

UNITED STATES
 SECURITIES AND EXCHANGE COMMISSION
 WASHINGTON, D.C. 20549
 FORM 10-K

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

FOR THE FISCAL YEAR ENDED SEPTEMBER 30, 2020

or

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

For the transition period from _____ to _____

COMMISSION FILE NUMBER 000-30205

CMC Materials, Inc.

(Exact name of registrant as specified in its charter)

Delaware
 (State of Incorporation)
870 North Commons Drive
Aurora, Illinois
 (Address of principal executive offices)

36-4324765
 (I.R.S. Employer Identification No.)
60504
 (Zip Code)

Registrant's telephone number, including area code: **(630) 375-6631**

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

Title of each class	Trading Symbol(s)	Name of each exchange on which registered
Common Stock, \$0.001 par value	CCMP	The NASDAQ Stock Market LLC

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

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

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

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

Indicate by check mark whether the registrant has submitted electronically every Interactive Data File required to be submitted pursuant to Rule 405 of Regulation S-T (§ 232.405 of this chapter) during the preceding 12 months (or for such shorter period that the registrant was required to submit such files). Yes No

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

Large accelerated filer Accelerated filer Non-accelerated filer Smaller reporting company Emerging growth company

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

Indicate by check mark whether the registrant has filed a report on and attestation to its management's assessment of the effectiveness of its internal control over financial reporting under Section 404(b) of the Sarbanes-Oxley Act (15 U.S.C. 7262(b)) by the registered public accounting firm that prepared or issued its audit report.

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

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The aggregate market value of the registrant's Common Stock held beneficially or of record by stockholders who are not affiliates of the registrant, based upon the closing price of the Common Stock on March 31, 2020, as reported by the NASDAQ Global Select Market, was approximately \$3,301,374,488. For the purposes hereof, "affiliates" include all executive officers and directors of the registrant.

As of October 31, 2020, the Company had 29,081,617 shares of Common Stock outstanding.

DOCUMENTS INCORPORATED BY REFERENCE

Portions of the registrant's definitive Proxy Statement for the Annual Meeting of Stockholders to be held on March 3, 2021, are incorporated by reference in Part III of this Annual Report on Form 10-K to the extent stated herein.

This Annual Report on Form 10-K includes statements that constitute "forward-looking statements" within the meaning of federal securities regulations. For more detail regarding "forward-looking statements" see Item 7 of Part II of this Annual Report on Form 10-K.

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CMC MATERIALS, INC.
FORM 10-K
FOR THE FISCAL YEAR ENDED SEPTEMBER 30, 2020

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FORWARD-LOOKING STATEMENTS

This Annual Report on Form 10-K includes "forward-looking statements" within the meaning of the Private Securities Litigation Reform Act of 1995. This Act provides a safe harbor for forward-looking statements to encourage companies to provide prospective information about themselves so long as they identify these statements as forward-looking and provide meaningful cautionary statements identifying important factors that could cause actual results to differ from the projected results. All statements other than statements of historical fact we make in this Annual Report on Form 10-K are forward-looking and address a variety of subjects including, for example, future sales and operating results; growth or contraction, and trends in the industries and markets in which CMC Materials, Inc. ("CMC", "the Company", "us", "we", or "our"), participates, such as the semiconductor, and oil and gas industries; the acquisition of, investment in, or collaboration with other entities, including the Company's acquisition of KMG Chemicals, Inc. ("KMG"), and the expected benefits and synergies of such acquisitions; divestment or disposition, or cessation of investment in certain of the Company's businesses; new product introductions; development of new products, technologies and markets; product performance; the financial conditions of the Company's customers; the competitive landscape that relates to the Company's business; the Company's supply chain; natural disasters; various economic or political factors and international or national events, including related to global public health crises such as the COVID-19 pandemic ("Pandemic"), and the enactment of trade sanctions, tariffs, or other similar matters; the generation, protection and acquisition of intellectual property, and litigation related to such intellectual property or third party intellectual property; environmental, health and safety laws and regulations, and related compliance; the operation of facilities by the Company; the Company's management; foreign exchange fluctuation; the Company's current or future tax rate, including the effects of changes to tax laws in the jurisdictions in which the company operates; cybersecurity threats; financing facilities and related debt, pay off or payment of principal and interest, and compliance with covenants and other terms; and, uses and investment of the Company's cash balance, including dividends and share repurchases, which may be suspended, terminated or modified at any time for any reason by the Company, based on a variety of factors. Statements that are not historical facts, including statements about CMC's beliefs, plans and expectations, are forward-looking statements. Such statements are based on current expectations of CMC's management and are subject to a number of factors and uncertainties, which could cause actual results to differ materially from those described in the forward-looking statements. Except as required by law, CMC undertakes no obligation to update forward-looking statements made by it to reflect new information, subsequent events or circumstances. The section entitled "Risk Factors" of this Annual Report on Form 10-K describes some, but not all, of the factors that could cause these differences.

PART I

ITEM 1. BUSINESS

OUR COMPANY

CMC Materials, Inc., which was incorporated in the state of Delaware in 1999, is a leading global supplier of consumable materials to semiconductor manufacturers and pipeline companies. We operate our business within two reportable segments: Electronic Materials and Performance Materials.

RECENT DEVELOPMENTS

Effective October 1, 2020, the Company changed its name from “Cabot Microelectronics Corporation” to “CMC Materials, Inc.” Our new name reflects our expanded product offerings and industries in which we participate following our acquisition of KMG in fiscal 2019 (the “Acquisition”).

We completed the Acquisition on November 15, 2018 (“Acquisition Date”), and since then we have included the results of KMG, which produces and distributes specialty chemicals and performance materials for the semiconductor industry, pipeline and adjacent industries, and industrial wood preservation industry, in our consolidated results. For additional information, refer to Note 4 of “Notes to the Consolidated Financial Statements” included in Item 8 of Part II of this Annual Report on Form 10-K.

In the fourth quarter of fiscal 2019, we made a decision to close KMG-Bernuth, Inc.’s (“KMG-Bernuth”) Matamoros, Mexico and Tuscaloosa, Alabama wood treatment facilities and cease participating in the wood treatment business by approximately the end of calendar year 2021, and focus our strategy and future capital investments on our core businesses. Leading up to the planned closure of the Matamoros and Tuscaloosa facilities, we intend to continue to operate the existing facilities and serve our wood treatment customers. For additional information, refer to Note 10 of “Notes to the Consolidated Financial Statements” included in Item 8 of Part II of this Annual Report on Form 10-K.

ELECTRONIC MATERIALS SEGMENT

The Electronic Materials segment consists of our chemical mechanical planarization (“CMP”) slurries business, CMP polishing pads business, and our electronic chemicals business. These businesses supply consumable products used in integrated circuit (“IC”) device manufacturing and other aspects of the semiconductor and data storage industries.

IC devices, or “chips”, are components in a wide range of electronic systems for computing, communications, manufacturing and transportation. The multi-step manufacturing process for IC devices typically begins with a circular wafer of pure silicon, then undergoes a process of alternating insulating and conducting layers until the desired wiring within the IC device is achieved. At the conclusion of the process, the wafer is cut into the individual IC devices, which are then packaged to form individual chips. Consumers most frequently encounter IC devices in smart phones and tablets, desktop or laptop computers, automotive applications, gaming devices, and televisions.

CMP SLURRIES AND CMP PADS

The Company develops, produces, and sells CMP slurries for polishing a wide range of materials used in IC devices, including tungsten, dielectric materials, copper, tantalum (commonly referred to as “barrier”), and aluminum, and for polishing bare silicon wafers, as well as disk substrates and magnetic heads used in hard disk drives. We also develop, manufacture, and sell CMP polishing pads, which are used in conjunction with slurries in the CMP process. Our CMP pads can be used on a variety of polishing tools and wafers, over a range of technology nodes and applications, including tungsten, copper, and dielectrics.

CMP slurries and pads (“CMP consumables”) are used to remove excess material that is deposited during the IC manufacturing process and to level and smooth the surfaces of the layers of IC devices via a combination of chemical reactions and mechanical abrasion, leaving minimal residue and defects on the surface, with only the material necessary for circuit integrity remaining. CMP enables IC device manufacturers to produce smaller, faster, and more complex IC with a greater density of transistors. CMP also helps reduce the number of defective or substandard IC devices, which increases the device yield. An effective CMP process is achieved through technical optimization of the CMP consumables in conjunction with an appropriately designed CMP process and generally requires slurries and pads to be qualified in its processes through an extensive series of tests and evaluations. While this qualification process varies depending on numerous factors, it is generally quite costly and may take six months or longer to complete. IC device manufacturers usually assess quality, cost, time required, and impact on production when they consider implementing or switching to a new CMP slurry or pad.

ELECTRONIC CHEMICALS

In our electronic chemicals business, we offer semiconductor-grade wet chemicals with purities that extend to the parts-per-trillion (ppt) level. We produce and sell high-purity process chemicals through the formulation, purification, and blending of acids, solvents, and other wet chemicals primarily used to etch, clean, and dry silicon wafers during the production of semiconductors, photovoltaics (solar cells), and flat panel displays.

Our electronic chemicals products include sulfuric, phosphoric, nitric and hydrofluoric acids, ammonium hydroxide, hydrogen peroxide, isopropyl alcohol, other specialty organic solvents and various blends of chemicals. As the IC manufacturing process moves to more advanced technology nodes and the complexity of the process continues to increase, quality and purity of the materials becomes even more critical to the device yield. Increasing levels of purity and achieving lower levels of variation in our electronic chemicals business are required to enable next-generation IC technologies. Our advanced chemical purification technologies, including distillation, ion exchange, gas adsorption, and filtration, are designed to provide consistently low contaminant levels in a variety of high-purity process chemicals. We continue to work to develop industry-leading metrology and analytical methods to measure the purity levels achieved.

STRATEGY

Technology and innovation are vital to our Electronic Materials business, and we devote significant resources to research and development. We believe our focused effort on advanced technologies with technology-leading customers enables us to provide more compelling new products as semiconductor devices continue to advance. We focus our research and development activity to deliver innovative consumable products for advanced applications for our technology-leading customers. We have strategically located our research and development and clean room facilities, manufacturing operations, and related quality, field application, technical and customer support teams to be responsive to our customers' needs, which we believe provides us with a competitive advantage.

We also focus on building close relationships with our customers. We collaborate with them to identify and deliver new and improved solutions, to integrate our products into their manufacturing processes, and to assist them with supply, warehouse and inventory management.

We believe another competitive advantage is product and supply chain quality. Our customers demand continuous improvement in our products, in terms of product performance, quality and consistency. In pursuit of this, we work to continuously improve and innovate with respect to our own products, and as part of that, we require our raw materials suppliers, who provide us with certain important elements of our CMP slurries, pads and electronic chemicals, to do the same. We believe our capabilities in supply chain management and quality systems differentiate us from our competitors, and that our worldwide CMP consumables manufacturing plants and global network of suppliers also provide supply chain flexibility as needed. In our electronic chemicals business, we are responsible for product performance, purity levels and analytical testing, and in our view, our ability to maintain high quality levels and superior supply chain process is a competitive advantage.

INDUSTRY TRENDS

SEMICONDUCTOR INDUSTRY

Demand within the semiconductor industry is driven by smart phones, tablets, personal computers ("PCs"), servers, and a wide range of other electronic applications, including high-performance computing and artificial intelligence. Over time, overall semiconductor industry demand has fluctuated as a result of numerous factors, including the changing mix of demand drivers, semiconductor fab utilization, pressure to reduce costs, and the pace of technology advancement.

Over the past several years there has been a significant shift in semiconductor industry demand from IC devices for PCs to hand-held consumer electronic devices. Future demand for advanced semiconductor devices is expected to be driven by applications such as high performance computing, virtual and augmented reality, artificial intelligence, and 5G; demand for greater connectivity with wearables, peripherals, the internet of things, and increased semiconductor content in automobiles. While demand conditions may fluctuate, we continue to believe that semiconductor industry demand will grow over the long term based on increased usage of IC devices in existing applications, as seen in fiscal 2020 due to increased technology needs and renewed demand for PC's due to "work from home" and remote learning as a result of the Pandemic, as well as future applications.

Over the past several years, we have seen consolidation in the customer base within the semiconductor industry. Costs to achieve the required scale in manufacturing within the semiconductor industry continue to rise, along with the related costs of research and development, and larger manufacturers generally have greater access to the resources necessary to manage their businesses.

As demand for more advanced and lower cost electronic devices grows, there is ongoing pressure on IC device manufacturers to reduce their costs. Manufacturers have historically reduced cost and simultaneously improved device performance by migrating to smaller technology nodes. To achieve performance and cost improvements, semiconductor manufacturers are placing greater emphasis on new device architectures, including 3D memory and FinFET. Many manufacturers reduce costs by pursuing ever-increasing scale in their operations, while seeking to reduce their production costs by increasing their production yields regardless of their scale. However, as the industry continues to shrink dimensions, leading edge technology node transitions are becoming more challenging due to technical and physical obstacles, and the pace of technology change has slowed. Thus, they look for semiconductor materials products, such as CMP consumables and electronic chemicals, to help enable the achievement of technology progression with quality and performance attributes that can help them achieve their overall performance targets, cost structure, and to drive yield improvement.

DEMAND

Demand for our CMP consumables and electronic chemicals products reflects semiconductor industry demand patterns in terms of growth, cyclicity and seasonality, and varying demand for specific device types. Consistent with other participants in the semiconductor industry, we experienced relatively stable demand conditions in our fiscal 2020 despite global macroeconomic uncertainty caused by the Pandemic. Over the long term, we anticipate worldwide demand for CMP consumables and electronic chemicals used by IC device manufacturers to grow as a result of expected long-term growth in wafer starts, and the trend to more advanced technologies. With respect to CMP consumables, we believe there will continue to be an associated increase in the number of CMP polishing steps required to produce these advanced devices, and the introduction of new materials that are expected to require CMP. With respect to electronic chemicals, we believe there will be increasing demand as customers are transitioning to advanced technology nodes, which require an increasing number of processing steps used on each wafer and materials with higher purity levels.

COMPETITION

We compete in the semiconductor industry, which is characterized by technology advances, demanding requirements for product quality and consistency, and lower cost of ownership. We face competition from other suppliers of electronic materials. We believe we are the leading global supplier of CMP slurries, with a broad range of innovative solutions. Our CMP slurry competitors range from small companies that compete with a single product or in a single geographic region, to divisions of global companies with multiple lines of CMP products. With respect to CMP polishing pads, DuPont has held the leading position in this area for many years. Several other companies also participate in CMP consumables.

For our electronic chemicals business, there are various competitors with whom we compete in different regions. In North America, these include Honeywell, Kanto Corporation and Avantor. Outside the United States (U.S.), other providers in Europe are BASF, Technic and Honeywell, and in Asia, BASF and Kanto Corporation, among others. We believe our business in Europe is comparable to other providers, and other than in Singapore, at present we do not participate materially in the business in Asia.

CUSTOMERS, SALES, AND MARKETING

Within the semiconductor industry, our customers are generally producers of logic or memory IC devices, or providers of IC foundry services. Some logic customers, and so-called "fabless" companies, outsource some or all the production of their devices to foundries, which provide contract manufacturing services, in order to avoid the high cost of process development, construction and operation of a fab, or to provide additional capacity when needed.

We market our products primarily through direct sales to our customers, although we use distributors in certain areas. We believe this strategy of primarily direct sales provides us an additional means to collaborate closely with our customers and provides our customers with the most efficient means by which to procure our products. As part of our sales process, our logistics and sales personnel provide supply, warehouse and inventory management services for our customers.

