, ~~2023~~ **2024** - Fees and Services " to be set forth in the ~~2022~~ **2023** Proxy Statement. SIGNATURES Pursuant to the requirements of Section 13 or 15 (d) of the Securities Exchange Act of 1934, the registrant has duly caused this report to be signed on its behalf by the undersigned, thereunto duly authorized. KENNAMETAL INC. Date: August ~~10~~ **9** , ~~2022~~ **2023** By: / s / John W. Witt John W. Witt Vice President Finance and Corporate Controller Pursuant to the requirements of the Securities Exchange Act of 1934, this report has been signed below by the following persons on behalf of the registrant and in the capacities and on the dates indicated. SIGNATURETITLE DATE / s / CHRISTOPHER ROSSIChristopher RossiPresident and Chief Executive OfficerAugust ~~10~~ **9** , ~~2022~~ **2023** / s / PATRICK S. WATSONPatrick S. Watson Vice President and Chief Financial Officer August ~~10~~ **9** , ~~2022~~ **2023** / s / JOHN W. WITTJohn W. Witt Vice President Finance and Corporate Controller August ~~10~~ **9** , ~~2022~~ **2023** / s / LAWRENCE W. STRANGHOENERLawrence W. Stranghoener Chairman of the Board August ~~10~~ **9** , ~~2022~~ **2023** / s / JOSEPH ALVARADOJoseph Alvarado Director August ~~10~~ **9** , ~~2022~~ **2023** / s / CINDY L. DAVISCindy L. Davis Director August ~~10~~ **9** , ~~2022~~ **2023** / s / WILLIAM J. HARVEYWilliam J. Harvey Director August ~~10~~ **9** , ~~2022~~ **2023** / s / WILLIAM M. LAMBERTWilliam M. Lambert Director August ~~10~~ **9** , ~~2022~~ **2023** / s / LORRAINE M. MARTINLorraine M. Martin Director August ~~10~~ **9** , ~~2022~~ **2023** / s / SAGAR A. PATELSagar A. Patel Director August ~~10~~ **9** , ~~2022~~ **2023 / s / PAUL STERNLIEBPaul SternliebDirectorAugust 9, 2023** / s / STEVEN H. WUNNINGSteven H. Wunning Director August ~~10~~ **9** , ~~2022~~ **2023** PART IV ITEM 15 — EXHIBITS, FINANCIAL STATEMENT SCHEDULES (a) Documents filed as part of this Form 10- K report. 1. Financial Statements included in Part II, Item 8 2. Financial Statement Schedule The financial statement schedule required by Part II, Item 8 of this document is filed as part of this report. All of the other schedules are omitted as the required information is inapplicable or the information is presented in our consolidated financial statements or related notes. FINANCIAL STATEMENT ~~SCHEDULEPage77~~ **SCHEDULEPage78** Schedule II — Valuation and Qualifying Accounts for the Years Ended June 30, **2023,** 2022 ~~,~~ **and** 2021 ~~and 2020~~ 3. Exhibits 3 Articles of Incorporation and Bylaws3. 1 Articles of Incorporation of Kennametal Inc., as amended and restated through October 28, 2014Exhibit 3. (i) of the Form 8- K filed

October 30, 2014 (File No. 001- 05318) is incorporated herein by reference. 3. 2 By- Laws of Kennametal Inc., as amended and restated through July 26, 2016Exhibit 10. 1 of the Form 8- K filed July 28, 2016 (File No. 001- 05318) is incorporated herein by reference. 4 Instruments Defining the Rights of Security Holders, Including Indentures4. 1 Indenture, dated as of June 19, 2002, by and between the Registrant and Bank One Trust Company, N. A., as trusteeExhibit 4. 1 of the Form 8- K filed June 20, 2002 (File No. 001- 05318) is incorporated herein by reference. 4. 2 First Supplemental Indenture, dated as of June 19, 2002, by and between the Registrant and Bank One Trust Company, N. A., as trusteeExhibit 4. 2 of the Form 8- K filed June 20, 2002 (File No. 001- 05318) is incorporated herein by reference. 4. 3 Indenture dated February 14, 2012 between Kennametal Inc. and U. S. Bank National AssociationExhibit 4. 1 of the Form 8- K filed February 14, 2012 (File No. 001- 05318) is incorporated herein by reference. 4. 4 First Supplemental Indenture dated February 14, 2012 between Kennametal Inc. and U. S. Bank National Association (including Form of 3. 875 % Note due 2022) Exhibit 4. 2 of the Form 8- K filed February 14, 2012 (File No. 001- 05318) is incorporated herein by reference. 4. 5 Second Supplemental Indenture dated November 7, 2012 between Kennametal Inc. and U. S. Bank National Association (including Form of 2. 650 % Note due 2019) Exhibit 4. 4 of the Form 8- K filed November 7, 2012 (File No. 001- 05318) is incorporated herein by reference. 4. 6 Third Supplemental Indenture dated June 7, 2018 between Kennametal Inc. and U. S. Bank National Association (including Form of 4. 625 % Note due June 15, 2028). Exhibit 4. 1 of the Form 8- K filed June 7, 2018 (File No. 001- 05318) is incorporated herein by reference. 4. 7 Fourth Supplemental Indenture dated February 23, 2021 between Kennametal Inc. and U. S. Bank National AssociationExhibit 4. 1 of the Form 8- K filed February 23, 2021 (File No. 001- 05318) is incorporated herein by reference. 4. 8 Form of 2. 800 % Senior Note due March 1, 2031 (form included in Fourth Supplemental Indenture) Exhibit 4. 1 of the Form 8- K filed February 23, 2021 (File No. 001- 05318) is incorporated herein by reference. 4. 9 Description of Registrant' s SecuritiesFiled herewith. 10 Material Contracts10. 1 * Deferred Fee Plan for Outside Directors, as amended and restated effective December 30, 2008Exhibit 10. 1 of the December 31, 2008 Form 10- Q filed February 4, 2009 (File No. 001- 05318) is incorporated herein by reference. 10. 2 * Directors Stock Incentive Plan, as amended and restated effective December 30, 2008Exhibit 10. 2 of the December 31, 2008 Form 10- Q filed February 4, 2009 (File No. 001- 05318) is incorporated herein by reference. 10. 3 * Performance Bonus Stock Plan of 1995, as amended and restated effective December 30, 2008Exhibit 10. 3 of the December 31, 2008 Form 10- Q filed February 4, 2009 (File No. 001- 05318) is incorporated herein by reference. 10. 4 * Kennametal Inc. Stock and Incentive Plan of 2002 (as amended on October 21, 2008) Appendix A to the 2008 Proxy Statement filed September 8, 2008 (File No. 001- 05318) is incorporated herein by reference. 10. 5 * Form of Indemnification Agreement for Named Executive OfficersExhibit 10. 2 of the Form 8- K filed March 22, 2005 (File No. 001- 05318) is incorporated herein by reference. 10. 6 * Schedule of Named Executive Officers who have entered into the Form of Indemnification Agreement as set forth in Exhibit 10. 5Filed herewith. 10. 7 * Kennametal Inc. Executive Retirement Plan (for Designated Officers) (as amended effective December 30, 2008) Exhibit 10. 8 of the December 31, 2008 Form 10- Q filed February 4, 2009 (File No. 001- 05318) is incorporated herein by reference. 10. 8 * Amendment No. 1 to Kennametal Inc. Executive Retirement Plan (dated January 27, 2015) Exhibit 10. 2 to the Form 8- K dated February 2, 2015 (File No. 001- 05318) is incorporated herein by reference. 10. 9 * Amendment No. 2 to Kennametal Inc. Executive Retirement Plan (dated June 18, 2015) Exhibit 10. 1 of the Form 8- K filed June 23, 2015 (File No. 001- 05318) is incorporated herein by reference. 10. 10 * Kennametal Inc. Supplemental Executive Retirement Plan (as amended effective December 30, 2008) Exhibit 10. 9 of the December 31, 2008 Form 10- Q filed February 4, 2009 (File No. 001- 05318) is incorporated herein by reference. 10. 11 * Amendment No. 1 to the Kennametal Inc. Supplemental Executive Retirement Plan (as amended effective December 30, 2008) (dated June 18, 2015) Exhibit 10. 2 of the Form 8- K filed June 23, 2015 (File No. 001- 05318) is incorporated herein by reference. 10. 12 * Description of Compensation Payable to Non- Employee DirectorsExhibit 10. 12 of the Form 10- K filed August 10, 2018 (File No. 001- 05318) is incorporated herein by reference. 10. 13 * Form of Kennametal Inc. Nonstatutory Stock Option Award (granted under the Kennametal Inc. Stock and Incentive Plan of 2010) Exhibit 10. 5 of Form 10- Q filed February 8, 2011 (File No. 001- 05318) is incorporated herein by reference. 10. 14 * Form of Kennametal Inc. Nonstatutory Stock Option Award for Non- Employee Directors (granted under the Kennametal Inc. Stock and Incentive Plan of 2010) Exhibit 10. 6 of Form 10- Q filed February 8, 2011 (File No. 001- 05318) is incorporated herein by reference10. 15 * Form of Officer' s Employment Agreement with certain Named Executive OfficersExhibit 10. 1 of Form 8- K filed May 13, 2011 (File No. 001- 05318) is incorporated herein by reference. 10. 16 * Schedule of Executive Officers who have entered into the Form of Officer' s Employment Agreement as set forth in Exhibit 10. 15Exhibit 10. 16 of the Form 10- K filed August 13, 2019 (File No. 001- 05318) is incorporated herein by reference. 10. 17 * Stock and Incentive Plan of 2010 (As Amended and Restated October 22, 2013) Appendix A of the 2013 Proxy Statement filed September 17, 2013 (File No. 001- 05318) is incorporated herein by reference. 10. 18 * Form of Kennametal Inc. Restricted Unit Award (granted under the Kennametal Inc. Stock and Incentive Plan of 2010 (As Amended and Restated October 22, 2013)) Exhibit 10. 39 of Form 10- K filed August 13, 2014 (File No. 001- 05318) is incorporated herein by reference. 10. 19 * Form of Kennametal Inc. Nonstatutory Stock Option Award (granted under the Kennametal Inc. Stock and Incentive Plan of 2010 (As Amended and Restated October 22, 2013)) Exhibit 10. 41 of Form 10- K filed August 13, 2014 (File No. 001- 05318) is incorporated herein by reference. 10. 20 * Form of Kennametal Inc. Nonstatutory Stock Option Award for Non- Employee Directors (granted under the Kennametal Inc. Stock and Incentive Plan of 2010 (As Amended and Restated October 22, 2013)) Exhibit 10. 42 of Form 10- K filed August 13, 2014 (File No. 001- 05318) is incorporated herein by reference. 10. 21 * Form of Kennametal Inc. Cash Settled Share- Based Award for China- based Employees (granted under the Kennametal Inc. Stock and Incentive Plan of 2010 (As Amended and Restated October 22, 2013)) Exhibit 10. 43 of Form 10- K filed August 13, 2014 (File No. 001- 05318) is incorporated herein by reference. 10. 22 * Form of Kennametal Inc. Restricted Unit Award- Alternate Form (granted under the Kennametal Inc. Stock and Incentive Plan of 2010 (As Amended and Restated October 22, 2013)) Exhibit 10. 45 of Form 10- K filed August 13, 2014 (File No. 001- 05318) is incorporated herein by reference. 10. 23 * Form of Kennametal Inc. Nonstatutory Stock Option Award- Alternate Form (granted under the Kennametal Inc. Stock and Incentive Plan of 2010

(As Amended and Restated October 22, 2013)) Exhibit 10. 46 of Form 10- K filed August 13, 2014 (File No. 001- 05318) is incorporated herein by reference. 10. 24 * Amendment No. 1 to the Kennametal Inc. Stock and Incentive Plan of 2010 (As Amended and Restated October 22, 2013) Exhibit 10. 1 to the Form 8- K dated February 2, 2015 (File No. 001- 05318) is incorporated herein by reference. 10. 25 * Form of Kennametal Inc. Performance Unit Award (granted under Amendment No. 1 to the Kennametal Inc. Stock and Incentive Plan of 2010 (As Amended and Restated October 22, 2013)) Exhibit 10. 3 to the Form 8- K dated February 2, 2015 (File No. 001- 05318) is incorporated herein by reference. 10. 26 * Form of Kennametal Inc. Restricted Unit Award (granted under Amendment No. 1 to the Kennametal Inc. Stock and Incentive Plan of 2010 (As Amended and Restated October 22, 2013)) Exhibit 10. 4 to the Form 8- K dated February 2, 2015 (File No. 001- 05318) is incorporated herein by reference. 10. 27 * Form of Kennametal Inc. Restricted Unit Award for Non- Employee Directors (granted under Amendment No. 1 to the Kennametal Inc. Stock and Incentive Plan of 2010 (As Amended and Restated October 22, 2013)) Exhibit 10. 5 to the Form 8- K dated February 2, 2015 (File No. 001- 05318) is incorporated herein by reference. 10. 28 * Form of Kennametal Inc. Restricted Unit Award- Alternate Form (granted under Amendment No. 1 to the Kennametal Inc. Stock and Incentive Plan of 2010 (As Amended and Restated October 22, 2013)) Exhibit 10. 6 to the Form 8- K dated February 2, 2015 (File No. 001- 05318) is incorporated herein by reference. 10. 29 * Form of Kennametal Inc. Nonstatutory Stock Option Award (granted under Amendment No. 1 to the Kennametal Inc. Stock and Incentive Plan of 2010 (As Amended and Restated October 22, 2013)) Exhibit 10. 8 to the Form 8- K dated February 2, 2015 (File No. 001- 05318) is incorporated herein by reference. 10. 30 * Form of Kennametal Inc. Nonstatutory Stock Option Award for Non- Employee Directors (granted under Amendment No. 1 to the Kennametal Inc. Stock and Incentive Plan of 2010 (As Amended and Restated October 22, 2013)) Exhibit 10. 9 to the Form 8- K dated February 2, 2015 (File No. 001- 05318) is incorporated herein by reference. 10. 31 * Form of Kennametal Inc. Nonstatutory Stock Option Award- Alternate Form (granted under Amendment No. 1 to the Kennametal Inc. Stock and Incentive Plan of 2010 (As Amended and Restated October 22, 2013)) Exhibit 10. 10 to the Form 8- K dated February 2, 2015 (File No. 001- 05318) is incorporated herein by reference. 10. 32 * Form of Kennametal Inc. Cash Settled Share- Based Award for China- based Employees (granted under Amendment No. 1 to the Kennametal Inc. Stock and Incentive Plan of 2010 (As Amended and Restated October 22, 2013)) Exhibit 10. 12 to the Form 8- K dated February 2, 2015 (File No. 001- 05318) is incorporated herein by reference. 10. 