For additional information on our customers, refer to Note 2 of "Notes to the Consolidated Financial Statements" included in Item 8 of Part II of this Annual Report on Form 10-K.

RESEARCH, DEVELOPMENT AND TECHNICAL

As technology advances and semiconductor materials and designs increase in complexity, these challenges require significant investments in research, development and technical support (“R&D”), and we plan to continue to devote significant resources to R&D, and balance our efforts between shorter and longer-term industry needs.

Our global R&D team includes experts from the semiconductor industry and scientists and engineers from key disciplines required for the development of high-performance CMP consumable products. We operate CMP consumable product R&D facilities primarily in the U.S., with certain development capabilities in Taiwan and South Korea, in Singapore for data storage, and in Japan for silicon wafer products. We also operate electronic chemicals product development facilities in the U.S., Europe, and Singapore.

RAW MATERIALS SUPPLY

Engineered abrasive particles are significant raw materials we use in many of our CMP slurries. Our strategy is to secure various sources of different raw materials, as appropriate, to enable the desired performance of our products, and monitor those sources as necessary to provide supply assurance. We have multi-year supply agreements with several suppliers for the purchase of raw materials in the interest of supply and quality assurance, and to control costs.

In our electronic chemicals business, we rely on a variety of suppliers for our raw materials, some of which we purchase pursuant to purchase orders, and others which we purchase under supply contracts. The number of suppliers is often limited, particularly as to the specific grade of raw material required by us to supply high purity products to our customers.

PERFORMANCE MATERIALS SEGMENT

Our Performance Materials segment includes our pipeline and industrial materials (“PIM”) business, wood treatment business, and precision optics business. We are a leading global provider of products, services, and solutions for optimizing pipeline throughput and maximizing performance and safety. Our PIM products include drag-reducing agents (“DRAs”), valve greases, cleaners and sealants, and related equipment supporting pipeline and adjacent industries. We also provide routine and emergency maintenance services as well as training for customers in the pipeline and adjacent industries worldwide. Through QED Technologies International, Inc. (“QED”), our precision optics business, we serve the precision optics industry with capital equipment, consumables, and services. KMG-Bernuth operates the wood treatment business, which manufactures and sells wood treatment preservatives made from pentachlorophenol (“penta”).

PIM PRODUCTS AND SERVICES

We are a leading global provider of performance products and services to pipeline companies. We supply DRAs, valve greases, cleaners and sealants, and related services and equipment, including routine and emergency valve maintenance services and training, to customers in the pipeline and adjacent industries. Our PIM products and services provide value-added specialty products that optimize pipeline efficiency, lower operating costs, and enhance safety. We operate facilities for the manufacture, formulation and distribution of our products in the U.S. and Canada. Our PIM products are sold under the brands Flowchem, Sealweld, and Val-Tex.

We provide polymer-based DRAs for crude oil transmission. We have several product offerings to meet specific customer needs depending on the physical properties of the oil being pumped and various geographic climate conditions. Our products provide benefit to our customers by reducing the pressure loss in a pipeline due to turbulent flow within it. This allows pipeline operators to maximize product flow while maintaining safe operating pressure and reducing energy consumption.

We develop, manufacture, and sell products used for maintaining and extending the operational lifespan of lubricated isolation valves. We also service valves inline and under pressure through our field services division and provide accredited training to customers in the pipeline and adjacent industries globally.

QED

QED is a leading provider of deterministic finishing and advanced measurement technology to the precision optics industry. We design and produce precision polishing and metrology systems for advanced optics applications that allow customers to attain near-perfect shape and surface finish on a range of optical components such as mirrors, lenses and prisms. QED's products also include magneto-rheological polishing fluids, consumables, spare and replacement parts, as well as optical polishing services and other customer support services. We are applying our technical expertise in polishing techniques to applications in other industries where shaping, enabling, and enhancing the performance of surfaces is critical to success. We believe precision optics are pervasive, serving several large existing industries such as semiconductor equipment, aerospace, defense, biomedical, research and digital imaging.

WOOD TREATMENT

The wood treatment preservatives business supplies penta-based products to industrial customers in the U.S. and Canada who use this preservative to pressure treat utility poles and crossarms to extend their useful life by protecting against insect damage and decay. Penta products include solid blocks, which are manufactured by KMG-Bernuth at its facility in Matamoros, Mexico, and penta concentrate liquid that is processed from penta blocks at KMG-Bernuth's plant in Tuscaloosa, Alabama. We are the only manufacturer of penta-based preservatives in North America.

In the fourth quarter of fiscal 2019, we made a decision to close KMG-Bernuth's Matamoros, Mexico and Tuscaloosa, Alabama wood treatment facilities and cease participating in the wood treatment business by approximately the end of calendar year 2021, and focus our strategy and future capital investments on our core businesses. Leading up to the planned closure of the Matamoros and Tuscaloosa facilities, we intend to continue to operate the existing facilities and serve our wood treatment customers. For additional information, refer to Note 9 and Note 10 of "Notes to the Consolidated Financial Statements" included in Item 8 of Part II of this Annual Report on Form 10-K.

STRATEGY

Our strategy for our Performance Materials segment focuses on expanding the PIM business, delivering high quality products to our customers, and driving demand for our products.

PIM PRODUCTS AND SERVICES

We focus on providing superior customer service to our customers while delivering consistent, high quality DRA products that meet their needs at a competitive price. We intend to continue to serve current customers as they bring new capacity online and to grow our business through attracting and serving new customers. In addition, we continue to develop other products focused on the pipeline transmission area for which we believe DRAs can serve currently unmet needs.

Additionally, we continue to work to drive demand for our products by promoting valve best practices to energy industry operators that align with current and trending global regulations and sustainable practices. Our primary focus is the promotion of our critical sealing products as an alternative to more costly mechanical solutions for achieving isolation in aged infrastructure.

QED

Our focus for QED is to provide innovative and industry-leading products and services to the precision optics industry. We continue to drive demand for our products to new and existing customers by developing new equipment and capabilities, pursuing emerging applications, and communicating the unique value offered by our products.

DEMAND

PIM PRODUCTS AND SERVICES

Demand for our PIM products and services is driven by new pipeline construction, increasing rate of adoption, oil and gas production capacity, and focus on safety for the aging infrastructure. Demand for our PIM products decreased significantly in the second half of fiscal 2020 as a result of the Pandemic and the related extreme global reduction in and restrictions related to plane, automotive, and industrial activity.

QED

Demand for products produced by QED is typically driven by the trends in the underlying industries that utilize precision optics, such as semiconductor equipment, aerospace, defense, research, biomedical, and digital imaging. Since our primary QED business is the sale of capital equipment, our results are typically affected by levels of capital spending in these industries. Historically, capital spending is cyclical, and is impacted by general macroeconomic conditions, government spending and policies, as well as industry-specific trends and dynamics.

COMPETITION

In our PIM business, LiquidPower Specialty Products Inc. holds a leading position in DRAs, with Baker Hughes as another primary provider. For our additional PIM products and services, however, participants include numerous other businesses with none appearing to hold a leadership position.

In QED, there are few direct competitors but we believe our technology is unique and provides a competitive advantage to customers in the precision optics industry, which still relies heavily on traditional artisanal methods of fabrication.

In our wood treatment business, we are the only manufacturer of penta-based wood treatment preservatives in North America.

CUSTOMERS, SALES, AND MARKETING

PIM PRODUCTS AND SERVICES

We provide DRAs to several major mid-stream pipeline transmission companies both domestically and internationally. We have a U.S.-based sales network, a U.S.-based transportation and logistics operations, and a global network of distributors and agents to manage the sales and delivery of our products. For our additional PIM products and services, we market and sell to pipeline and adjacent industry customers, such as service companies, and major utility distribution companies via direct sales and channel partners.

QED

QED supports customers in the semiconductor equipment, aerospace, defense, research, biomedical, and digital imaging industries. QED counts among its worldwide customers leading precision optics manufacturers, major semiconductor original equipment manufacturers, research institutions, and contractors to the U.S. and other governments.

WOOD TREATMENT

We are the only manufacturer of penta-based wood treatment preservatives in North America and only supply penta to customers in the U.S. and Canada. We do not have other products or business in this area.

RESEARCH, DEVELOPMENT AND TECHNICAL

For our PIM products, we focus our U.S.-based research and development activities on both improving existing product performance as well as developing new products and technologies to serve our customers' needs.

For QED, R&D activities are primarily focused on the development of new polishing and metrology capabilities, as well as additional capabilities for our polishing services group.

RAW MATERIALS SUPPLY

For both our PIM products and our wood treatment products, we depend on outside suppliers for the raw materials needed to produce them and are subject to fluctuations in the price of those materials, which we purchase from a limited number of suppliers. Most of QED's is capital equipment-based, thus, there are minimal raw material supply issues that we face within this business unit.

INTELLECTUAL PROPERTY

We believe our intellectual property is important to our success and ability to compete, and in addition to it, we also differentiate our products and technology by their high quality and reliability, and our quality systems, global supply chain and logistics. As of October 31, 2020, we had 1,301 active worldwide patents, of which 268 U.S. patents, and 344 pending worldwide patent applications, of which 45 are in the U.S.

Many of these patents are important to our continued development of new and innovative products for CMP and related processes, as well as for new businesses. Our patents have a range of duration. We attempt to protect our intellectual property rights through a combination of patent, trademark, copyright and trade secret laws, use of certain manufacturing technologies, exclusive contractual arrangements with suppliers, and with employee and third party-nondisclosure and assignment agreements. We refresh our intellectual property on an ongoing basis through continued innovation. We vigorously protect and defend our intellectual property and have been successful in this regard.

Most of our intellectual property has been developed internally, but we also may acquire intellectual property from others to enhance our intellectual property portfolio. These enhancements may be via licenses or assignments, or we may acquire certain proprietary technology and intellectual property when we make acquisitions. We believe these technology rights can enhance our competitive advantage by providing us with future product development opportunities and expanding our intellectual property portfolio.

ENVIRONMENTAL, SAFETY AND HEALTH AND OTHER REGULATORY MATTERS

ENVIRONMENTAL, SAFETY AND HEALTH MATTERS

Our facilities and operations are subject to various environmental, safety, and human health laws and regulations, both at a federal and state or local level, including those relating to air emissions, wastewater discharges, chemical manufacture and distribution, the handling and disposal of solid and hazardous wastes, storage and disposal, and various other occupational safety and health matters. Governmental authorities can enforce compliance with their regulations, and violators may be subject to civil, criminal, and administrative penalties, injunctions, or both. We believe that our facilities are in substantial compliance with applicable environmental laws and regulations. Our major operations in the U.S., Japan, Singapore, South Korea, Taiwan, France, Italy, and the United Kingdom are certified under current ISO 14001 Environmental and OHSAS 18001 Safety and Health standards, which require that we implement and operate according to various procedures that demonstrate waste reduction, energy conservation, injury reduction and other environmental, health and safety and sustainability objectives. We have achieved certification under the revised ISO 14001 standards and are now actively pursuing certification under revised OHSAS 18001 standards that will transition to ISO 45001 standards over the next three years. We have incurred, and will continue to incur, capital and operating expenditures and other costs in complying with environmental, safety and health laws and regulations in the U.S. and other countries in which we do business, but we do not expect these costs will be material. For additional information, refer to “Item, 1A. Risk Factors”, Item 3 “Legal Proceedings”, and Note 20 of “Notes to the Consolidated Financial Statements” included in Item 8 of Part II of this Annual Report on Form 10-K.

EMPLOYMENT AND LABOR RELATIONS MATTERS

We are subject to numerous foreign, federal, state and local government laws and regulations governing our relationships with our employees, including those relating to minimum wage, overtime, working conditions, hiring and firing, non-discrimination, work permits and employee benefits. We believe that our operations are conducted in compliance in all material respects with such laws and regulations. We have not experienced any significant work stoppages or disruptions to our business relating to employee matters. We believe that our relationship with our employees is good. For additional information, refer to “Item, 1A. Risk Factors.” and Item 1, Business, Environmental, Safety and Health and Other Regulatory Matters -- “Employees and Talent (Human Capital) Management.”

IMPORT AND EXPORT CONTROL AND RELATED MATTERS

We manufacture, market and sell our products both inside and outside the U.S. Certain products are subject to the Export Administration Regulations, administered by the U.S. Department of Commerce, Bureau of Industry and Security, which require that we obtain an export license before we can export certain controlled products or technology to specified countries. Additionally, some of our products are subject to the International Traffic in Arms Regulations, which restrict the export of information and material that may be used for military or intelligence applications by a foreign person. We also are subject to the import regulations administered by U.S. Customs and Border Protection, and to the regulations administered by the U.S. Department of the Treasury, Office of Foreign Assets Control, implementing economic sanctions against designated countries, governments, and persons based on U.S. foreign policy and national security considerations.

Similar controls exist in other countries and regions. Failure to comply with these laws could result in sanctions by the U.S. or other respective government, including substantial monetary penalties, denial of import or export or other privileges and debarment from government contracts. We maintain an import and export compliance program under which we screen import and export and other transactions against current lists of restricted imports or exports or other transactions, destinations and end users with the objective of managing related decisions, transactions and shipping and banking logistics to comply with these requirements.

EMPLOYEES AND TALENT (HUMAN CAPITAL) MANAGEMENT

We believe our employees are the foundation of our success. Our overall talent acquisition and retention strategy is designed to attract and retain diverse and qualified candidates to meet our performance goals on an ongoing basis and enable the success of the Company.

We are focused on employee safety and health and a shared culture of results, caring, candor, and learning, which are foundations of our Company's values, and are expressed in our Code of Business Conduct, to which all employees certify, and related policies and procedures in the countries in which we do business. With respect to employee health and safety measures, we focus on ongoing education with respect to environmental, health and safety ("EHS") matters, and injury prevention and reduction across all our operations. We track injury rates on an ongoing basis and compare them to the average injury rates for chemical manufacturers as well as to semiconductor industry manufacturers; we believe we have been significantly below each of these industry averages for the past five years. In fiscal 2020 we urgently focused our EHS efforts around the world, including education and enhanced health and safety protocols, on employee well-being and prevention of the spread of the Pandemic at our facilities and in our communities. For additional information, refer to "Item 1A. Risk Factors."

As of September 30, 2020, we employed 2,082 individuals, including 1,413 in operations, 252 in research and development and technical, 417 in sales, general and administration. Approximately 1,091 of these individuals located in the U.S. and approximately 991 of these individuals located outside of the U.S., with 716 in Asia Pacific, 199 in Europe and 76 in Canada and Mexico. With respect to gender diversity, we believe the percentage of women in our worldwide workforce is at least generally comparable to averages in the chemical and semiconductor industries. Of our Executive Officers 50% identify as female, and 50% identify as male.

In general, our employees are not covered by collective bargaining agreements, but we do have some workers who are subject to such agreements, part of workers' councils, or similar arrangements, primarily in Europe, Mexico, and Singapore. We provide various employee benefits to our employees around the world. Some examples of this are: an employee stock purchase plan, a parental leave program, and a paid time off program to global employees; statutory health care and pension benefits to our employees outside the U.S.; and, a health and welfare benefits plan and a defined contribution savings plan to U.S. employees. See Note 18 of "Notes to the Consolidated Financial Statements" included in Item 8 of Part II of this Annual Report on Form 10-K.

FINANCIAL INFORMATION ABOUT GEOGRAPHIC AREAS

For financial information about geographic areas, see Note 23 of "Notes to the Consolidated Financial Statements" included in Item 8 of Part II of this Annual Report on Form 10-K.