33 * Form of Kennametal Inc. Performance Unit Award (granted under Amendment No. 1 to the Kennametal Inc. Stock and Incentive Plan of 2010 (As Amended and Restated October 22, 2013)) Exhibit 10. 1 to the Form 8- K dated July 30, 2015, (File No. 001- 05318) is incorporated herein by reference. 10. 34 * Form of Kennametal Inc. Restricted Unit Award (granted under Amendment No. 1 to the Kennametal Inc. Stock and Incentive Plan of 2010 (As Amended and Restated October 22, 2013)) Exhibit 10. 3 to the Form 8- K dated July 30, 2015, (File No. 001- 05318) is incorporated herein by reference. 10. 35 * Form of Kennametal Inc. Restricted Unit Award- Alternate Form (granted under Amendment No. 1 to the Kennametal Inc. Stock and Incentive Plan of 2010 (As Amended and Restated October 22, 2013)) Exhibit 10. 5 to the Form 8- K dated July 30, 2015, (File No. 001- 05318) is incorporated herein by reference. 10. 36 * Form of Kennametal Inc. Cash Settled Share- Based Award for China- based Employees (granted under Amendment No. 1 to the Kennametal Inc. Stock and Incentive Plan of 2010 (As Amended and Restated October 22, 2013)) Exhibit 10. 6 to the Form 8- K dated July 30, 2015, (File No. 001- 05318) is incorporated herein by reference. 10. 37 * Form of Kennametal Inc. Nonstatutory Stock Option Award (granted under Amendment No. 1 to the Kennametal Inc. Stock and Incentive Plan of 2010 (As Amended and Restated October 22, 2013)) Exhibit 10. 7 to the Form 8- K dated July 30, 2015, (File No. 001- 05318) is incorporated herein by reference. 10. 38 * Form of Kennametal Inc. Nonstatutory Stock Option Award- Alternate Form (granted under Amendment No. 1 to the Kennametal Inc. Stock and Incentive Plan of 2010 (As Amended and Restated October 22, 2013)) Exhibit 10. 9 to the Form 8- K dated July 30, 2015, (File No. 001- 05318) is incorporated herein by reference. 10. 39 * Kennametal Inc. 2016 Stock and Incentive PlanAppendix C of 2016 Proxy Statement filed September 13, 2016 (File No. 001- 05318) is incorporated by reference herein. 10. 40 * Form of Kennametal Inc. Performance Unit Award (granted under Kennametal Inc. Stock and Incentive Plan of 2010, as amended and restated on October 22, 2013, and amended on January 27, 2015) Exhibit 10. 1 of the Form 10- Q filed November 7, 2016 (File No. 001- 05318) is incorporated by reference herein. 10. 41 * Form of Kennametal Inc. Restricted Unit Award (granted under the Kennametal Inc. 2016 Stock and Incentive Plan) Exhibit 10. 4 of the Form 10- Q filed November 7, 2016 (File No. 001- 05318) is incorporated by reference herein. 10. 42 * Form of Kennametal Inc. Cash Settled Share- Based Award for China- Based Employees (granted under the Kennametal Inc. 2016 Stock and Incentive Plan) Exhibit 10. 5 of the Form 10- Q filed November 7, 2016 (File No. 001- 05318) is incorporated by reference herein. 10. 43 * Form of Kennametal Inc. Restricted Stock Unit Award (three year cliff vest) (granted under the Kennametal Inc. 2016 Stock and Incentive Plan) Exhibit 10. 1 of the Form 10- Q filed February 8, 2017 (File No. 001- 05318) is incorporated by reference herein. 10. 44 * Form of Updated Kennametal Inc. Restricted Unit Award (granted under the Kennametal Inc. Stock and Incentive Plan of 2016) Exhibit 10. 74 to Form 10- K filed August 14, 2017 (File No. 001- 05318) is incorporated by reference herein. 10. 45 * Form of Kennametal Inc. Restricted Unit Award for Non- Employee Directors (granted under the Kennametal Inc. Stock and Incentive Plan of 2016) Exhibit 10. 75 to Form 10- K filed August 14, 2017 (File No. 001- 05318) is incorporated by reference herein. 10. 46 * Form of Kennametal Inc. Cash- Settled Restricted Unit Award for China- based Employees (granted under the Kennametal Inc. Stock and Incentive Plan of 2016) Exhibit 10. 76 to Form 10- K filed August 14, 2017 (File No. 001- 05318) is incorporated by reference herein. 10. 47 * Form of Updated Kennametal Inc. Cash- Settled Restricted Unit Award for China- based Employees (granted under the Kennametal Inc. Stock and Incentive Plan of 2016) Exhibit 10. 52 to Form 10- K filed August 13, 2019 (File No. 001- 05318) is incorporated by reference herein. 10. 48 * Form of Kennametal Inc. Performance Unit Award (granted under the Kennametal Inc. Stock and Incentive Plan of 2016) Exhibit 10. 77 to Form 10- K filed August 14, 2017 (File No. 001- 05318) is incorporated by reference herein. 10. 49 * Form of Fiscal 2020 Kennametal Inc. Performance Unit Award (granted under the Kennametal Inc. Stock and Incentive Plan of 2016) Exhibit 10. 54 to Form 10- K filed August 13, 2019 (File No. 001- 05318) is incorporated by reference herein. 10. 50 * Form of Kennametal Inc. Retention

Restricted Unit Award (granted under the Kennametal Inc. Stock and Incentive Plan of 2016) Exhibit 10. 78 to Form 10- K filed August 14, 2017 (File No. 001- 05318) is incorporated by reference herein. 10. 51 * Form of Amended and Restated Officer' s Employment Agreement with President and CEO Christopher RossiExhibit 10. 2 to Form 10- Q filed November 6, 2018 (File No. 001- 05318) is incorporated by reference herein. 10. 52 * Kennametal Inc. Restoration Plan (dated January 1, 2018) Exhibit 10. 1 of the Form 8- K filed November 3, 2017 (File No. 001- 05318) is incorporated herein by reference. 10. 53 * Kennametal Inc. Restoration Plan Adoption Agreement (dated January 1, 2018) Exhibit 10. 2 of the Form 8- K filed November 3, 2017 (File No. 001- 05318) is incorporated herein by reference. 10. 54 * Second Amendment to the Kennametal Inc. Restoration Plan (dated July 1, 2019) Exhibit 10. 59 to Form 10- K filed August 13, 2019 (File No. 001- 05318) is incorporated by reference herein. 10. 55 * 2018 Form of Officer' s Employment Agreement with certain Named Executive OfficersExhibit 10. 60 of the Form 10- K filed August 10, 2018 (File No. 001- 05318) is incorporated by reference herein. 10. 56 * Schedule of Executive Officers who have entered into the 2018 Form of Officer' s Employment Agreement as set forth in Exhibit 10. 55Filed herewith. 10. 57Sixth Amended and Restated Credit Agreement dated as of June 14, 2022, among Kennametal Inc. and Kennametal Europe GmbH (the " Borrowers ") and the several banks and other financial institutions or entities from time to time parties thereto (the " Lenders "), Bank of America, N. A., London Branch, as Euro Swingline Lender, PNC Bank, National Association and JPMorgan Chase Bank, N. A., as co- syndication agents, BNP Paribas, Citizens Bank, N. A., Mizuho Bank, Ltd., and U. S. Bank National Association, as co- documentation agents and Bank of America, N. A., as administrative agent. Exhibit 10. 1 of the Form 8- K filed June 15, 2022 (File No. 001- 05318) is incorporated herein by reference. 10. 58 * Form of Kennametal Inc. Restricted Unit Award (three- year cliff vest) (granted under the 2020 Kennametal Inc. Stock and Incentive Plan) Exhibit 10. 1 of the Form 10- Q filed February 3, 2021 (File No. 001- 05318) is incorporated herein by reference. 10. 59 * Form of Kennametal Inc. Restricted Unit Award (two- year cliff vest) (granted under the 2020 Kennametal Inc. Stock and Incentive Plan) Exhibit 10. 2 of the Form 10- Q filed February 3, 2021 (File No. 001- 05318) is incorporated herein by reference. 10. 60 * Form of Kennametal Inc. Cash- Settled Long- Term Incentive Award for China- based employees (two- year cliff vest) (granted under the 2020 Kennametal Inc. Stock and Incentive Plan) Exhibit 10. 3 of the Form 10- Q filed February 3, 2021 (File No. 001- 05318) is incorporated herein by reference. 10. 61 * Form of Kennametal Inc. Restricted Unit Award for Non- Employee Directors (granted under the 2020 Kennametal Inc. Stock and Incentive Plan) Exhibit 10. 4 of the Form 10- Q filed February 3, 2021 (File No. 001- 05318) is incorporated herein by reference. 10. 62 * Form of Kennametal Inc. Restricted Unit Award (granted under the 2020 Kennametal Inc. Stock and Incentive Plan) Exhibit 10. 5 of the Form 10- Q filed February 3, 2021 (File No. 001- 05318) is incorporated herein by reference. 10. 63 * Form of Kennametal Inc. Cash- Settled Long- Term Incentive Award for China- based employees (granted under the 2020 Kennametal Inc. Stock and Incentive Plan) Exhibit 10. 6 of the Form 10- Q filed February 3, 2021 (File No. 001- 05318) is incorporated herein by reference. 10. 64 * Form of Kennametal Inc. Performance Unit Award (granted under the 2020 Kennametal Inc. Stock and Incentive Plan) Exhibit 10. 65 to Form 10- K filed August 10, 2021 (File No. 001- 05318) is incorporated by reference herein. 10. 65 * Kennametal Inc. 2020 Stock and Incentive PlanAppendix B of 2020 Proxy Statement filed September 15, 2020 (File No. 001- 05318) is incorporated by reference herein. **10. 66 * Form of Kennametal Inc. Cash- Settled Performance Unit Award for China- based employees (granted under the 2020 Kennametal Inc. Stock and Incentive Plan) Filed herewith.** 21 Subsidiaries of the RegistrantFiled herewith. 23 Consent of Independent Registered Public Accounting FirmFiled herewith. 31 Certifications31. 1 Certification executed by Christopher Rossi, President and Chief Executive Officer of Kennametal Inc. Filed herewith. 31. 2 Certification executed by Patrick S. Watson, Vice President and Chief Financial Officer of Kennametal Inc. Filed herewith. 32 Section 1350 Certifications32. 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 Patrick S. Watson, Vice President and Chief Financial Officer of Kennametal Inc. Filed herewith. * Denotes management contract or compensatory plan or arrangement. 101 XBRL101. INS (1) XBRL Instance Document. Filed herewith. 101. SCH (2) XBRL Taxonomy Extension Schema Document. Filed herewith. 101. CAL (2) XBRL Taxonomy Extension Calculation Linkbase Document. Filed herewith. 101. DEF (2) XBRL Taxonomy Definition LinkbaseFiled herewith. 101. LAB (2) XBRL Taxonomy Extension Label Linkbase Document. Filed herewith. 101. PRE (2) XBRL Taxonomy Extension Presentation Linkbase Document. Filed herewith. (1) 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. (2) Attached as Exhibit 101 to this report are the following documents formatted in Inline XBRL: (i) the Consolidated Statements of Income for the years ended June 30, **2023,** 2022 ~~,~~ **and** 2021 ~~and 2020~~ , (ii) the Consolidated Statements of Comprehensive Income for the years ended June 30, **2023,** 2022 ~~,~~ **and** 2021 ~~and 2020~~ , (iii) the Consolidated Balance Sheets at June 30, **2023 and** 2022 ~~and 2021~~ , (iv) the Consolidated Statements of Cash Flows for the years ended June 30, **2023,** 2022 ~~,~~ **and** 2021 ~~and 2020~~ and (v) Notes to Consolidated Financial Statements for the years ended June 30, **2023,** 2022 ~~,~~ **and** 2021 ~~and 2020~~ . SCHEDULE II — VALUATION AND QUALIFYING ACCOUNTS (In thousands) For the year ended June 30Balance atBeginningof YearCharges toCosts andExpensesRecoveriesOtherAdjustments DeductionsfromReservesBalance atEnd of ~~Year2022Allowance~~ **Year2023Allowance for doubtful accounts $ 9, 422 $ 495 $ (516) $ (122) (1) $ (520) (2) $ 8, 759 Deferred tax asset valuation allowance14, 385 — (3, 760) (75) (1) (2, 269) (3) 8, 281 2022Allowance** for doubtful accounts $ 9, 734 $ 1, 242 $ 163 $ (321) (1) $ (1, 396) (2) $ 9, 422 Deferred tax asset valuation allowance21, 263 371 (4, 459) 42 (1) (2, 832) (3) 14, 385 2021Allowance for doubtful accounts $ 9, 430 $ 2, 602 $ 635 $ 400 (1) $ (3, 333) (2) $ 9, 734 Deferred tax asset valuation allowance16, 654 4, 115 — 494 (1) — 21, 263 ~~2020Allowance for doubtful accounts $ 10, 083 $ 2, 300 $ 40 $ (287) (1) $ (2, 706) (2) $ 9, 430 Deferred tax asset valuation allowance14, 614 4, 213 — (1, 216) (1) (957) (3) 16, 654~~ (1) Represents foreign currency translation adjustment. (2) Represents uncollected accounts charged against the allowance. (3) Represents primarily ~~a~~ **changes in tax rates and** forfeited net operating loss deduction **.** ITEM 16 — FORM 10- K SUMMARY Exhibit 4. 9 DESCRIPTION OF KENNAMETAL INC.' S SECURITIES Common Stock The following summary of the terms of Kennametal Inc.' s (the "

Company ") common stock is not complete and is subject to and qualified in its entirety by reference to the relevant provisions of the laws of the Commonwealth of Pennsylvania, the Company' s Amended and Restated Articles of Incorporation (the " Articles "), and its Amended and Restated Bylaws (the " Bylaws "). Copies of the Articles and Bylaws have been filed with the Securities and Exchange Commission. The Company' s Articles provide that it may issue up to 120, 000, 000 shares of capital stock, par value $ 1. 