AVAILABLE INFORMATION

Our annual reports on Form 10-K, quarterly reports on Form 10-Q, definitive proxy statements on Schedule 14A, current reports on Form 8-K, and any amendments to those reports, as well as any other filings with the Securities and Exchange Commission ("SEC"), are made available free of charge on our Company website, www.cmcmaterials.com, as soon as reasonably practicable after such reports are filed or furnished with the SEC. Our Code of Business Conduct and certain other governance documents are also available on our website, www.cmcmaterials.com. Statements regarding beneficial ownership of our securities by our executive officers and directors are made available on our Company website following the filing of such with the SEC. In addition, the SEC's website (<http://www.sec.gov>) contains reports, proxy statements, and other information that we file electronically with the SEC.

ITEM 1A. RISK FACTORS

RISKS RELATING TO OUR BUSINESS, STRATEGY AND OPERATIONS

OUR BUSINESS AND RESULTS OF OPERATIONS MAY BE ADVERSELY AFFECTED BY THE CORONAVIRUS (COVID-19) PANDEMIC AND RELATED ADVERSE IMPACT TO WORLDWIDE ECONOMIC AND INDUSTRY CONDITIONS

The global spread of the Pandemic has created significant volatility, uncertainty and economic disruption across the world and in the countries and locations in which we and our customers and suppliers operate. In our third and fourth fiscal quarters of 2020, businesses in our Electronic Materials segment remained generally stable despite the Pandemic. With respect to our Performance Materials segment, the Pandemic had a significant adverse impact on our Performance Materials' PIM business in our third and fourth fiscal quarters of 2020, as the demand for DRAs declined significantly due to the ongoing dislocation in the energy sector occasioned by the Pandemic as well as certain geopolitical factors, as described below. The extent to which the Pandemic may further impact our business, operations, results of operations and financial condition is uncertain and difficult to estimate, and depends on numerous evolving factors that we may not be able to accurately predict, which may include: A decrease in short-term and long-term demand and pricing for our products and services, and an ongoing global economic recession that could further reduce demand and/or pricing for our products and services resulting from actions taken by governments, businesses, or the general public in an effort to limit exposure to and spread of such infectious diseases, such as ongoing or renewed travel restrictions, quarantines, and business shutdowns or slowdowns; Negative impacts to our operations, including reductions in production levels, R&D activities, and qualification activities with our customers, and increased costs resulting from our efforts to mitigate the impact of the Pandemic through additional or continued social-distancing measures we have enacted at our locations around the world in an effort to protect our employees' health and well-being (including working from home, reducing the number of employees or others in our sites at any one time and how such individuals perform work while at our sites, redesigning or adjusting our manufacturing, R&D and office facilities, and suspending or limiting employee travel); Deterioration of worldwide credit and financial markets that could limit our ability to obtain external financing to fund our operations and capital expenditures, result in losses on our holdings of cash and investments due to failures of financial institutions and other parties, and result in losses on our accounts receivables due to credit defaults or our customers' inability to pay; and, Disruptions to our supply chain in connection with the sourcing of materials, equipment and logistics or other services and support necessary to our business as a result of the Pandemic and efforts to contain the spread of the Pandemic. To the extent possible if and when the Pandemic is contained or abates, the resumption of what was previously considered normal business operations after such interruption may be delayed or constrained by lingering effects of the Pandemic on our Company and our customers, suppliers, and third-party service providers. These effects, alone or taken together, could have a material adverse effect on our business, results of operations, legal exposure, or financial condition. A further sustained or prolonged outbreak or return of the Pandemic in the places in which we do business, such as is currently being experienced in the U.S. and Europe, could exacerbate the adverse impact of such measures on our Company.

DEMAND FOR OUR PRODUCTS FLUCTUATES AND OUR BUSINESS MAY BE ADVERSELY AFFECTED BY WORLDWIDE ECONOMIC, INDUSTRY AND OTHER CONDITIONS

Our business is affected by economic and industry conditions, such as those currently being adversely affected by the Pandemic, and the majority of our revenue derives from our Electronic Materials segment, which is primarily dependent upon semiconductor industry demand. With respect to our Electronic Materials segment, historically, semiconductor industry demand has fluctuated due to economic and industry cycles and seasonal shifts in demand, which can affect our business, causing demand for our electronic materials products to fluctuate. For example, prior to the Pandemic, the relatively soft demand conditions in the semiconductor industry that had commenced in our second fiscal quarter of 2019 and continued into our first fiscal quarter of 2020 had begun to ameliorate in the beginning of the second fiscal quarter of 2020. However, although our Electronic Materials segment experienced relatively stable conditions during the third and fourth fiscal quarters of 2020, the ongoing nature of the Pandemic has created uncertainty as to demand conditions for the semiconductor industry going forward into our fiscal 2021 and beyond. Furthermore, competitive dynamics within the semiconductor industry may impact our business. Our limited visibility to future customer orders makes it difficult for us to predict industry trends, especially during unusual adverse circumstances, such as the Pandemic. If the global economy or the semiconductor industry weakens further, whether in general or as a result of the Pandemic or other specific factors, such as macroeconomic factors, or unpredictable events such as natural disasters, geopolitical conditions and international trade tensions, civil unrest, or additional global health crises, we could experience material adverse impacts on our results of operations and financial condition. Some additional factors that may affect demand for our electronic materials products include: demand trends for different types of electronic devices, such as logic versus memory IC devices, or digital versus analog IC devices; the various technology nodes at which those products are manufactured; customers' efficiencies in the use of CMP consumables and/or high-purity process chemicals ("electronic chemicals"); customers' device architectures and specific manufacturing processes; the short order to delivery time for our products; quarter-to-quarter changes in customer order patterns; market share and competitive gains and losses; and pricing changes by us and our competitors.

As to our Performance Materials segment, which continues to be an area of potential continued growth for us over the longer term, our PIM business may be impacted by changes in the utilities and/or oil and gas industries, such as we saw in our third and fourth fiscal quarters of 2020 resulting from ongoing significant dislocation in these industries occasioned by geopolitical disputes such as those that commenced in March 2020 between the Organization of Petroleum Exporting Countries ("OPEC") and Russia, and a confluence of an excess in oil capacity due to these factors and the ongoing Pandemic and efforts to contain the Pandemic. Relatedly, as described, volatility in oil and natural gas prices may impact our customers' activity levels, including production, and as we saw during the third and fourth fiscal quarters of 2020, we experienced a significant drop in demand for our related PIM products and services. Expectations about future prices and price volatility are important in determining future spending levels for customers of our PIM products and services. The ongoing volatility in worldwide oil and natural gas prices and markets are an extreme example of historical volatility in this sector, and such volatility is likely to continue in the future. As is currently the case, prices for oil and natural gas are subject to wide fluctuations in response to relatively minor or major changes in the supply of and demand for oil and natural gas, market uncertainty and a variety of additional factors that are beyond our control. These factors include, but are not limited to, decreases or increases in supplies from U.S. shale production or other oil production, geopolitical conditions, including uprisings, civil unrest, and international trade tensions, sovereign debt crises, the domestic and foreign supply of oil and natural gas, the level of consumer demand due to economic growth or contraction such as currently seen related to the Pandemic, and other factors in countries such as China, weather conditions, domestic and foreign governmental regulations and taxes, the price and availability of alternative fuels, the health of international economic and credit markets, the ability of the members of the OPEC and other state-controlled oil companies to agree upon and maintain oil price and production controls, and general economic conditions, such as those currently seen related to the Pandemic.

Further, adverse global economic, industry and other conditions such as those related to the ongoing Pandemic could have other negative effects on our Company. For instance, we could experience negative impacts on cash flows due to the inability of our customers to pay their obligations to us, or our production processes could be harmed if our suppliers cannot fulfill their obligations to us. As a result of these or other conditions, we also might have to reduce the carrying value of goodwill and other intangible assets, which could harm our financial position and results of operations.

WE MAY PURSUE ACQUISITIONS OF, INVESTMENTS IN, AND MERGERS OR STRATEGIC ALLIANCES WITH OTHER ENTITIES, WHICH COULD DISRUPT OUR OPERATIONS AND HARM OUR OPERATING RESULTS IF THEY ARE UNSUCCESSFUL, OR WE MAY ENCOUNTER UNANTICIPATED ISSUES IN IMPLEMENTING THEM

We expect to continue to make investments in technologies, assets and companies, either through acquisitions, mergers, investments or alliances, in order to supplement our organic growth and development efforts. Acquisitions, mergers, and investments, including our acquisitions of KMG, which we completed in November 2018, involve numerous risks, including the following: difficulties and risks in integrating the operations, technologies, products and personnel of acquired companies; difficulties and risks from unanticipated issues arising subsequent to a transaction related to the other entity; potential disruption of relationships with third parties such as customers or suppliers; diversion of management's attention from normal daily operations of the business; increased risk associated with foreign operations; potential difficulties and risks in entering markets or industries in which we have limited or no direct prior experience and/or where competitors have stronger positions; potential difficulties and unexpected situations arising in operating new businesses with different business models; facilities and operations; potential difficulties with regulatory or contract compliance in areas in which we have limited or no experience; initial dependence on unfamiliar supply chains or relatively small supply partners; insufficient revenue to offset increased expenses associated with acquisitions; potential loss of key employees of the acquired companies; or inability to effectively cooperate and collaborate with our alliance partners.

Further, we may never realize the perceived or anticipated benefits of a business combination or merger with, or asset or other acquisition of, or investments in, other entities. Transactions such as the Acquisition could and in some cases have had negative effects on our results of operations, in areas such as contingent liabilities, gross margins, amortization charges related to intangible assets and other effects of accounting for the purchases of other business entities. Investments in and acquisitions of technology-related or early-stage companies or assets are inherently risky because these businesses or assets may never develop, and we may incur losses related to these investments.

In addition, we may be required to impair the carrying value of these acquisitions or investments to reflect other than temporary declines in their value. The carrying value of goodwill represents the fair value of acquired businesses in excess of identifiable assets and liabilities as of the acquisition date. The carrying value of other intangible assets represents the fair value of customer relationships, tradenames and other acquired intangible assets as of the acquisition date. Goodwill and other acquired intangible assets expected to contribute indefinitely to our cash flows are not amortized, but must be evaluated for impairment by management at least annually. If the carrying value exceeds the implied fair value of goodwill, the goodwill is considered impaired and is reduced to fair value via a non-cash charge to earnings. If the carrying value of an indefinite-lived intangible asset is greater than its fair value, the intangible asset is considered impaired and is reduced to fair value via a non-cash charge to earnings. If the value of goodwill or other acquired intangible assets is impaired, our results of operations and financial condition could be adversely affected. Examples of asset impairment charges we recently incurred include the charge we took in the fourth quarter of fiscal 2019 and the fourth quarter of fiscal 2020 related to the KMG wood treatment business. Absent a sale of the wood treatment business, as we approach the previously announced closure date of the wood treatment facilities and there are fewer estimated future cash flows, we expect that the carrying value of the wood treatment asset group will not be recoverable, resulting in future impairments of intangible assets and goodwill. The amount of such impairments could be material and could adversely affect our results of operations and financial condition. See Notes 9 and 10 of "Notes to the Consolidated Financial Statements" included in Item 8 of Part II of this Annual Report on Form 10-K for additional discussion.

Furthermore, the integration of the acquired businesses into our operations is a complex and time-consuming process that may not be successful. Our Company has a limited history of integrating significant acquisitions, and the process of integration may produce unforeseen operating difficulties and expenditures. As demonstrated in the Acquisition, the primary areas of focus for successfully combining those businesses with our operations may include and have included, among others: retaining and integrating key employees; realizing synergies; aligning customer and supplier interfaces, and operations across the combined business; integrating enterprise resource planning and other information technology systems; and, managing the growth of the combined company. Even if we successfully integrate an acquired business, such as KMG, into our operations, there can be no assurance that we will realize the anticipated benefits of the Acquisition.

WE HAVE A CONCENTRATED PRODUCT RANGE WITHIN EACH OF OUR SEGMENTS AND OUR PRODUCTS MAY BECOME OBSOLETE, OR TECHNOLOGICAL CHANGES MAY REDUCE OR LIMIT INCREASES IN THE CONSUMPTION OF OUR PRODUCTS

Although our product offerings expanded with the Acquisition, our business remains substantially dependent on products in our Electronic Materials segment, such as CMP slurries, pads and electronic chemicals, which account for the majority of our revenue. We have identified our Performance Materials segment as another area of potential continued growth and the product offerings in our Performance Materials segment are similarly concentrated. As such, our business would suffer if these products became obsolete or if consumption of these products decreased. Our success depends on our ability to keep pace with technological changes and advances in the industries in which we operate, particularly the semiconductor industry, and to adapt, improve and customize our products in response to evolving customer needs and industry trends. Since its inception, the semiconductor industry, which is the largest industry in which we operate, has experienced technological changes and advances in the design, manufacture, performance and application of IC devices. Our customers continually pursue lower cost of ownership and higher quality and performance of materials consumed in their manufacturing processes, including CMP slurries and pads and electronic chemicals, as a means to reduce costs, increase the yield in their manufacturing facilities, and achieve desired performance of the IC devices they produce. We expect these technological changes, and this drive toward lower costs, higher quality and performance and higher yields, will continue in the future. Potential technology developments in the semiconductor industry, as well as our customers' efforts to reduce consumption of CMP consumables, including through use of smaller quantities, could render our products less important to the IC device manufacturing process.

A SIGNIFICANT AMOUNT OF OUR BUSINESS COMES FROM A LIMITED NUMBER OF LARGE CUSTOMERS AND OUR REVENUE AND PROFITS COULD DECREASE SIGNIFICANTLY IF WE LOST ONE OR MORE OF THESE CUSTOMERS OR BUSINESS FROM THEM

Our customer base is concentrated among a limited number of large customers in each of our segments. Currently, our principal business is to supply electronic materials primarily to the semiconductor industry. The semiconductor industry has been consolidating as the larger semiconductor manufacturers have generally grown faster than the smaller ones, through business gains, mergers and acquisitions, and strategic alliances. Industry analysts predict that this trend will continue, which means the semiconductor industry will continue to be comprised of fewer and larger participants in the future if their prediction is correct. In addition, our customer base in our pipeline-related businesses is also somewhat concentrated, with large entities predominant, and outside of the U.S., these entities frequently are state-owned or sponsored, and limited in number per country. One or more of these principal customers could stop buying products from us or could substantially reduce the quantity of products purchased from us. Our principal customers in both of our segments also hold considerable purchasing power, which can impact the pricing and terms of sale of our products. Any deferral or significant reduction in the quantity or price of products sold to these principal customers could seriously harm our business, financial condition and results of operations.

ANY PROBLEM OR DISRUPTION IN OUR SUPPLY CHAIN, INCLUDING SUPPLY OF OUR MOST IMPORTANT RAW MATERIALS, OR IN OUR ABILITY TO MANUFACTURE OR DELIVER OUR PRODUCTS TO OUR CUSTOMERS, COULD ADVERSELY AFFECT OUR RESULTS OF OPERATIONS

We depend on our supply chain to enable us to meet the demands of our customers. Our supply chain includes the raw materials we use to manufacture our products, our production operations and the means by which we deliver our products to our customers. Our business could be adversely affected by any problem or interruption in the supply of the key raw materials we use in our products, including raw materials that do not meet the stringent quality and consistency requirements of our customers, any problem or interruption that may occur during production or delivery of our products, such as weather-related problems, natural disasters, global public health crises such as the ongoing Pandemic, geopolitical, trade or labor-related issues, civil unrest, or any difficulty in producing sufficient quantities of our products to meet growing demand from our customers. In particular, severe weather conditions have the potential to adversely affect our operations, damage facilities and increase our costs, and those conditions may also have an indirect effect on our operations by disrupting services provided by service companies or suppliers with whom we have a business relationship. Additionally, some of our full-time employees are represented by labor unions, works councils or comparable organizations, particularly in Mexico and Europe. An extended work stoppage, slowdown or other action by our employees could significantly disrupt our business. As our current agreements with labor unions and works councils expire, we cannot provide assurance that new agreements will be reached at the end of each period without union action, or that a new agreement will be reached on terms satisfactory to us. Future labor contracts may be on terms that result in higher labor costs to us, which also could adversely affect our results of operations. Our supply chain may also be negatively impacted by unanticipated price increases due to supply restrictions beyond the control of our Company or our raw materials suppliers, such as those related to the Pandemic.