25 per share (the " common stock ") and 5, 000, 000 shares of Class A Preferred Stock without par value. Voting and Other Rights Each share of the Company' s common stock is entitled to one vote on all matters requiring a vote of shareholders and, subject to the rights of the holders of any outstanding shares of preferred stock, each shareholder is entitled to receive any dividends, in cash, securities or property, as the Company' s board of directors may declare. Pennsylvania law prohibits the payment of dividends or the repurchase of the Company' s shares if the Company is insolvent or if the Company would become insolvent after the dividend or repurchase. Holders of common stock do not have any preemptive or similar rights. In the event of the Company' s liquidation, dissolution or winding up, either voluntarily or involuntarily, subject to the rights of the holders of any outstanding shares of preferred stock, holders of common stock are entitled to share pro- rata in all of the Company' s remaining assets available for distribution. Anti- Takeover Provisions in Kennametal Inc.' s Charter and Bylaws Certain provisions of the Articles and Bylaws could have an anti- takeover effect. These provisions are intended to enhance the likelihood of continuity and stability in the composition of the board of directors and in the strategies it formulates. They may also discourage an unsolicited takeover of the Company if the board of directors determines that the takeover is not in the best interests of the Company and its shareholders. These provisions could have the effect of discouraging certain attempts to acquire the Company or remove incumbent management even if some or a majority of shareholders deemed such an attempt to be in their best interests. The provisions in the Articles and Bylaws include: (i) a procedure which requires shareholders to nominate directors in advance of a meeting to elect such directors; and (ii) the authority to issue additional shares of common stock or preferred stock without shareholder approval. The Articles also include a provision requiring the affirmative vote of the holders of 75 % of the Company' s outstanding stock to approve certain mergers or other business combinations or transactions with five percent shareholders; a provision requiring the affirmative vote of the holders of 75 % of the Company' s outstanding stock to remove the entire board of directors, a class of the board of directors, any individual member of the board of directors without cause, or to increase the size of the board of directors to more than twelve members or decrease the size of the board of directors to fewer than eight members; a provision requiring, in the case of repurchases at a premium over market by the Company from any 4 % Shareholder (as defined in the Articles), the affirmative vote of the holders of voting power of an amount of shares equal to the voting power of the 4 % Shareholder plus a majority of the voting power of the other shares not held by the 4 % Shareholder; and a provision requiring the affirmative vote of a majority of the Company' s outstanding stock held by disinterested shareholders to approve certain business combinations involving a shareholder who beneficially owns more than 10 % of the voting power of the Company' s then outstanding voting stock, unless certain conditions are satisfied or the transaction is approved by a majority of disinterested directors. Pursuant to the Articles and the laws of the Commonwealth of Pennsylvania, the board of directors is permitted to consider the effects of a change in control on the Company' s non- shareholder constituencies, such as the Company' s employees, suppliers, and other constituents and the communities in which the Company operates. Pursuant to this provision, the board of directors may be guided by factors in addition to price and other financial considerations. The Bylaws provide that any shareholder who desires to present a nomination of person (s) for election to the board of directors or a proposal of other business at a shareholders' meeting (a " Proponent ") must first provide timely written notice to the Secretary. The Bylaws set forth the deadlines for submitting such advance notice. As described in the Bylaws, the advance notice must set forth in reasonable detail (i) as to each person the shareholder proposes to nominate for election to the board of directors, information concerning the proposed nominee that would be required to be disclosed in a proxy statement or other filings required to be made in connection with the solicitation of proxies for the election of directors in an election contest, or otherwise required, in each case pursuant to Section 14 of the Exchange Act and the rules and regulations promulgated thereunder, including such nominee' s consent to serve as a director if elected and other specific information called for by the Bylaws, or (ii) as to any other business that the Proponent proposes to bring before the meeting, a description of the business desired to be brought before the meeting, the text of the proposal or business (including the text of any resolutions proposed for consideration and in the event that such business includes a proposal to amend the Bylaws, the language of the proposed amendment), the reasons for conducting such business at the meeting, and any material interest in such business of the Proponent and the beneficial owner, if any, on whose behalf the proposal is made. The advance notice must also include a representation from the Proponent that such person is a shareholder of record and intends to appear in person or by proxy at the meeting to present the nomination or other proposal specified in the notice, a description of the Proponent' s beneficial ownership and other financial interests in the Company, a description of all arrangements or understandings between the Proponent and any other person or persons (naming such persons) pursuant to which the nomination or other proposal is to be made by the Proponent, and all such information regarding the Proponent' s proposal and / or nominee (s) which would have been required to be included in a proxy statement filed pursuant to the proxy rules of the Securities and Exchange Commission had the nomination or other proposal been made by the board of directors. PBCL Anti- Takeover Provisions The Pennsylvania Business Corporation Law (the " PBCL ") contains a number of statutory " anti- takeover " provisions, including Subchapters E, F, G and H of Chapter 25 and Sections 2521, 2524 and 2538 of the PBCL, which apply automatically to a Pennsylvania registered corporation (usually a public company) unless the corporation elects to opt- out of those provisions. The Company is a Pennsylvania registered corporation, and as a result it is subject to the anti- takeover provisions described below, however, the Company has elected to opt- out of certain provisions as described below. Descriptions of the anti- takeover provisions are qualified in their entirety by reference to the PBCL. Subchapter E (relating to control transactions) generally provides that if any person or group acquires 20 % or more of the Company' s voting power, the remaining holders of voting shares may demand from such person or group the fair value of their voting shares, including a proportionate amount of any control premium.

Subchapter F (relating to business combinations) generally delays for five years and imposes conditions upon " business combinations " between an " interested shareholder " and the Company. The term " business combination " is defined broadly to include various transactions between a corporation and an interested shareholder including mergers, sales or leases of specified amounts of assets, liquidations, reclassifications and issuances of specified amounts of additional shares of stock of the corporation. An " interested shareholder " is defined generally as the beneficial owner of at least 20 % of a corporation' s voting shares. Section 2521 of the PBCL provides that shareholders are not entitled to call special meetings of the shareholders and the Company' s Bylaws do not give shareholders any right to call special meetings. Section 2524 provides that shareholders cannot act by partial written consent unless permitted in the articles of incorporation. Section 2538 of the PBCL generally establishes certain shareholder approval requirements with respect to specified transactions with " interested shareholders. " The Company has elected to opt out of Subchapters G and H of Chapter 25 of the PBCL. Subchapter G would have required a shareholder vote to accord voting rights to control shares acquired by a 20 % shareholder in a control- share acquisition. Subchapter H would have required a person or group to disgorge to the Company any profits received from a sale of the Company' s equity securities within 18 months after the person or group acquired, offered to acquire or publicly disclosed an intention to acquire 20 % of the Company' s voting power or publicly disclosed an intention to acquire control of the Company. Transfer Agent and Registrar Computershare is the Transfer Agent and Registrar for the Common Stock. SCHEDULE OF NAMED EXECUTIVE OFFICERS WHO HAVE ENTERED INTO THE FORM OF INDEMNIFICATION AGREEMENT AS SET FORTH IN EXHIBIT 10. 5 NAME Exhibit 10. 56 SCHEDULE OF NAMED EXECUTIVE OFFICERS WHO HAVE ENTERED INTO THE 2018 FORM OF INDEMNIFICATION AGREEMENT AS SET FORTH IN EXHIBIT 10. 55 ~~Damon J~~ **Exhibit 10** . ~~Audia~~ **66 CASH SETTLED PERFORMANCE UNIT AWARD FOR CHINA- BASED EMPLOYEES Award Date: ________________ Kennametal Inc. (the " Company ") hereby awards to « name » (the " Awardee "), as of the Award Date listed above, this Cash Settled Performance Unit Award (the " Award ") for « number of target units » Award Units, subject to the terms and conditions of the Kennametal Inc. 2020 Stock and Incentive Plan (the " Plan ") and the additional terms listed below. Capitalized terms used herein, but not otherwise defined, shall have the same meaning ascribed to them in the Plan. 1. Notwithstanding any provisions of the Plan, each Award Unit represents the right to receive a cash payment from the Company (or an Affiliate or Subsidiary thereof, as applicable) equal to the Fair Market Value of one Share of the Company' s Capital Stock (" Company Stock "), par value $ 1. 25 per share, subject to the satisfaction of the Service Condition described herein and the Performance Conditions attached hereto as Exhibit A. Award Units as initially awarded have no independent economic value, but rather are mere units of measurement used for purposes of calculating the number of Award Units to be used in determining the amount of the cash payment, if any, to be made under the Award. The maximum number of Award Units that may be earned under this Award is equal to 2. 0 times the target number of Award Units listed in the preamble above. All vested Award Units are paid in cash to the Awardee and in no circumstance is Company Stock awarded to the Awardee. 2. Except as otherwise provided in this Award, Awardee must be actively employed by the Company on the Payment Date (defined below) to be eligible to receive cash in payment of any Award Units earned under this Award (the " Service Condition "). 3. In addition to satisfaction of the Service Condition, payment under this Award is subject to, and contingent upon, achievement of the annual Performance Conditions during the Performance Period specified on Exhibit A. The amount of this Award payable to Awardee will be determined by the level of achievement of the annual Performance Conditions as set forth in Exhibit A. Achievement of the Performance Conditions, including the level of achievement, if any, for each fiscal year in the Performance Period shall be determined by the Compensation Committee of the Board of Directors (the " Compensation Committee "), in its sole discretion, and Awardee agrees to be bound by such determination; provided, however, the Compensation Committee shall not use its discretionary authority reserved to it under Section 6 (f) of the Plan to reduce the number of Award Units earned, if any, based on the achievement of the Performance Conditions pursuant to the terms and conditions of this Award. For each fiscal year of the Performance Period, any Award Units that are not earned will be cancelled and forfeited at the end of such fiscal year. 4. Performance Determination and Payment. a. At the end of each fiscal year of the Performance Period to which this Award relates, the Compensation Committee will certify in writing the extent to which the applicable annual Performance Conditions have been achieved. For purposes of this provision, the approved minutes of the Committee meeting in which the certification is made may be treated as written certification. b. Subject to the terms and conditions of this Award and unless otherwise specifically provided herein, Award Units earned by an Awardee will be settled and paid in cash as soon as practicable following the end of the three- year Performance Period on a date determined in the Company' s discretion, but in no event later than the 15th day of the third month following the last day of the fiscal year in which the Performance Period ends (the " Payment Date "), subject to the Awardee' s satisfaction of all applicable income and employment withholding taxes. For the avoidance of doubt, in the People' s Republic of China, the Company, per se, will not make such cash payment to the Awardee, instead, the Chinese local subsidiary of the Company will, using its own RMB funds, make such cash payment in RMB equal to the Fair Market Value at the current foreign exchange rate to the Awardee on the Payment Date. 5. Change in Awardee' s Status; Change in Control. a. Death or Disability. In the event an Awardee Separates from Service before the Payment Date on account of death or Disability, the Service Condition will be waived. For completed fiscal years, Awardee shall be entitled to receive cash payment for any Award Units that have been earned based on the achievement of the Performance Conditions applicable to such fiscal year. For fiscal years not completed, the Performance Conditions will be deemed to have been achieved at the target level and the Awardee will be deemed to have earned for each such fiscal year a number of Award Units that were able to be earned for such fiscal year. Subject to the terms and conditions of this Award and unless otherwise specifically provided herein, in the event an Awardee Separates from Service on account of death or Disability, the Award Units, to the extent earned by the Awardee, shall be**