We believe it would be difficult to promptly secure alternative sources of key raw materials in the event one of our suppliers becomes unable to supply us with sufficient quantities of raw materials that meet the quality and technical specifications required by us and our customers. In addition, new contract terms, forced production or manufacturing changes, contractual amendments to existing agreements with, or non-performance by, our suppliers, including any significant financial distress our suppliers may suffer, could adversely affect us. Also, if we change the supplier or type of key raw materials we use to make our products, in particular our electronic materials products, or are required to purchase them from a different manufacturer or manufacturing facility or otherwise modify our products, in certain circumstances our customers might have to requalify our products for their manufacturing processes and products. The requalification process could take a significant amount of time and expense to complete and could occupy technical resources of our customers that might otherwise be used to evaluate our new products, thus delaying potential revenue growth, or motivate our customers to consider purchasing products from our competitors, possibly interrupting or reducing our sales of products to these customers, especially sales of our electronic materials products to our semiconductor industry customers, but also with respect to our PIM products to our pipeline and adjacent industry customers.

OUR BUSINESS COULD BE SERIOUSLY HARMED IF OUR COMPETITORS DEVELOP COMPETITIVE PRODUCTS, OFFER BETTER PRICING, SERVICE OR OTHER TERMS, OR OBTAIN OR ASSERT CERTAIN INTELLECTUAL PROPERTY RIGHTS

Competition from other electronic materials or performance materials manufacturers or any new entrants could seriously harm our business and results of operations, and this competition could continue to increase. Competition has and will likely continue to impact the prices we are able to charge for our products, as well as our overall business. In addition, our competitors could have, obtain or assert intellectual property rights that could affect or restrict our ability to market our existing products and/or to innovate and develop new products, thus increasing our costs of doing business, could attempt to introduce products similar to ours following the expiration of our patents, or could attempt to introduce products that do not fall within the scope of our intellectual property rights.

WE ARE SUBJECT TO RISKS ASSOCIATED WITH OUR INTERNATIONAL OPERATIONS

We currently have operations and a large customer base outside the U.S. Approximately 65% of our revenue was generated by sales to customers outside the U.S. for the fiscal year ended September 30, 2020. We may encounter risks in doing business in certain countries other than the U.S., including, but not limited to, adverse changes in economic and political conditions, both in foreign locations and in the U.S. with respect to non-U.S. operations of U.S. businesses like ours, geopolitical and/or trade tensions, global health crises such as the ongoing Pandemic, civil unrest, fluctuation in exchange rates, changes in international trade requirements and sanctions and/or tariffs that affect our business and that of our customers and suppliers, compliance with a variety of foreign laws and regulations and related audits and investigations, as well as difficulty in enforcing business and customer contracts and agreements, including protection of intellectual property rights. We also may encounter risks that we may not be able to repatriate additional earnings from our operations outside of the U.S., derive anticipated tax benefits of these operations or recover the investments made in them, whether due to regulatory or policy changes in the U.S. or in the countries outside of the U.S. in which we do business, or other factors.

In particular, China continues to be an important market for the semiconductor industry, and an area of continued potential growth for us. As business between China and the rest of the world has continued to grow, there is risk that geopolitical, regulatory, trade, political and global public health crises such as the Pandemic could adversely affect business for companies like ours based on the complex relationships among China, the U.S., and other countries in the Asia Pacific region or elsewhere, which could have a material adverse impact on our business. In addition, there are risks that the Chinese government may, among other things, require the use of local suppliers, compel companies that do business in China to partner with local companies to conduct business, or, provide incentives to government-backed local customers to buy from local suppliers rather than companies like ours, all of which could adversely impact our business, including our results of operations. Also, as has been seen over our last fiscal year, there are risks that the U.S. government may impose additional export restrictions on technology and products that companies that operate in the semiconductor industry supply or use in China, which could adversely impact our business and our results of operations.

In addition, we have operations and customers located in the United Kingdom, which recently has exited the European Union (“EU”). Although the United Kingdom and the EU have agreed to operate under transitional provisions under which most EU law would remain in force in the United Kingdom until the end of December 2020, it is at present unclear as to what trade agreement the parties will operate under following such time, and what impacts such might have on our business.

LEGAL, COMPLIANCE AND REGULATORY RISKS

WE ARE SUBJECT TO EXTENSIVE ENVIRONMENTAL LAWS AND REGULATIONS AND MAY INCUR COSTS THAT HAVE AN ADVERSE EFFECT ON OUR FINANCIAL CONDITION AS A RESULT OF VIOLATIONS OF OR LIABILITIES UNDER THEM

Like other companies involved in environmentally sensitive businesses, our operations and properties are subject to extensive and stringent federal, state, local and foreign EHS laws and regulations, including those concerning, among other things:

- the marketing, sale, use and registration of our chemical products, such as penta, which is part of the wood treatment business in our Performance Materials segment;
- the treatment, storage and disposal of wastes;
- the investigation and remediation of contaminated media including but not limited to soil and groundwater;
- the discharge of effluents into waterways;
- the emission of substances into the air; and
- other matters relating to environmental protection and various health and safety matters.

The United States Environmental Protection Agency (“EPA”) and other federal and state agencies in the U.S., as well as comparable agencies in other countries where we have facilities or sell our products, such as Canada or Mexico, have the authority to promulgate regulations that could have a material adverse impact on our operations. These EHS laws and regulations may require permits for certain types of operations, require the installation of expensive pollution control equipment, place restrictions upon operations or impose substantial liability for pollution and other EHS concerns resulting from our operations. Compliance with EHS laws and regulations has resulted in ongoing costs for us and could restrict our ability to modify or expand our facilities, continue production, require us to install costly pollution control equipment, or incur significant other expenses, including environmental compliance costs. We continue to manage environmental compliance activities at certain sites, such as at KMG-Bernuth's Tuscaloosa, Alabama facility as described in Note 20 of “Notes to the Consolidated Financial Statements” included in Item 8 of Part II of this Annual Report on Form 10-K. We have incurred, and expect to continue to incur, significant costs to comply with EHS laws or to address liabilities for contamination resulting from past or present operations. Federal, state and foreign governmental authorities may seek fines and penalties, as well as injunctive relief, for violation of EHS laws and regulations, and could, among other things, impose liability on us to cleanup or mitigate environmental, natural resources or other damages resulting from a release of pesticides, hazardous materials or other chemicals into the environment. We maintain insurance coverage for sudden and accidental environmental damages. We do not believe that insurance coverage for environmental damage that occurs over time is available at a reasonable cost. Also, we do not believe that insurance coverage for the full potential liability that could be caused by sudden and accidental incidences is available at a reasonable cost. Accordingly, we may be subject to an uninsured or under-insured loss in such cases; although unknown at present, the KMG-Bernuth warehouse fire described in Note 20 of this Annual Report on Form 10-K may be such an instance.

The distribution, sale and use of our products is subject to prior governmental approvals and thereafter ongoing governmental regulation: Our products are subject to laws administered by federal, state and foreign governments, including regulations requiring registration, approval and labeling. The labeling requirements restrict the use and type of application for our products. More stringent restrictions could make our products less desirable which would adversely affect our sales and profitability. All venues where our penta products are used also require registration prior to marketing or use.

Governmental regulatory authorities have required, and may require in the future, that certain scientific testing and data production be provided on our products. Under the Federal Insecticide, Fungicide and Rodenticide Act (“FIFRA”), the EPA requires registrants to submit a wide range of scientific data to support U.S. registrations. This requirement significantly increases our Operating expenses, and we expect those expenses will continue in the future while we operate the wood treatment business. Because scientific analyses are constantly improving, we cannot determine with certainty whether or not new or additional tests may be required by regulatory authorities. While good laboratory practice standards specify the minimum practices and procedures that must be followed in order to ensure the quality and integrity of data related to these tests submitted to the EPA, there can be no assurance that the EPA will not request certain tests or studies be repeated. In addition, more stringent legislation or requirements may be imposed in the future. Amendments to the Toxic Substances Control Act could result in increased regulation and required testing of chemicals we manufacture and could increase the costs of compliance for our operations. We can provide no assurance that the cost of such compliance will not adversely affect our profitability. Our products could also be subject to other future regulatory action that may result in restricting or completely banning their use which could have an adverse effect on our performance and results of operations.

1. The Registration, Evaluation and Authorization of Chemicals (“REACH”) legislation may affect our ability to manufacture and sell certain products in the EU: REACH requires chemical manufacturers and importers in the EU to prove the safety of their products. We were required to pre-register certain products and file comprehensive reports, including testing data, on each chemical substance, and perform chemical safety assessments. Additionally, substances of high concern are subject to an authorization process. Authorization may result in restrictions on certain uses of products or even prohibitions on the manufacture or importation of products. The full registration requirements of REACH have been phased in over several years, and we have incurred additional expense to cause the registration of our products under these regulations. REACH may also affect our ability to import, manufacture and sell certain products in the EU. In addition, other countries and regions of the world already have or may adopt legislation similar to REACH that affect our business, affect our ability to import, manufacture or sell certain products in these jurisdictions, and have required or will require us to incur increased costs.

2. The classification of penta as a Persistent Organic Pollutant (“POP”) under the Stockholm Convention may adversely affect our ability to manufacture or sell our penta products: The Conference of the Parties (“COP”) accepted the recommendation of the United Nations Persistent Organic Pollutant Review Committee that the use of penta should be banned except that its use for the treatment of utility poles and crossarms could continue for an extended period of five to ten years. KMG-Bernuth supplies penta to industrial customers who use it primarily to treat utility poles and crossarms. The U.S. is not bound by the determination of the COP because it did not ratify the Stockholm Convention treaty. Canada and Mexico are governed by the treaty. KMG-Bernuth’s sole penta manufacturing facility is located in Matamoros, Mexico, and its processing facility is located in Tuscaloosa, Alabama. As a result of the classification of penta as a POP, the Mexican government requires KMG-Bernuth to cease producing penta in Mexico by the end of calendar year 2021. In July 2020, the Canadian government released a proposed order that sales and use of penta in Canada be ceased, but such proposed order is subject to a comment period and is not final, and no timing for any such order, if implemented, has been proposed. In October 2020, the EPA indicated it was inclined to issue a proposed order that provided alternatives, one similar to Canada’s proposed order and one that would provide reregistration according to certain additional occupational use parameters to those currently existing, but any such proposed order would be subject to a comment period, including with respect to the second alternative, would be expected to provide a transition period intended not to disrupt customers of penta. In July 2019, KMG-Bernuth had communicated plans to close both the Matamoros and Tuscaloosa facilities by the end of calendar year 2021 and to consolidate into and build a new facility. However, in November 2019, we communicated that we will not build a new facility, and that while we intend to explore various options for the wood treatment business we did not intend to continue the business past approximately the end of calendar year 2021. We took a restructuring charge and asset impairment charges in our fourth fiscal quarter of 2019 related to the decision to close the Matamoros and Tuscaloosa facilities and to not build a new plant, and as described further in Note 10 of this Annual Report on Form 10-K, we have taken an additional impairment charge in our fourth fiscal quarter of 2020 and expect to take additional impairment charges related to the wood treatment business through the end of calendar year 2021. No assurance can be given that we will not incur significant expenditures in connection with closing the facilities, or that the ultimate action of the COP and our related decisions will not adversely impact on our financial condition and results of operation.

3. If our products are not re-registered by the EPA or are re-registered subject to new restrictions, our ability to sell our products may be curtailed or significantly limited: as described above, KMG-Bernuth’s penta product registrations are under continuous review by the EPA under FIFRA. The failure of KMG-Bernuth’s products to be re-registered, to satisfy the registration review by the EPA, or the imposition of new use, labeling or other restrictions in connection with re-registration could have an adverse effect on our financial condition and results of operations.

4. Our use of hazardous materials exposes us to potential liabilities: Our manufacturing and distribution of chemical products, such as our electronic chemicals, involves the controlled use of hazardous materials. Our operations, therefore, are subject to various associated risks, including chemical spills, discharges or releases of toxic or hazardous substances or gases, fires, mechanical failure, storage facility leaks and similar events. Our suppliers are subject to similar risks that may adversely impact the availability of raw materials. While we adapt our manufacturing and distribution processes to the environmental control standards of regulatory authorities, we cannot completely eliminate the risk of accidental contamination or injury from hazardous or regulated materials, including injury of our employees, individuals who handle our products or goods treated with our products, or others who claim to have been exposed to our products, nor can we completely eliminate the unanticipated interruption or suspension of operations at our facilities due to such events. We may be held liable for significant damages or fines in the event of contamination or injury, and such assessed damages or fines could have an adverse effect on our financial performance and results of operations.

CURRENT OR FUTURE CLIMATE CHANGE REGULATIONS COULD RESULT IN INCREASED OPERATING COSTS AND REDUCED DEMAND FOR OUR PRODUCTS

The U.S. has notified the United Nations of its intention to withdraw from the Paris Climate Agreement and to date, has not ratified the Kyoto Protocol. The Clean Air Act has been interpreted to regulate greenhouse gas (“GHG”) emissions and the EPA is using its existing regulatory authority to develop regulations requiring reduction in GHG emissions from various categories of sources, such as when a permit is required due to emissions of other pollutants. Because of the lack of any comprehensive legislation program addressing GHGs, a number of U.S. federal laws related to GHG emissions have been considered by the U.S. Congress from time to time and various state, local and regional regulations and initiatives have been enacted or are being considered related to GHGs.

Member States of the EU each have an overall cap on emissions, which are approved by the European Commission, and implement the EU Emissions Trading Directive as a commitment to the Kyoto Protocol. GHG emissions are regulated by Member States through the EU Emission Trading System and the EU Effort Sharing Decision/Regulation depending upon the industry sector. Organizations apply to the Member State for an allowance of GHG emissions. These allowances are tradable so as to enable companies that manage to reduce their GHG emissions to sell their excess allowances to companies that are not reaching their emissions objectives. Failure to purchase sufficient allowances will require the purchase of allowances at a current market price.

Any laws or regulations that may be adopted to restrict or reduce emissions of GHGs could cause an increase to our raw material costs, require us to incur increased operating costs, and have an adverse effect on demand for our products and our financial performance and results for our business.

In addition to GHG and climate change regulatory developments and legislation, we are continuing to evaluate and assess the potential impact on our business of the ongoing transition worldwide to a low carbon, resilient economy as well as physical effects resulting from climate change.