paid in cash as soon as practicable following the date of such Separation from Service, but in no event later than the 15th day of the third month following the last day of the fiscal year in which the Separation from Service occurs. b. Change in Control. In the event there is a Change in Control during the Performance Period, (i) with respect to all outstanding Award Units subject to this Award (other than Award Units for fiscal years within the Performance Period that were completed prior to the Change in Control), the target level of performance set forth with respect to each performance criterion under such Award Units shall be deemed to have been attained and such Award Units shall be converted into, and remain outstanding, as Restricted Units and (ii) with respect to Award Units for fiscal years within the Performance Period that were completed prior to the Change in Control, such Award Units, measured at actual performance achieved, shall remain outstanding. Unless otherwise specifically provided herein, payment under this Award will remain subject to the satisfaction of the Service Condition. c. Change in Control Separation. In the event an Awardee Separates from Service prior to the Payment Date on account of an involuntary termination by the Company without cause or Awardee voluntarily terminates employment for Good Reason (as defined in the Plan) (a) within the six- month period immediately preceding a Change in Control in contemplation of such Change in Control (and the Change in Control actually occurs) or (b) during the two- year period following a Change in Control (a " Change in Control Separation "), the Service Condition applicable to the Award Units and / or Restricted Units into which such Award Units were converted upon the Change in Control will be waived and such Award Units and / or Restricted Units shall be fully vested and nonforfeitable. Upon such Separation from Service, the Award Units, to the extent earned by the Awardee, shall be paid in cash as soon as practicable following the date of such Separation from Service, but in no event later than the 15th day of the third month following the last day of the fiscal year in which the Separation from Service occurs. d. Retirement. In the event a Retirement Eligible Awardee (as defined below) Separates from Service on account of Retirement (including Early Retirement) during the Performance Period, the Service Condition will be waived (i) in the case of Retirement other than Early Retirement, on all outstanding Award Units or (ii) in the case of Early Retirement, on a pro - rata portion of such Award Units based upon the ratio of the number of days of the Awardee' s employment during the Performance Period to the total number of days in the Performance Period, and the remainder of such Award Units shall immediately terminate and be forfeited without payment by the Company or any affiliate. The amount to be paid, if any, with respect to the Award Units on which the Service Condition was waived will be determined following the end of the Performance Period based upon the actual achievement of the Performance Condition over the Performance Period. With respect to an Awardee who Separates from Service on account of Retirement during the Performance Period (a " Retirement Eligible Awardee "), any payment for any Award shall be made on the Payment Date provided in Section 4 (b), above. Notwithstanding the foregoing or any provisions of this Award or the Plan to the contrary, for a U. S. participant who is a " specified employee " under Section 409A of the Internal Revenue Code of 1986, as amended (the " Code ") upon Separation from Service due to Retirement (including Early Retirement), Disability or a Change in Control Separation, the payment, if any, for this Award will be delayed and delivered on the first day following the six (6) month anniversary of the Awardee' s Separation from Service (or upon earlier death) if and to the extent such payments would constitute or be considered as deferred compensation under Code Section 409A, subject to the Awardee' s satisfaction of all applicable income and employment withholding taxes. e. All Other Separations from Service. In the event an Awardee Separates from Service for any other reason (other than death, Disability, Retirement or Change in Control Separation), including, but not limited to, voluntarily by the Awardee, or involuntarily by the Company with or without cause, prior to the Payment Date, all Award Units granted to the Awardee shall be cancelled and forfeited, whether payable or not, without payment by the Company or any Affiliate. 6. The Awardee shall have only the Company' s unfunded, unsecured promise to pay pursuant to the terms of this Award. The rights of the Awardee hereunder shall be that of an unsecured general creditor of the Company, and the Awardee shall not have any security interest in any assets of the Company (or an Affiliate or Subsidiary thereof). The Awardee shall not have any rights of ownership in Company Stock, including, but not limited to, the right to vote or accrue dividends on Company Stock. 7. The Award Units may not be sold, assigned, pledged, exchanged, hypothecated, gifted or otherwise transferred, encumbered or disposed of prior to the Payment Date, except as described herein or in the Plan (the " Forfeiture Restrictions "). The Forfeiture Restrictions will be binding upon, and enforceable against, any permitted transferee of the Award Units. 8. For U. S. Participants, this Performance Unit Award is intended to comply with Section 409A of the Internal Revenue Code (which deals with nonqualified deferred compensation) or an exception thereto and the regulations promulgated thereunder and will be construed accordingly. To the extent a payment is subject to Section 409A and not excepted therefrom, such payment shall be treated as made on the specified date of payment if such payment is made at such date or a later date in the same calendar year or, if later, by the 15th day of the third calendar month following the specified date of payment, as provided and in accordance with Treas. Reg. § 1. 409A- 3 (d). An Awardee shall have no right to designate the date of any payment under this Award. The Company reserves the right to administer, amend or modify the Award or to take any other action necessary or desirable to enable the Award to be interpreted and construed accordingly. Notwithstanding the foregoing, the Awardee acknowledges and agrees that Section 409A may impose upon the Awardee certain taxes or interest charges for which the Awardee is and shall remain solely responsible. 9. Notwithstanding anything to the contrary in this Award or the Plan, in the event that this Award is not accepted by the Awardee on or before the date that is 180 days from the grant date noted herein (the " Forfeiture Date "), then this Award shall become null and void and all Award Units subject to this Award shall be forfeited by the Awardee as of the Forfeiture Date. For acceptance to be valid, the Awardee must accept this Award in the manner specified by the Company. 10. All other terms and conditions applicable to this Award are contained in the Plan. A copy of the Plan and related Prospectus is available on your accounts page at netbenefits. fidelity. com under Plan