OUR PRODUCTS MAY BE RENDERED OBSOLETE OR LESS ATTRACTIVE BY CHANGES IN INDUSTRY REQUIREMENTS OR BY SUPPLY-CHAIN DRIVEN PRESSURES TO SHIFT TO ENVIRONMENTALLY PREFERABLE ALTERNATIVES

Changes in regulatory, legislative and industry requirements, or changes driven by supply-chain pressures, may shift current customers away from products using penta, products containing hazardous materials, or certain of our other products and toward alternative products that are believed to have fewer environmental effects. The EPA, foreign and state regulators, local governments, private environmental advocacy organizations, investors and investor advisory firms, and a number of large industrial companies have proposed or adopted policies designed to decrease the use of a variety of chemicals, including penta and others included in certain of our products, such as those containing hazardous materials. Our ability to anticipate changes in regulatory, legislative, investor and industry requirements, or changes driven by supply-chain pressures, affects our ability to remain competitive. Further, we may not be able to comply with changed or new regulatory or industrial standards that may be necessary for us to remain competitive.

We cannot assure you that the EPA, foreign and state regulators or local governments will not restrict the uses of penta or certain of our other products or ban the use of one or more of these products or the raw materials in them. Similarly, companies who use our products may decide to reduce significantly or cease the use of our products voluntarily. As a result, our products may become obsolete or less attractive to our customers.

GENERAL COMMERCIAL, OPERATIONAL, FINANCIAL AND REGULATORY RISKS**BECAUSE WE RELY ON OUR INTELLECTUAL PROPERTY, OUR FAILURE TO ADEQUATELY OBTAIN OR PROTECT IT COULD SIGNIFICANTLY HARM OUR BUSINESS**

Protection of intellectual property is particularly important in the semiconductor industry, which is the primary industry in which we participate, because we develop complex technical formulas and processes for products that are proprietary in nature and differentiate our products from those of our competitors. Our intellectual property is important to our success and ability to compete. We attempt to protect our intellectual property rights through a combination of patent, trademark, copyright and trade secret laws, as well as employee and third-party nondisclosure and assignment agreements. In addition, we protect our product differentiation through various other means, such as proprietary supply arrangements for certain raw materials, and use of certain manufacturing technologies. Due to our international operations, we pursue protection in different jurisdictions, which may provide varying degrees of protection, and we cannot provide assurance that we can obtain adequate protection in each such jurisdiction. Our failure to obtain or maintain adequate protection of our intellectual property rights for any reason, including through the patent prosecution process or in the event of litigation related to such intellectual property, which we pursue when necessary to protect our rights against others who are found to be misusing our intellectual property, could seriously harm our business. In addition, certain types of intellectual property, such as patents, expire after a certain period of time, and products protected by our patents then lose such protection, so we refresh our intellectual property portfolio on an ongoing basis through continued innovation, and failure to do so could adversely affect our business. Also, the costs of obtaining or protecting our intellectual property could negatively affect our operating results.

OUR INABILITY TO ATTRACT AND RETAIN KEY PERSONNEL COULD CAUSE OUR BUSINESS TO SUFFER

We utilize and rely upon a global workforce. If we fail to attract and retain the necessary managerial, technical and customer support personnel, our business and our ability to maintain existing and obtain new customers, develop new products and provide acceptable levels of customer service could suffer. We compete worldwide with other participants in the industries in which we do business for qualified personnel, particularly those with significant experience in the semiconductor and pipeline industries. The loss of services of key employees, or our inability to obtain or maintain visas or other travel or residency documents on their behalf with respect to our business needs, could harm our business and results of operations. Periodically, we engage in succession planning for our key employees, and our Board of Directors reviews succession planning for our executive officers, including our chief executive officer, on an annual basis.

BECAUSE WE HAVE LIMITED EXPERIENCE IN BUSINESS AREAS OUTSIDE OF ELECTRONIC MATERIALS AND PERFORMANCE MATERIALS, EXPANSION OF OUR BUSINESS INTO OTHER PRODUCTS AND APPLICATIONS MAY NOT BE SUCCESSFUL

An element of our strategy has been to leverage our customer relationships, technological expertise and other capabilities and competencies to expand our business. For example, we have made acquisitions to expand beyond CMP consumables into other electronic materials product areas, as well as into performance materials product areas in which we have limited experience. Expanding our business into new product areas could involve technologies, production processes and business models in which we have limited experience, and we may not be able to develop and produce products or provide services that satisfy customers' needs, or we may be unable to keep pace with technological or other developments. Or, we may decide that we no longer wish to pursue these new business initiatives. Also, our competitors may have or obtain intellectual property rights that could restrict our ability to market our existing products and/or to innovate and develop new products.

TAX INCREASES OR CHANGES IN TAX RULES MAY ADVERSELY AFFECT OUR FINANCIAL RESULTS

As a company conducting business on a global basis, we are exposed, both directly and indirectly, to effects of changes in U.S., state, local and foreign tax rules. In December 2017, comprehensive tax legislation was enacted in the U.S. under the Tax Cuts and Jobs Act (the "Tax Act"). Known and certain estimated effects based upon current interpretation of the Tax Act have been incorporated into our financial results. Adjustments to income tax amounts could be material to our results of operations and cash flows. In addition, there is a risk that state or foreign jurisdictions may amend their tax laws, whether in response to the Tax Act or otherwise, which could have a material impact on our future results of operations and cash flows.

CERTAIN CRITICAL INFORMATION SYSTEMS COULD BE SUSCEPTIBLE TO CYBERSECURITY AND OTHER THREATS

We maintain and rely upon certain critical information systems for the effective operation of our business. These information systems include, but are not limited to, telecommunications, the Internet, our corporate intranet, various computer hardware and software applications, network communications, and email. These information systems may be owned and maintained by us, our outsourced providers, or third parties such as vendors, contractors, and Cloud providers. All these information systems are subject to disruption, breach or failure from various sources including, but not limited to, attacks, degradation, and failures resulting from potential sources, including viruses, malware, denial of service, destructive or inadequate code, power failures, and physical damage. Confidential and/or sensitive information stored on these information systems, or transmitted to or from Cloud storage, could be intentionally or unintentionally compromised, lost, and/or stolen. While we have implemented security procedures and virus protection software, intrusion prevention systems, access control, and emergency recovery processes to mitigate risks like these with respect to information systems that are under our control, they are not fail-safe and may be subject to breaches. Further, we cannot assure that third parties upon whom we rely for various IT services will maintain sufficient vigilance and controls over their systems. Our inability to use or access these information systems at critical points in time, or unauthorized releases of personal or confidential information, could unfavorably impact the timely and efficient operation of our business, including our results of operations, and our reputation, as well as our relationships with our employees or other individuals whose information may have been affected by such cybersecurity incidents.

In addition, regulatory authorities have increased their focus on how companies collect, process, use, store, share and transmit personal data. Privacy security laws and regulations, including the United Kingdom's Data Protection Act 2018 and the EU General Data Protection Regulation 2016, and similar laws in countries such as Korea and Taiwan, among others, pose increasingly complex compliance challenges, which may increase compliance costs, and any failure to comply with data privacy laws and regulations could result in significant penalties that could adversely affect our business and results of operations.

OUR ABILITY TO RAISE CAPITAL IN THE FUTURE MAY BE LIMITED, WHICH COULD PREVENT US FROM GROWING, AND OUR EXISTING CREDIT AGREEMENT COULD RESTRICT OUR BUSINESS ACTIVITIES

In the future we may be required to raise capital through public or private financing or other arrangements. Such financing may not be available on acceptable terms, or at all, and our failure to raise capital when needed could harm our business. During the first quarter of fiscal 2020, the Company amended its credit agreement ("Amended Credit Agreement") to reduce the interest rate on term loan borrowings, under the Senior Secured Term Loan Facility under the Amended Credit Agreement ("Term Loan Facility"). Our Amended Credit Agreement contains financial and other covenants that may restrict our business activities or our ability to execute our strategic objectives, and our failure to comply with these covenants could result in a default under it. Furthermore, additional equity financing may dilute the interests of our common stockholders, and debt financing, if available, may involve restrictive covenants that could further restrict our business activities or our ability to execute our strategic objectives and could reduce our profitability. If we raise or borrow funds on acceptable terms, we may not be able to grow our business or respond to competitive pressures.

In addition, borrowings under our Amended Credit Agreement generally bear interest based on (a) a London Inter-bank Offered Rate ("LIBOR"), subject to a 0.00% floor, or (b) a base rate, in each case plus an applicable margin of, in the case of borrowings under the Term Loan Facility, 2.00% for LIBOR loans and 1.00% for base rate loans and, in the case of borrowings under the Amended Credit Agreement's revolving credit facility ("Revolving Credit Facility"), initially, 1.50% for LIBOR loans and 0.50% for base rate loans. On July 27, 2017, the Financial Conduct Authority (the authority that regulates LIBOR) announced that it intends to stop compelling banks to submit rates for the calculation of LIBOR after 2021. In the U.S., the Alternative Reference Rates Committee, the working group formed to recommend an alternative rate to LIBOR, has identified the Secured Overnight Financing Rate as its preferred alternative rate for USD LIBOR. When LIBOR ceases to exist after 2021, any calculation of interest based upon the Alternate Base Rate (or any comparable or replacement formulation), may result in higher interest rates. To the extent that these interest rates increase, our Interest expense will increase, which could adversely affect our financial condition, operating results and cash flows.

THE MARKET PRICE FOR OUR COMMON STOCK MAY FLUCTUATE SIGNIFICANTLY AND RAPIDLY

The market price of our common stock has fluctuated and could continue to fluctuate significantly as a result of factors such as: economic, geopolitical, global public health, political and stock market conditions generally and specifically as they may impact participants in the semiconductor and related industries; and/or participants in oil and gas related industries; changes in financial estimates and recommendations by securities analysts who follow our stock; earnings and other announcements, and changes in market evaluations, by securities analysts, investors, market participants or others, of or related to, us or participants in the semiconductor and related industries; changes in business, trade or regulatory conditions affecting us or participants in the semiconductor and related industries; announcements or implementation by us, our competitors, or our customers of technological innovations, new products or different business strategies; changes in our capital deployment strategy, issuances of shares of our capital stock or entering into a business combination or other strategic transaction; and trading volume of our common stock. This has been evident since approximately March of 2020 in the wake of the significant adverse impact to global economic conditions of the Pandemic and also dislocation in the oil and gas sector.

ANTI-TAKEOVER PROVISIONS UNDER OUR CERTIFICATE OF INCORPORATION AND BYLAWS MAY DISCOURAGE THIRD PARTIES FROM MAKING AN UNSOLICITED BID FOR OUR COMPANY

Our certificate of incorporation and bylaws, and various provisions of the Delaware General Corporation Law may make it more difficult or expensive to effect a change in control of our Company. For instance, our amended and restated certificate of incorporation provides for the division of our Board of Directors into three classes as nearly equal in size as possible with staggered three-year terms.

We have adopted change in control arrangements covering our executive officers and other key employees. These arrangements provide for a cash severance payment, continued medical benefits and other ancillary payments and benefits upon termination of service of a covered employee's employment following a change in control, which may make it more expensive to acquire our Company.

ITEM 1B. UNRESOLVED STAFF COMMENTS

None.

ITEM 2. PROPERTIES

Our global headquarters and research and development facilities are located in Aurora, Illinois. As of September 30, 2020, we operated 46 facilities globally, of which 20 facilities are owned by the company and 26 are leased. The Company operates in 18 facilities located in the U.S. and 28 are outside the U.S. These facilities outside the United States include locations in Taiwan, Japan, South Korea, Singapore, China, Canada, Mexico, Italy, France, and the United Kingdom.

We believe that our facilities are suitable and adequate for their intended purpose and provide us with sufficient capacity and capacity expansion opportunities and technological capability to meet our current and expected demand in the foreseeable future. We intend to expand certain of our facilities to meet our anticipated business needs.

ITEM 3. LEGAL PROCEEDINGS

We periodically become a party to legal proceedings, arbitrations, regulatory proceedings, inquiries and investigations (“contingencies”) arising in the ordinary course of our business operations. The ultimate resolution of these contingencies is subject to significant uncertainty, and should we fail to prevail in any of them or should several of them be resolved against us in the same reporting period, these matters could, individually or in the aggregate, be material to our consolidated financial statements. The information set forth in Note 20 of “Notes to the Consolidated Financial Statements” included in Item 8 of Part II of this Annual Report on Form 10-K is incorporated by reference into this Item 3.

ITEM 4. MINE SAFETY DISCLOSURES

Not applicable.

INFORMATION ABOUT OUR EXECUTIVE OFFICERS

Set forth below is information of our executive officers and their ages as of October 31, 2020.

Name	Age	Present Position	Fiscal Year Appointed to Current Position	Other Positions Held Between Fiscal 2016-2020¹
David H. Li	47	President and Chief Executive Officer	2015	
Scott D. Beamer	49	Vice President and Chief Financial Officer	2018	Vice President and Chief Financial Officer, Stepan Company, 2013-2018
H. Carol Bernstein	60	Vice President, Secretary and General Counsel	2000	
Jeffrey M. Dysard	47	Vice President and President, Performance Materials	2019	General Manager of CMP Slurries, 2018-2019; General Manager of CMP Pads, 2016-2018
Colleen E. Mumford	44	Vice President, Communications and Marketing	2020	Corporate Relations Director, 2018-2019; various other roles within the Company 1997-2018
Eleanor K. Thorp	46	Vice President, Human Resources	2018	Head of Human Resources and Recruiting at Sephora Digital SEA, 2015-2018
Daniel D. Woodland	50	Vice President and President, Electronic Materials	2019	Vice President and Chief Marketing and Operations Officer, 2017-2019; Vice President of Marketing, 2015-2017
Jeanette A. Press	45	Corporate Controller and Principal Accounting Officer	2020	Vice President and Principal Accounting Officer, Univar Solutions, 2019-2020; Vice President and Principal Accounting Officer, USG Corporation, 2014-2019

¹ Fiscal years for other positions held include partial years if held for any portion of that fiscal year

PART II

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

Our common stock is listed on the NASDAQ Global Select Market under the symbol "CCMP." As of October 31, 2020, there were approximately 598 holders of record of our common stock. In January 2016, we announced that our Board of Directors authorized the initiation of a regular dividend program under which the Company intends to pay quarterly cash dividends on our common stock. The declaration and payment of future dividends is subject to the discretion and determination of the Company's Board of Directors and management, based on a variety of factors, and the program may be suspended, terminated or modified at any time for any reason.

ISSUER PURCHASES OF EQUITY SECURITIES

In January 2016, our Board of Directors authorized an increase in the amount available under our share repurchase program from the previously remaining \$75.0 million to \$150.0 million. Under this program, we repurchased 318 thousand shares for \$35.0 million in fiscal 2020. There were no share repurchases under the share repurchase program in the fourth quarter of 2020. As of September 30, 2020, \$36.3 million remained available under our share repurchase program. The manner in which the Company repurchases its shares is discussed in Part II, Item 7, Management's Discussion and Analysis of Financial Condition and Results of Operations, under the heading "Liquidity and Capital Resources", of this Annual Report on Form 10-K. To date, we have funded share purchases under our share repurchase program from our available cash balance, and currently anticipate we will continue to do so.

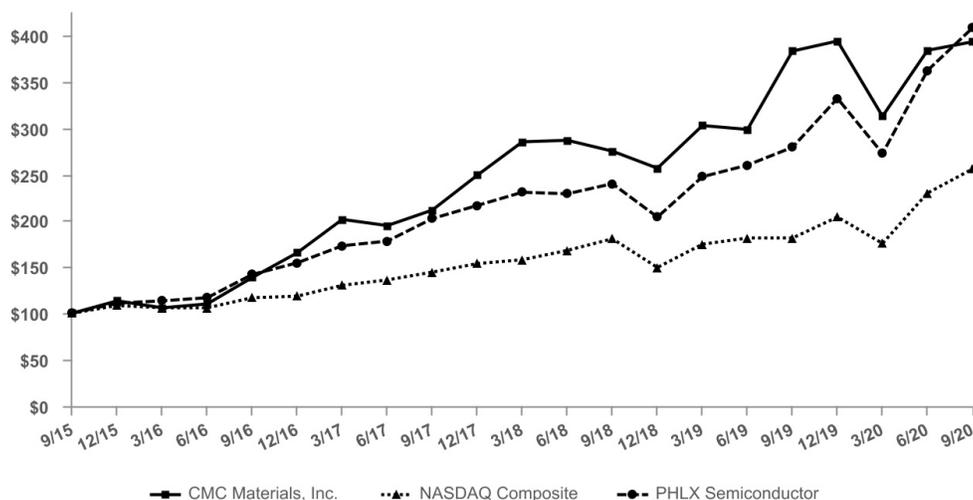
Separate from this share repurchase program, a total of 25 thousand shares were withheld from equity award recipients to cover payroll taxes on the vesting of shares of restricted stock or restricted stock units during fiscal 2020 pursuant to the terms of our 2012 Omnibus Incentive Plan, as amended ("OIP").

EQUITY COMPENSATION PLAN INFORMATION

See Part III, Item 12 of this Annual Report on Form 10-K for information regarding shares of common stock that may be issued under the Company's existing equity compensation plans.

STOCK PERFORMANCE GRAPH

The following graph illustrates the cumulative total stockholder return on our common stock during the period from September 30, 2015 through September 30, 2020 and compares it with the cumulative total return on the NASDAQ Composite Index and the Philadelphia Semiconductor Index (PHLX). The comparison assumes \$100 was invested on September 30, 2015 in our common stock and in each of the foregoing indices and assumes reinvestment of the quarterly cash dividends declared in each fiscal year from 2016 to 2020. The performance shown is not necessarily indicative of future performance. See "Risk Factors" in Part I, Item 1A above.



	9/15	12/15	3/16	6/16	9/16	12/16	3/17	6/17	9/17	12/17	3/18
CMC Materials, Inc.	\$ 100.00	\$ 113.01	\$ 106.08	\$ 110.24	\$ 138.24	\$ 165.51	\$ 201.28	\$ 194.50	\$ 211.12	\$ 249.02	\$ 284.53
NASDAQ Composite	\$ 100.00	\$ 108.71	\$ 106.07	\$ 105.82	\$ 116.42	\$ 118.35	\$ 130.34	\$ 135.77	\$ 144.00	\$ 153.43	\$ 157.40
PHLX Semiconductor	\$ 100.00	\$ 110.57	\$ 113.37	\$ 116.60	\$ 141.43	\$ 154.05	\$ 172.53	\$ 177.48	\$ 201.69	\$ 216.50	\$ 230.47

	6/18	9/18	12/18	3/19	6/19	9/19	12/19	3/20	6/20	9/20
CMC Materials, Inc.	\$ 286.77	\$ 275.07	\$ 256.40	\$ 302.19	\$ 298.28	\$ 382.64	\$ 393.45	\$ 312.68	\$ 383.49	\$ 392.47
NASDAQ Composite	\$ 167.81	\$ 180.24	\$ 149.07	\$ 174.13	\$ 180.86	\$ 181.19	\$ 203.77	\$ 175.34	\$ 229.60	\$ 255.40
PHLX Semiconductor	\$ 229.14	\$ 239.39	\$ 203.41	\$ 246.85	\$ 259.64	\$ 278.63	\$ 332.10	\$ 272.48	\$ 361.77	\$ 408.20

ITEM 6. SELECTED FINANCIAL DATA

The following selected financial data for each year of the five-year period ended September 30, 2020 has been derived from the audited consolidated financial statements.

(In thousands, except per share amounts)

	Year Ended September 30,				
	2020 ^{1,2,3}	2019 ^{1,2,3}	2018 ³	2017	2016
Consolidated Statements of Income:					
Revenue	\$ 1,116,270	\$ 1,037,696	\$ 590,123	\$ 507,179	\$ 430,449
Gross profit	488,601	442,653	314,105	254,129	210,202
Operating income	216,905	110,496	160,118	111,988	74,508
Net income	142,828	39,215	110,043	86,952	59,849
Diluted earnings per share	\$ 4.83	\$ 1.35	\$ 4.19	\$ 3.40	\$ 2.43
Dividends declared per share	\$ 1.74	\$ 1.66	\$ 1.40	\$ 0.78	\$ 0.54
Consolidated Balance Sheets:					
Cash and cash equivalents	\$ 257,354	\$ 188,495	\$ 352,921	\$ 397,890	\$ 287,479
Property, plant and equipment, net	362,067	276,818	111,403	106,361	106,496
Total assets ⁴	2,376,467	2,261,766	780,973	834,100	727,230
Long-term debt	910,764	928,463	—	132,997	146,961
Stockholders' equity	1,074,313	980,377	666,692	595,037	497,648
Total liabilities and stockholders' equity ⁴	2,376,467	2,261,766	780,973	834,100	727,230
Consolidated Statement of Cash Flows:					
Net cash provided by operating activities	\$ 287,284	\$ 174,981	\$ 168,865	\$ 141,369	\$ 95,211
Net cash used in investing activities	(124,252)	(1,232,976)	(22,751)	(19,783)	(144,429)
Net cash provided by (used in) financing activities	(97,656)	894,432	(197,562)	(7,015)	(24,409)
Other Financial Data:					
Adjusted EBITDA ⁵	\$ 357,801	\$ 333,418			
Adjusted EBITDA margin ⁵	32.1 %	32.1 %			

¹ The results of the Acquisition have been included in the financial results since the Acquisition Date. In addition, as part of the Acquisition, the Company entered into a new credit agreement, which was amended in fiscal 2020. See Notes 4 and 13 of "Notes to the Consolidated Financial Statements" included in Item 8 of Part II of this Annual Report on Form 10-K for a discussion of the Acquisition and Debt, respectively.

² The results of fiscal 2020 and 2019 have been impacted by the impairment of the wood treatment reporting unit. See Note 10 of "Notes to the Consolidated Financial Statements" included in Item 8 of Part II of this Annual Report on Form 10-K for a discussion of the impact of the impairments.

³ The Tax Act was passed in December 2017 and has impacted the effective tax rates for our fiscal years beginning in 2018. See Note 19 of "Notes to the Consolidated Financial Statements" included in Item 8 of Part II of this Annual Report on Form 10-K for a discussion of the impact of the Tax Act.

⁴ The new accounting standards for Leases, adopted 10/1/2019, brought operating leases onto the balance sheet. See Note 14 of "Notes to the Consolidated Financial Statements" included in Item 8 of Part II of this Annual Report on Form 10-K for a discussion of the impact of this new accounting standard.

⁵ See "Use of Certain GAAP and Non-GAAP Financial Information" later in Item 7 of this Report on Form 10-K for definitions and reconciliations of adjusted EBITDA and adjusted EBITDA margin. Prior to fiscal 2019, the Company did not provide these financial metrics.

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

The following "Management's Discussion and Analysis of Financial Condition and Results of Operations" (MD&A) should be read in conjunction with our historical financial statements and "Notes to the Consolidated Financial Statements," which are included in Item 8 of Part II of this Annual Report on Form 10-K. For management's discussion and analysis of our results of operations for fiscal 2019 as compared to fiscal 2018 please refer to Part II, Item 7 "Management's discussion and analysis of financial condition and results of operations" on Form 10-K for our fiscal year ended September 30, 2019, filed with the SEC on November 27, 2019, which is incorporated herein by reference.

OVERVIEW

CMC is a leading global supplier of consumable materials to semiconductor manufacturers and pipeline companies. The Company's electronic materials products play a critical role in the production of advanced semiconductor devices, helping to enable the manufacture of smaller, faster and more complex devices by its customers. The Company's PIM products and services provide solutions for optimizing pipeline throughput and maximizing performance and safety.

Recent Developments and Items Impacting Comparability

The Company completed the Acquisition on the Acquisition Date and the Consolidated Financial Statements included in this Annual Report on Form 10-K include the financial results of KMG since that date. For additional information, refer to Part I, Item 1, "Business", in this Annual Report on Form 10-K.

In the fourth quarter of fiscal 2019, we made a decision to close KMG-Bernuth's Matamoros, Mexico and Tuscaloosa, Alabama wood treatment facilities and cease participating in the wood treatment business by approximately the end of calendar year 2021, and focus our strategy and future capital investments on our core businesses. Until the planned closure of the Matamoros and Tuscaloosa facilities, we intend to continue to operate the existing facilities and serve our wood treatment customers.

The global spread of the Pandemic has created significant uncertainty and economic disruption worldwide and in the countries and locations in which we and our customers and suppliers operate. Our primary focus has been and continues to be on the health and well-being of our employees and the ongoing operation of our facilities worldwide according to our business continuity plans, which we update on an ongoing basis.

To date, we have not seen a meaningful impact from the Pandemic on our ability to manufacture and deliver products to our customers, but the Pandemic has negatively impacted some of the industries we serve, primarily the oil and gas industry. The Pandemic has exacerbated the impact of the continued geopolitical factors within the oil and gas industry, resulting in lower demand for our PIM products. Demand from our semiconductor industry customers, which represents approximately 80% of our revenue, remained stable in our fourth fiscal quarter as the work-from-home and remote learning environments benefited certain areas such as cloud, PCs and servers, offsetting weakness in industrial and automotive sectors of the industry.

The extent to which the Pandemic may further impact our business, operations, results of operations and financial condition going forward is uncertain and difficult to estimate, and depends on numerous evolving and potentially unknown factors.

RESULTS OF OPERATIONS

The following table sets forth, for the periods indicated, the changes in balances on the consolidated statement of income along with the percentage of revenue of certain line items included in our historical statements of income:

(In thousands)	Year Ended September 30,				\$ Change	% Change
	2020		2019			
Revenue	\$ 1,116,270	100.0 %	\$ 1,037,696	100.0 %	\$ 78,574	7.6 %
Cost of sales	627,669	56.2 %	595,043	57.3 %	32,626	5.5 %
Gross profit	488,601	43.8 %	442,653	42.7 %	45,948	10.4 %
Research, development and technical	52,311	4.7 %	51,707	5.0 %	604	1.2 %
Selling, general and administrative	217,071	19.4 %	213,078	20.5 %	3,993	1.9 %
Asset impairment charges	2,314	0.2 %	67,372	6.5 %	(65,058)	(96.6)%
Total operating expenses	271,696	24.3 %	332,157	32.0 %	(60,461)	(18.2)%
Operating income	216,905	19.4 %	110,496	10.6 %	106,409	96.3 %
Interest expense	42,510	3.8 %	45,681	4.4 %	(3,171)	(6.9)%
Interest income	670	0.1 %	2,346	0.2 %	(1,676)	(71.4)%
Other income (expense), net	(1,718)	(0.2)%	(4,055)	(0.4)%	2,337	57.6 %
Income before income taxes	173,347	15.5 %	63,106	6.1 %	110,241	174.7 %
Provision for income taxes	30,519	2.7 %	23,891	2.3 %	6,628	27.7 %
Net income	\$ 142,828	12.8 %	\$ 39,215	3.8 %	\$ 103,613	264.2 %

YEAR ENDED SEPTEMBER 30, 2020, AS COMPARED TO YEAR ENDED SEPTEMBER 30, 2019**REVENUE**

Revenue was \$1,116.3 million in fiscal 2020, which represented an increase of 7.6%, or \$78.6 million, from fiscal 2019. The increase in revenue was primarily driven by the Acquisition. The increase was primarily due to the addition of the KMG businesses for the full period in fiscal 2020, selected price increases, and increased revenue from CMP slurries, offset by lower revenue from CMP pads.

COST OF SALES

Total Cost of sales was \$627.7 million in fiscal 2020, which represented an increase of 5.5%, or \$32.6 million, from fiscal 2019. The increase was primarily due to addition of the KMG businesses for the full period in fiscal 2020.

GROSS MARGIN

Our gross margin was 43.8% in fiscal 2020 compared to 42.7% in fiscal 2019. The increase was primarily due to price increases for our wood treatment products.

SELLING, GENERAL AND ADMINISTRATIVE

Selling, general and administrative expenses were \$217.1 million in fiscal 2020, which represented an increase of 1.9%, or \$4.0 million, from fiscal 2019. This was primarily due to a \$24.7 million increase in amortization expense associated with re-valuing KMG assets to fair value during fiscal 2019 and \$3.3 million increase in staffing-related costs, including incentive compensation costs primarily resulting from higher expense from the Short-Term Incentive Program ("STIP"), our annual cash incentive program, partially offset by a \$24.4 million decrease in Acquisition and integration related expenses, as well as a \$3.3 million decrease in travel expenses.

ASSET IMPAIRMENT CHARGES

Asset impairment charges were \$2.3 million in fiscal 2020 compared to \$67.4 million in fiscal 2019 due to impairment of the long-lived assets and intangible assets in the wood treatment asset group as a result of the planned closure of its facilities. See Note 10 of "Notes to the Consolidated Financial Statements" included in Item 8 of Part II of this Annual Report on Form 10-K.

INTEREST EXPENSE

Interest expense was \$42.5 million in fiscal 2020, which represented a decrease of \$3.2 million, from fiscal 2019. The decrease was primarily due to a decline in the LIBOR rate for the unhedged portion of the Company's Term Loan Facility, a lower outstanding term loan balance due to repayments, and a lower interest rate on our borrowings resulting from the refinancing of our Amended Credit Agreement in the first quarter of fiscal 2020. The decrease was partially offset by the longer period of time during which the Term Loan Facility was outstanding within the twelve months ended September 30, 2020 compared to the twelve months ended September 30, 2019.

PROVISION FOR INCOME TAXES

Our effective income tax rate was 17.6% in fiscal 2020 compared to 37.9% in fiscal 2019. The decrease in the effective tax rate during fiscal 2020 was primarily due to the absence of a discrete charge recorded in fiscal 2019 related to the final regulations issued under the Tax Act and the absence of unfavorable tax treatment of certain non-deductible costs related to the Acquisition.

NET INCOME

Net income was \$142.8 million in fiscal 2020, which represented an increase of 264.2%, or \$103.6 million, from fiscal 2019. Net income benefited from the addition of the KMG businesses for the full period in fiscal 2020, lower Acquisition and integration-related expenses, and lower Asset impairment charges related to the wood treatment business, partially offset by amortization associated with re-valuing KMG assets to fair value.

SEGMENT COMPARISON FOR THE FISCAL YEARS ENDED SEPTEMBER 30, 2020 AND SEPTEMBER 30, 2019

Revenue from external customers by segment and adjusted EBITDA/Margin are as follows:

(In thousands)	Year Ended September 30,		\$ Change	% Change
	2020	2019		
Segment Revenue:				
Electronic Materials	\$ 882,824	\$ 833,051	\$ 49,773	6.0 %
Performance Materials	233,446	204,645	28,801	14.1 %
Total Revenues	\$ 1,116,270	\$ 1,037,696	\$ 78,574	7.6 %
Adjusted EBITDA:				
Electronic Materials	\$ 299,037	\$ 294,902	\$ 4,135	1.4 %
Performance Materials	106,797	91,372	15,425	16.9 %
Unallocated corporate expenses	(48,033)	(52,856)	4,823	9.1 %
Consolidated Adjusted EBITDA	\$ 357,801	\$ 333,418	\$ 24,383	7.3 %
Adjusted EBITDA Margin:				
Electronic Materials	33.9 %	35.4 %	-150 bpts	
Performance Materials	45.7 %	44.6 %	110 bpts	

ELECTRONIC MATERIALS

The \$49.8 million increase in Electronic Materials revenue was driven by a full year of KMG's electronic chemicals business post-Acquisition and increased sales volume of CMP slurries, partially offset by lower CMP pads sales. The \$4.1 million increase in adjusted EBITDA for Electronic Materials was driven by the revenue increases, as well as stronger profitability in CMP slurries, partially offset by higher fixed manufacturing costs. The 150 basis points decrease in adjusted EBITDA margin was primarily due to product mix.