Information and Documents, as well as on The Hub under Human Resources. By: Michelle R. Keating Title: Vice President, Secretary and General Counsel Exhibit 21 CORPORATE DIRECTORY Our consolidated subsidiaries and affiliated companies as of June 30, ~~2022~~ **2023** are: Consolidated Subsidiaries and Affiliated Companies of Kennametal Inc. Kennametal (Malaysia) Sdn. Bhd. Kennametal (Singapore) Pte. Ltd. Kennametal (Thailand) Co., Ltd. Kennametal Australia Pty. Ltd. Kennametal de Mexico, S. A. de C. V. Kennametal Distribution Services Asia Pte. Ltd. Kennametal Hardpoint (Taiwan) Inc. Kennametal Holdings Europe Inc. ~~Kennametal International S. A. (Panama)~~ Kennametal Japan Ltd. Kennametal Korea Ltd. Kennametal Manufacturing S. A. (Pty) Ltd. Kennametal Shared Services Private Limited Kennametal South Africa (Pty.) Ltd. PT. Kennametal Indonesia Services Consolidated Subsidiary of Kennametal (Singapore) Pte. Ltd. Kennametal Vietnam LLC Consolidated Subsidiaries of Kennametal Holdings Europe Inc. Deloro Stellite Holdings Corporation Kennametal Holdings, LLC Kennametal ~~Holdings, LLC~~ Luxembourg **Holding III** S. ~~C~~ **à r** . ~~S~~ ~~l~~ **l** . Consolidated Subsidiaries of Deloro Stellite Holdings Corporation DSGP LLC Kennametal Stellite, L. P. Kennametal Stellite Inc. Kennametal Stellite (Shanghai) Co., Ltd. (Joint Venture) Consolidated Subsidiary of Kennametal ~~Holdings, LLC~~ Luxembourg **Holding III** S. ~~C~~ **à r** . ~~S~~ ~~l~~ **l** . Kennametal Luxembourg Holding S. à r. l. Consolidated Subsidiaries of Kennametal Luxembourg Holding S. à r. l. Kennametal Argentina S. A. Kennametal Chile Ltda. Kennametal do Brasil Ltda. Kennametal Luxembourg S. à r. l. Comericializadora Kennametal Bolivia S. R. L. Consolidated Subsidiaries of Kennametal Luxembourg S. à r. l. Kennametal Asia (HK) Ltd. Kennametal Ltd. Kennametal Sintec Holding GmbH Consolidated Subsidiaries of Kennametal Asia (HK) Ltd. Kennametal Asia (China) Management Co. ~~Ltd. Kennametal (Baotou) Company~~ Ltd. Kennametal (China) Co. Ltd. Kennametal Hardpoint (Shanghai) Co., Ltd. Kennametal (Xuzhou) Company, Ltd. Consolidated Subsidiary of Kennametal Sintec Holding GmbH Kennametal Sintec Keramik Asia Ltd. Consolidated Subsidiary of Kennametal Sintec Keramik Asia Ltd. Sunshine ~~Power~~ **Powder** - Tech (Shanghai) Ltd. Consolidated Subsidiaries of Kennametal Europe GmbH Hanita Metal Works, Ltd. Kennametal Holding GmbH Kennametal Nederland B. V. OOO Kennametal Consolidated Subsidiaries of Kennametal Holding GmbH Kennametal GmbH Kennametal Hungaria Kft. Kennametal Logistics GmbH Kennametal Shared Services GmbH Kennametal Sintec Keramik GmbH Widia GmbH Consolidated Subsidiaries and Affiliated Companies of Kennametal GmbH Kenci S. L. Kennametal Belgium BVBA Kennametal Deutschland GmbH Kennametal France S. A. S **. U** . Kennametal GmbH Organizacni Slozka Kennametal GmbH Zweigniederlassung Osterreich Kennametal GmbH Zweigniederlassung Rumanien Kennametal GmbH Zweigniederlassung Slowakei Kennametal Infrastructure GmbH Kennametal Italia S. p. A. Kennametal Kesici Takimlar Sanayi Ve Ticaret Anonim Sirketi Kennametal Polska Sp. z o. o. Kennametal Produktions GmbH & Co. KG. (partnership) Kennametal Sp. z o. o. Kennametal Stellram S. r. L. Kennametal UK Limited Ruebig Real Estate GmbH & Co. KG Consolidated Subsidiary of Kennametal Italia S. p. A. Kennametal Italia Produzione S. R. L. Consolidated Affiliated Company of Kennametal Produktions GmbH & Co. KG (partnership) Kennametal Real Estate GmbH & Co. KG (partnership) Consolidated Affiliated Company of Kennametal Deutschland GmbH Kennametal (Deutschland) Real Estate GmbH & Co. KG (partnership) Consolidated Subsidiary of Kennametal Sp. z o. o Kennametal Produkcja Sp. z o. o. Consolidated Subsidiaries and Affiliated Companies of Widia GmbH Kennametal Widia Produktions GmbH & Co. KG (partnership) Kennametal Widia Real Estate GmbH & Co. KG (partnership) Meturit AG Consolidated Subsidiary of Meturit AG Kennametal India Ltd. Consolidated ~~Subsidiary of Kennametal India Ltd. Widia India Tooling Private Limited Consolidated~~ Subsidiaries of Kenci S. L. Kenci Lda. Kennametal Manufacturing Barcelona S. L. Consolidated Subsidiaries of Kennametal UK Limited Kennametal Logistics UK Ltd. Kennametal Manufacturing UK Ltd. Exhibit 23 CONSENT OF INDEPENDENT REGISTERED PUBLIC ACCOUNTING FIRM We hereby consent to the incorporation by reference in the Registration Statements on Form S- 3 (No. 333- 248209) and Form S- 8 (No. 033- 65023, No. 333- 18423, No. 333- 18429, No. 333- 18437, No. 333- 77411, No. 333- 88049, No. 333- 30454, No. 333- 30448, No. 333- 53562, No. 333- 100867, No. 333- 120314, No. 333- 124774, No. 333- 142727, No. 333- 154705, No. 333- 170348, No. 333- 193782, No. 333- 214474, No. 333- 222177 and No. 333- 249824) of Kennametal Inc. of our report dated August ~~10~~ **9** , ~~2022~~ **2023** relating to the financial statements and financial statement schedule and the effectiveness of internal control over financial reporting, which appears in this Form 10 - K. Exhibit 31. 1 I, Christopher Rossi, certify that: 1. I have reviewed this annual report on Form 10- K of Kennametal Inc.; 2. Based on my knowledge, this report does not contain any untrue statement of a material fact or omit to state a material fact necessary to make the statements made, in light of the circumstances under which such statements were made, not misleading with respect to the period covered by this report; 3. Based on my knowledge, the financial statements, and other financial information included in this report, fairly present in all material respects the financial condition, results of operations and cash flows of the registrant as of, and for, the periods presented in this report; 4. The registrant' s other certifying officer and I are responsible for establishing and maintaining disclosure controls and procedures (as defined in Exchange Act Rules 13a- 15 (e) and 15d- 15 (e)) and internal control over financial reporting (as defined in Exchange Act Rules 13a- 15 (f) and 15d- 15 (f)) for the registrant and have: a) Designed such disclosure controls and procedures, or caused such disclosure controls and procedures to be designed under our supervision, to ensure that material information relating to the registrant, including its consolidated subsidiaries, is made known to us by others within those entities, particularly during the period in which this report is being prepared; b) Designed such internal control over financial reporting, or caused such internal control over financial reporting to be designed under our supervision, to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with generally accepted accounting principles; c) Evaluated the effectiveness of the registrant' s disclosure controls and procedures and presented in this report our conclusions about the effectiveness of the disclosure controls and procedures, as of the end of the period covered by this report based on such evaluation; and d) Disclosed in this report any change in the registrant' s internal control over financial reporting that occurred during the registrant' s most recent fiscal quarter (the registrant' s fourth fiscal quarter in the case of an annual report) that has materially affected, or is reasonably likely to materially affect, the registrant' s internal control over financial reporting; and 5. The registrant' s other certifying officer and I have disclosed, based on our most recent evaluation of internal control over financial reporting, to the registrant' s auditors and the audit committee of the registrant' s board of directors (or persons performing the equivalent functions) a) All significant deficiencies and material weaknesses in the design or operation of internal control over financial reporting which are reasonably likely to adversely affect the registrant' s ability to record, process, summarize and report financial information; and b) Any fraud, whether or not material, that involves management or other employees who have a significant role in the registrant' s internal control over financial reporting. Date: August ~~10~~ **9** , ~~2022~~ **2023** / s / Christopher Rossi Christopher RossiPresident and Chief Executive Officer Exhibit 31. 2 I, Patrick S. Watson, certify that: Date: August ~~10~~ **9** , ~~2022~~ **2023** / s / Patrick S. Watson Patrick S. WatsonVice 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 Annual Report of Kennametal Inc. (the " Corporation ") on Form 10- K for the period ended June 30, ~~2022~~ **2023** , 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 / s / Patrick S. Watson * 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.