PERFORMANCE MATERIALS

The \$28.8 million increase in Performance Materials revenue was driven by higher selling prices for our wood treatment products and a full year of KMG's performance materials businesses post-Acquisition. The \$15.4 million increase in Performance Materials adjusted EBITDA and 110 basis points increase in Performance Materials adjusted EBITDA margin were primarily driven by higher selling prices for wood treatment products.

USE OF CERTAIN GAAP AND NON-GAAP FINANCIAL INFORMATION

Certain financial measures contained in this Annual Report on Form 10-K adjust for the impact of specified items and are not calculated in accordance with accounting principles generally accepted in the United States of America (“U.S. GAAP” or “GAAP”). We provide certain non-GAAP financial measures, such as adjusted EBITDA and adjusted EBITDA margin, to complement reported GAAP results because we believe that analysis of our financial performance is enhanced by an understanding of these non-GAAP financial measures. We exclude certain items from earnings when presenting our adjusted EBITDA measure because we believe they will be incurred infrequently and/or are otherwise not indicative of the Company’s regular, ongoing operating performance. Accordingly, we believe that they aid in evaluating the underlying operational performance of our business, and facilitate comparisons between periods. In addition, adjusted EBITDA is used as one of the performance goals of our fiscal 2020 Short-Term Incentive Program. A similar adjusted EBITDA calculation is also used by our lenders for a key debt compliance ratio.

Adjusted EBITDA margin is defined as adjusted EBITDA as a percentage of revenue. Adjusted EBITDA is defined as earnings before interest, income taxes, depreciation and amortization, adjusted for certain items that affect comparability from period to period. These adjustments include items related to the Acquisition, such as expenses incurred to complete the Acquisition and integration related expenses, costs of restructuring and asset impairment related to the wood treatment business and related adjustments, costs related to the KMG-Bernuth warehouse fire net of insurance recovery, costs related to the Pandemic net of grants received, and impact of fair value adjustments to inventory acquired from KMG.

The non-GAAP financial measures provided are a supplement to, and not a substitute for, the Company’s financial results presented in accordance with U.S. GAAP. Management strongly encourages investors to review the Company’s consolidated financial statements in their entirety and to not rely on any single financial measure. A reconciliation table of GAAP to non-GAAP financial measures is contained below.

Adjusted EBITDA for the Electronic Materials and Performance Materials segments is presented in conformity with Accounting Standards Codification Topic 280, Segment Reporting. This measure is reported to the chief operating decision maker for purposes of making decisions about allocating resources to the segments and assessing their performance. For these reasons, this measure is excluded from the definition of non-GAAP financial measures under the SEC Regulation G and Item 10(e) of Regulation S-K.

RECONCILIATION OF NET INCOME TO ADJUSTED EBITDA

The table below presents the reconciliation of Net income to adjusted EBITDA. Adjusted EBITDA is not a measurement of our financial performance under GAAP and should not be considered as an alternative to Net income. Adjusted EBITDA may have limitations as an analytical tool and should not be considered in isolation or as a substitute for analysis of our results as reported under GAAP.

(In thousands)	Year Ended September 30,		
	2020	2019	2018
Net income	\$ 142,828	\$ 39,215	\$ 110,043
Interest expense	42,510	45,681	2,905
Interest income	(670)	(2,346)	(4,409)
Income taxes	30,519	23,891	51,668
Depreciation and amortization	127,737	98,592	25,876
EBITDA	342,924	205,033	186,083
Acquisition and integration related expense	10,852	34,709	3,861
Charges related to asset impairment of wood treatment business	2,314	67,372	—
Cost related to KMG-Bernuth warehouse fire, net of insurance recovery	1,083	9,905	—
Costs related to the Pandemic, net of grants received	849	—	—
Charge for fair value write-up of acquired inventory sold	—	14,869	—
Net costs related to restructuring of the wood treatment business ¹	(221)	1,530	—
Adjusted EBITDA	\$ 357,801	\$ 333,418	\$ 189,944

¹ Represents adjustments to previously recorded severance liability related to the wood treatment business.

(In thousands)	Year Ended September 30,		
	2020	2019	2018
Adjusted EBITDA			
Electronic Materials	\$ 299,037	\$ 294,902	\$ 222,019
Performance Materials	106,797	91,372	7,191
Unallocated Corporate Expenses	(48,033)	(52,856)	(39,266)
Consolidated Adjusted EBITDA	\$ 357,801	\$ 333,418	\$ 189,944

LIQUIDITY AND CAPITAL RESOURCES

As of September 30, 2020, we had \$257.4 million of cash and cash equivalents compared with \$188.5 million as of September 30, 2019. On September 30, 2020, \$159.4 million of cash and cash equivalents was held in foreign subsidiaries. Our total liquidity as of September 30, 2020 was \$457.4 million compared to \$388.5 million as of September 30, 2019 (including \$200.0 million of borrowing availability under our Revolving Credit Facility in both periods, which includes our letter of credit sub-facility). The increase in liquidity reflects the cash flow provided by operating activities, partially offset by the cash used by additions of property, plant and equipment, the repurchases of our common stock, and payments of quarterly cash dividends.

Total debt, consisting of principal outstanding on our Term Loan Facility, amounted to \$921.4 million (\$936.4 million in aggregate principal amount less \$14.9 million of debt issuance costs) as of September 30, 2020 and \$941.8 million (\$959.7 million in aggregate principal amount less \$17.9 million of debt issuance costs) as of September 30, 2019.

In March 2020, the Company drew \$150.0 million under the Revolving Credit Facility as a precautionary measure in order to increase its cash position and preserve financial flexibility in light of uncertain global economic conditions resulting from the Pandemic. In September 2020, the Company repaid the amount outstanding under the Revolving Credit Facility, which had been unused in full, and as of September 30, 2020, had no remaining balance outstanding under the Revolving Credit Facility.

The Revolving Credit Facility requires that the Company maintain a maximum first lien secured net leverage ratio, as defined in the Amended Credit Agreement, of 4.00 to 1.00 as of the last day of each fiscal quarter. As of September 30, 2020, our maximum first lien secured net leverage ratio was 1.81 to 1.00. Additionally, the Amended Credit Agreement contains certain affirmative and negative covenants that limit the ability of the Company, among other things and subject to certain significant exceptions, to incur debt or liens, make investments, enter into certain mergers, consolidations, asset sales and acquisitions, pay dividends and make other restricted payments and enter into transactions with affiliates. We believe we are in compliance with these covenants as of September 30, 2020 and we expect to remain in compliance with our debt covenants during fiscal 2021 and beyond.

In January 2016, our Board of Directors authorized an increase in the amount available under our share repurchase program to \$150.0 million. In fiscal 2020, we repurchased 318 thousand shares under this program, and \$36.3 million authorization remained at the end of the year. The timing, manner, price and amounts of repurchases are determined at the Company's discretion, and the share repurchase program may be suspended, terminated or modified at any time for any reason. The repurchase program does not obligate the Company to acquire any specific number of shares. To date, we have funded share purchases under our share repurchase program from our available cash on hand, and anticipate we will continue to do so.

Our Board of Directors authorized the initiation of our regular quarterly cash dividend program in January 2016, and since that time has increased the dividend to its current level of \$0.44 per share. The declaration and payment of future dividends is subject to the discretion and determination of the Board of Directors and management, based on a variety of factors, and the program may be suspended, terminated or modified at any time for any reason.

We believe that cash on hand, cash available from future operations, and available borrowing capacity under our Amended Credit Agreement will be sufficient to fund our operations, expected capital expenditures, dividend payments, and share repurchases for at least the next twelve months. However, the current macroeconomic dislocation caused by the Pandemic has created uncertainty in worldwide economic conditions and in those of the industries in which we participate, and whether with respect to the impact of the Pandemic or in pursuit of corporate development or other initiatives, we may need to raise additional funds in the future through equity or debt financing, or other arrangements. Depending on future conditions in the capital and credit markets, we could encounter difficulty securing additional financing in the type or amount necessary to pursue these objectives.

Operating Activities

We generated \$287.3 million in cash flows from operating activities in fiscal 2020, \$175.0 million in fiscal 2019 and \$168.9 million in fiscal 2018. Our cash provided by operating activities in fiscal 2020 reflected Net income of \$142.8 million, \$137.8 million in non-cash reconciling items, and decreases in working capital of \$6.7 million. Non-cash reconciling items in fiscal 2020 included \$127.7 million of depreciation and amortization expense, \$16.4 million of share-based compensation expense, partially offset by \$11.3 million of deferred income tax benefit. Our cash provided by operating activities in fiscal 2019 reflected Net income of \$39.2 million and \$175.2 million in non-cash reconciling items, partially offset by increases in working capital of \$39.4 million. Non-cash reconciling items in fiscal 2019 included \$98.6 million of depreciation and amortization expense, \$67.4 million of wood treatment asset impairment charges, \$18.2 million of share-based compensation expense, and \$14.9 million of inventory step-up on acquired inventory sold, partially offset by \$27.2 million of deferred income tax benefit. Our cash provided by operating activities in fiscal 2018 reflected Net income of \$110.0 million and \$66.8 million in non-cash reconciling items, partially offset by increases in working capital of \$7.9 million. Non-cash reconciling items in fiscal 2018 included \$25.9 million of depreciation and amortization expense, \$18.5 million of share-based compensation expense, \$11.3 million of deemed repatriation transition tax, and \$10.8 million deferred income tax expense.

Investing Activities

In fiscal 2020, cash flows used in investing activities were \$124.3, representing property, plant and equipment additions of \$125.8 million, net of cash inflows of \$1.6 million from the disposition of property. In fiscal 2019, cash flows used in investing activities were \$1,233.0 million, representing property, plant and equipment additions of \$56.0 million and \$1,182.2 million used for the Acquisition, net of cash inflows of \$5.2 million from insurance policies and disposition of property. The remainder of the Acquisition was satisfied with the issuance of common stock. In fiscal 2018, cash flows used in investing activities were \$22.8 million for purchases of property, plant and equipment.

Financing Activities

In fiscal 2020, cash flows used in financing activities were \$97.7 million, which included \$50.4 million of dividend payments, \$38.2 million of cash used in stock repurchases, and \$23.3 million of repayments on long-term debt. In fiscal 2019, cash flows provided from financing activities were \$894.4 million. During the first quarter of fiscal 2019, we received \$1,043.6 million in debt proceeds, net of \$18.7 million in debt issuance costs and \$2.7 million original discount fees, which was used for the Acquisition. This was partially offset by \$105.3 million of repayments on this debt and \$46.3 million of dividend payments during fiscal 2019. In fiscal 2018, cash used in financing activities were \$197.6 million, which included \$144.4 million of repayments on long-term debt, \$30.7 million of dividend payments, and \$44.3 million of cash used in stock repurchases.

OFF-BALANCE SHEET ARRANGEMENTS

At September 30, 2020 and 2019, we did not have any unconsolidated entities or financial partnerships, such as entities often referred to as structured finance or special purpose entities, which might have been established for the purpose of facilitating off-balance sheet arrangements.

TABULAR DISCLOSURE OF CONTRACTUAL OBLIGATIONS

The following summarizes our contractual obligations at September 30, 2020, and the effect such obligations are expected to have on our liquidity and cash flow in future periods.

CONTRACTUAL OBLIGATIONS (In thousands)	Total	Less Than 1 Year	1-3 Years	3-5 Years	After 5 Years
Debt	\$ 936,363	\$ 10,650	\$ 21,300	\$ 21,300	\$ 883,113
Interest expense and fees	150,708	33,430	64,411	48,829	4,038
Purchase obligations	71,740	55,964	15,103	673	—
Operating leases	35,515	7,196	12,317	7,741	8,261
Severance agreements	896	891	5	—	—
Other long-term liabilities ¹	27,939	256	13,455	264	13,964
Total contractual obligations	\$ 1,223,161	\$ 108,387	\$ 126,591	\$ 78,807	\$ 909,376

¹ We have excluded \$112.2 million in deferred tax liabilities and \$15.5 million of liabilities for uncertain tax positions from the other long-term liability amounts presented, as the amounts and timing of payments to be settled in cash are not known. We have also excluded \$26.0 million related to the fair value of our interest rate swap.

INTEREST AND FEES ON LONG-TERM DEBT

Interest payments on long-term debt reflect interest rates in effect at September 30, 2020. The interest payments reflect LIBOR rates currently in effect on \$365.4 million of our outstanding debt, and reflect fixed interest rates on \$571.0 million of outstanding debt for which we have executed interest rate swaps. Commitment fees are based on our estimated consolidated leverage ratio in future periods. See Note 13 of “Notes to the Consolidated Financial Statements” included in Item 8 of Part II of this Annual Report on Form 10-K for additional information regarding our long-term debt.

PURCHASE OBLIGATIONS

Purchase obligations include contractual commitments related to abrasive particle and non-water-based carrier fluid agreements.

OPERATING LEASES

Operating leases include future lease payments under operating leases.

SEVERANCE AGREEMENTS

Liabilities for severance agreements at September 30, 2020 represent payments to be made to former or to be former employees in accordance with individual agreements.

OTHER LONG-TERM LIABILITIES

Other long-term liabilities at September 30, 2020 primarily consist of \$11.8 million asset retirement obligations and \$9.3 million of liabilities related to our foreign benefit plans in Japan, South Korea, and France.

CRITICAL ACCOUNTING POLICIES AND ESTIMATES

The Company's accounting policies are more fully described in Note 2 of "Notes to the Consolidated Financial Statements" included in Part II, Item 8 of this Annual Report on Form 10-K of the Consolidated Financial Statements. As disclosed in Note 2, the preparation of these financial statements requires us to make estimates and judgments that affect the reported amounts of assets, liabilities, revenues and expenses, and related disclosure of contingencies. Actual results may differ from these estimates under different assumptions or conditions. The Company believes that the following discussion addresses the Company's most critical accounting policies, which are those that are most important to the portrayal of the Company's financial condition and results of operations and require management's most difficult, subjective and complex judgments.

GOODWILL AND OTHER INTANGIBLE ASSETS

We perform an annual impairment assessment of goodwill and other intangible assets at the reporting unit level as of September 30 of each year, or more frequently if circumstances indicate that the carrying value may not be recoverable. Where we use the qualitative assessment, we determine based on qualitative factors, such as macroeconomic, industry, legal, and financial performance, whether it is more likely than not that an impairment exists. If the qualitative assessment indicates that it is more likely than not that an impairment exists, then a quantitative assessment is performed.

Qualitative factors include industry and market considerations, overall financial performance, industry, legal and other relevant events and factors affecting the reporting unit. Additionally, as part of this assessment, we may perform a quantitative analysis to support the qualitative factors above by applying sensitivities to assumptions and inputs used in measuring a reporting unit's fair value.

In our quantitative assessment, estimated fair value is determined using an average of a discounted cash flow model and a market approach based on earnings before interest, taxes, and depreciation for a group of guideline comparable companies. Factors requiring significant judgment include the selection of market comparable companies, projected future revenue and gross margin, discount rates, and terminal growth rates. The wood treatment reporting unit fair value is determined using the discounted cash flow model only. The use of different assumptions, estimates or judgments could significantly impact the estimated fair value of a reporting unit, and therefore, impact the excess fair value above carrying value of the reporting unit. The reporting unit's carrying value used in an impairment test represents the assignment of various assets and liabilities, excluding certain corporate assets and liabilities, such as cash, investments, and debt.

We test the reasonableness of the inputs and outcomes of our discounted cash flow models against available market data. Two of the Company's reporting units, wood treatment and PIM, are at risk of failing future impairment tests, as the September 30, 2020 estimates of fair value do not substantially exceed their carrying values. As previously announced, the Company is closing its wood treatment facilities by approximately the end of calendar year 2021. The fair value of the wood treatment asset group was sufficient such that the recognized impairment was limited to long-lived assets and the reporting unit goodwill was not impaired, however, as the Company approaches the closure date of the facilities and there are lower estimated future cash flows, the carrying value of the wood treatment asset group and reporting unit will not be recoverable, resulting in future impairments. The carrying value includes \$35.0 million and \$3.8 million of goodwill and intangible assets as of September 30, 2020, respectively. There is no excess fair value over the carrying value as of September 30, 2020.

For PIM, the estimated fair value of the reporting unit exceeded the carrying value by approximately 8%. PIM's carrying value includes \$318.2 million of goodwill and \$46.0 million of trade-name intangible assets. Key assumptions in the goodwill test include projected future revenue and gross margin, a 10.5% discount rate, and a terminal growth rate of 3%. A 50 basis point change in the projected compound annual revenue growth rate, discount rate, or terminal growth assumption would not result in an impairment. The fair values for all other reporting units substantially exceeded their carrying value. Refer to Note 10 of "Notes to the Consolidated Financial Statements" included in Item 8 of Part II of this Annual Report on Form 10-K for more information regarding wood treatment.

The Flowchem LLC ("Flowchem") trade name, an indefinite-lived intangible asset, was assessed for impairment using a relief from royalty approach. Factors requiring significant judgment include projected revenue, royalty rates, terminal growth rates, and discount rates.

Significant management judgment is required to estimate projected future revenue. All assumptions used in our impairment valuation for indefinite-lived intangible assets and goodwill are based on best available information and are consistent with internal forecasts and operating plans.

ACCOUNTING FOR INCOME TAXES

We are subject to income taxes in the U.S. and numerous foreign jurisdictions. Accordingly, the determination of our provision for income taxes requires judgment, the use of estimates in certain cases and the interpretation and application of complex tax laws. Our effective income tax rate is affected by many factors, including changes in our assessment of certain tax contingencies, increases and decreases in valuation allowances, changes in tax law, outcomes of audits, and the mix of earnings among our U.S. and international operations.

We assess whether or not our deferred tax assets will ultimately be realized, and record an estimated valuation allowance on those deferred tax assets that may not be realized. Many factors are considered when assessing whether it is more likely than not that the deferred tax assets will be realized, including recent cumulative earnings, expectations of future taxable income, carryforward periods and other relevant quantitative and qualitative factors. The recoverability of the deferred tax assets is evaluated by assessing the adequacy of future expected taxable income from all sources, including reversal of taxable temporary differences, forecasted operating earnings and available tax planning strategies. This evaluation is based on best available information and are consistent with internal forecasts and operating plans.

We recognize the tax benefit of an uncertain tax position only if it is more likely than not that the tax position will be sustained by the taxing authorities, based on the technical merits of the position. When facts and circumstances change, we reassess these probabilities and record any changes in the financial statements as appropriate. This determination requires the use of judgment in evaluating our tax positions and assessing the timing and amounts of deductible and taxable items. See Note 19 of "Notes to the Consolidated Financial Statements" included in Part II, Item 8 of this Annual Report on Form 10-K for additional information on income taxes.

EFFECTS OF RECENT ACCOUNTING PRONOUNCEMENTS

See Note 2 of "Notes to the Consolidated Financial Statements" included in Part II, Item 8 of this Annual Report on Form 10-K for a description of recent accounting pronouncements.

ITEM 7A. QUANTITATIVE AND QUALITATIVE DISCLOSURES ABOUT MARKET RISK

EFFECT OF CURRENCY EXCHANGE RATES AND EXCHANGE RATE RISK MANAGEMENT

We conduct business operations outside of the U.S. through our foreign operations. Most of our foreign operations maintain their accounting records in their local currencies. Consequently, period to period comparability of results of operations is affected by fluctuations in exchange rates. The primary currencies to which we have exposure are the Korean won, Japanese yen, the New Taiwan dollar, Euro, British pound, and Singapore dollar. Approximately 22% of our revenue is transacted in currencies other than the U.S. dollar. However, outside of the U.S., we also incur expenses that are transacted in currencies other than the U.S. dollar, which mitigates the exposure on the Consolidated Statements of Income. We periodically enter into forward contracts in an effort to manage foreign currency exchange exposure on our Consolidated Balance Sheets. However, we are unlikely to be able to hedge these exposures completely. We do not enter into forward contracts or other derivative instruments for speculative or trading purposes.

Currency fluctuations have not had a material impact on our Consolidated Statements of Income during fiscal years 2020, 2019 and 2018. While currency fluctuations did not have a significant impact on other comprehensive income on our Consolidated Balance Sheets in fiscal 2018, they did have a significant impact in fiscal 2020 and 2019. We recorded \$19.3 million in currency translation gains and \$8.5 million in currency translation losses, net of tax, during fiscal 2020 and 2019, respectively, which was included in other comprehensive income.

MARKET RISK AND SENSITIVITY ANALYSIS RELATED TO FOREIGN EXCHANGE RATE RISK

We have performed a sensitivity analysis assuming a hypothetical 10% additional adverse movement in foreign exchange rates. As of September 30, 2020, the analysis demonstrated that such market movements would not have a material adverse effect on our consolidated financial position, results of operations or cash flows over a one-year period. Actual gains and losses in the future may differ materially from this analysis based on changes in the timing and amount of foreign currency rate movements and our actual exposures.

ITEM 8. FINANCIAL STATEMENTS AND SUPPLEMENTARY DATA

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All other schedules are omitted, because they are not required, are not applicable, or the information is included in the consolidated financial statements and notes thereto.

Report of Independent Registered Public Accounting Firm

To the Board of Directors and Stockholders of CMC Materials, Inc.

Opinions on the Financial Statements and Internal Control over Financial Reporting

We have audited the accompanying consolidated balance sheets of CMC Materials, Inc. and its subsidiaries (the “Company”) as of September 30, 2020 and 2019, and the related consolidated statements of income, of comprehensive income (loss), of changes in stockholders' equity and of cash flows for each of the three years in the period ended September 30, 2020, 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 September 30, 2020, 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 September 30, 2020 and 2019, and the results of its operations and its cash flows for each of the three years in the period ended September 30, 2020 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 September 30, 2020, based on criteria established in Internal Control - Integrated Framework (2013) issued by the COSO.

Change in Accounting Principle

As discussed in Note 2 to the consolidated financial statements, the Company changed the manner in which it accounts for leases as of October 1, 2019.

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 Management's Report on Internal Control over Financial Reporting appearing under Item 9A. 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.

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.

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.

Goodwill Impairment Assessment - Pipeline and Industrial Materials ("PIM") and CMP Pads Reporting Units

As described in Notes 2 and 9 to the consolidated financial statements, the Company's consolidated goodwill balance was \$718.6 million at September 30, 2020, which included the PIM and CMP Pads reporting units. Goodwill is tested for impairment annually on September 30, or between annual tests if an event occurs or circumstances change that would more likely than not reduce the fair value of a reporting unit below its carrying amount. The goodwill impairment assessment is performed comparing the estimated fair value of the reporting units to their carrying amounts. Estimated fair values are determined using the average of a discounted cash flow model and a market approach based on earnings before interest, taxes, and depreciation for a group of guideline comparable companies. Factors requiring significant judgment include the selection of valuation approach and assumptions related to future revenue and gross margin, discount rates, and terminal growth rates.

The principal considerations for our determination that performing procedures relating to the goodwill impairment assessment of the PIM and CMP Pads reporting units is a critical audit matter are (i) the significant judgment by management when determining the fair value of the reporting units using the discounted cash flow models; (ii) the high degree of auditor judgment, subjectivity, and effort in performing procedures and evaluating the significant assumptions used in management's fair value estimate related to future revenue, gross margin, terminal growth rate and the discount rate for the PIM reporting unit, and future revenue and gross margin for the CMP Pads reporting unit; and (iii) 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 management's goodwill impairment assessment, including controls over the valuation of the Company's PIM and CMP Pads reporting units. These procedures also included, among others, testing management's process for determining the fair value estimate of the PIM and CMP Pads reporting units; evaluating the appropriateness of using the average of a discounted cash flow model and a market approach based upon relevant market multiples; testing the completeness and accuracy of underlying data used in the discounted cash flow models; and evaluating the significant assumptions used by management related to future revenue, gross margin, terminal growth rate and the discount rate for the PIM reporting unit, and future revenue and gross margin for the CMP Pads reporting unit. Evaluating management's assumptions related to future revenue, gross margin, and terminal growth rate involved evaluating whether the assumptions used were reasonable considering (i) the current and past performance of the reporting units, (ii) the consistency with external market and industry data, and (iii) whether these assumptions were consistent with evidence obtained in other areas of the audit. Professionals with specialized skill and knowledge were used to assist in the evaluation of the appropriateness of the discounted cash flow models and market approach and the reasonableness of the PIM discount rate assumption.

/s/ PricewaterhouseCoopers LLP
Chicago, Illinois
November 17, 2020

We have served as the Company's auditor since 1999.

CMC MATERIALS, INC
CONSOLIDATED STATEMENTS OF INCOME
(In thousands, except per share amounts)

	Year Ended September 30,		
	2020	2019	2018
Revenue	\$ 1,116,270	\$ 1,037,696	\$ 590,123
Cost of sales	627,669	595,043	276,018
Gross profit	488,601	442,653	314,105
Operating expenses:			
Research, development and technical	52,311	51,707	51,950
Selling, general and administrative	217,071	213,078	102,037
Asset impairment charges	2,314	67,372	—
Total operating expenses	271,696	332,157	153,987
Operating income	216,905	110,496	160,118
Interest expense	42,510	45,681	2,905
Interest income	670	2,346	4,409
Other income (expense), net	(1,718)	(4,055)	89
Income before income taxes	173,347	63,106	161,711
Provision for income taxes	30,519	23,891	51,668
Net income	\$ 142,828	\$ 39,215	\$ 110,043
Basic earnings per share (in dollars per share)	\$ 4.90	\$ 1.37	\$ 4.31
Weighted average basic shares outstanding	29,136	28,571	25,518
Diluted earnings per share (in dollars per share)	\$ 4.83	\$ 1.35	\$ 4.19
Weighted average diluted shares outstanding	29,580	29,094	26,243

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

CMC MATERIALS, INC
CONSOLIDATED STATEMENTS OF COMPREHENSIVE INCOME (LOSS)
(In thousands)

	Year Ended September 30,		
	2020	2019	2018
Net income	\$ 142,828	\$ 39,215	\$ 110,043
Other comprehensive income (loss), net of tax:			
Foreign currency translation adjustments	19,286	(8,548)	679
Minimum pension liability adjustment	1,047	(449)	(26)
Net unrealized loss on cash flow hedges	(10,711)	(18,780)	(63)
Other comprehensive income (loss), net of tax	9,622	(27,777)	590
Comprehensive income	<u>\$ 152,450</u>	<u>\$ 11,438</u>	<u>\$ 110,633</u>

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

CMC MATERIALS, INC
CONSOLIDATED BALANCE SHEETS
(In thousands, except per share amounts)

	September 30,	
	2020	2019
ASSETS		
Current assets:		
Cash and cash equivalents	\$ 257,354	\$ 188,495
Accounts receivable, less allowance for doubtful accounts of \$583 at September 30, 2020, and \$2,377 at September 30, 2019	134,023	146,113
Inventories	159,134	145,278
Prepaid expenses and other current assets	26,558	28,670
Total current assets	577,069	508,556
Property, plant and equipment, net	362,067	276,818
Goodwill	718,647	710,071
Other intangible assets, net	670,964	754,044
Deferred income taxes	7,713	6,566
Other long-term assets	40,007	5,711
Total assets	\$ 2,376,467	\$ 2,261,766
LIABILITIES AND STOCKHOLDERS' EQUITY		
Current liabilities:		
Accounts payable	\$ 49,254	\$ 54,529
Current portion of long-term debt	10,650	13,313
Accrued expenses, income taxes payable and other current liabilities	121,442	103,618
Total current liabilities	181,346	171,460
Long-term debt, net of current portion	910,764	928,463
Deferred income taxes	112,212	121,993
Other long-term liabilities	97,832	59,473
Total liabilities	1,302,154	1,281,389
Commitments and contingencies (Note 20)		
Stockholders' equity:		
Common Stock Authorized: 200,000 shares, \$0.001 par value; Issued: 39,914 shares at September 30, 2020 and 39,592 shares at September 30, 2019	40	40
Capital in excess of par value of common stock	1,019,803	988,980
Retained earnings	553,718	461,501
Accumulated other comprehensive loss	(14,104)	(23,238)
Treasury stock at cost, 10,834 shares at September 30, 2020 and 10,491 shares at September 30, 2019	(485,144)	(446,906)
Total stockholders' equity	1,074,313	980,377
Total liabilities and stockholders' equity	\$ 2,376,467	\$ 2,261,766

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

CMC MATERIALS, INC
CONSOLIDATED STATEMENTS OF CASH FLOWS
(In thousands)

	Year Ended September 30,		
	2020	2019	2018
Cash flows from operating activities:			
Net income	\$ 142,828	\$ 39,215	\$ 110,043
Adjustments to reconcile Net income to net cash provided by operating activities:			
Depreciation and amortization	127,737	98,592	25,876
Accretion on Asset Retirement Obligations	599	530	—
Provision for doubtful accounts	443	432	185
Share-based compensation expense	16,396	18,227	18,517
Deemed repatriation transition tax	—	—	11,340
Deferred income tax expense (benefit)	(11,267)	(27,150)	10,835
Non-cash foreign exchange (gain) loss	(266)	839	(873)
(Gain) on sale of assets	(71)	(36)	(865)
Impairment of assets	2,314	67,372	—
Realized loss on the sale of available-for-sale securities	—	—	96
Non-cash charge on inventory step up of acquired inventory sold	—	14,869	—
Amortization of debt issuance costs	3,123	2,884	—
Other	(1,239)	(1,362)	1,666
Changes in operating assets and liabilities:			
Accounts receivable	13,075	(6,156)	(12,068)
Inventories	(12,337)	(20,993)	(442)
Prepaid expenses and other assets	8,645	6,830	(5,818)
Accounts payable	(2,861)	1,163	128
Accrued expenses, income taxes payable and other liabilities	165	(20,275)	10,245
Net cash provided by operating activities	287,284	174,981	168,865
Cash flows from investing activities:			
Additions to property, plant and equipment	(125,839)	(55,972)	(21,308)
Proceeds from the sale of assets	1,587	1,224	3,027
Acquisition of a business, net of cash acquired	—	(1,182,187)	—
Cash settlement of life insurance policy	—	3,959	—
Purchases of available-for-sale securities	—	—	(209,048)
Proceeds from the sale and maturities of available-for-sale securities	—	—	214,460
Settlement of net investment hedge	—	—	(9,882)
Net cash used in investing activities	(124,252)	(1,232,976)	(22,751)
Cash flows from financing activities:			
Repayment of long-term debt	(23,313)	(105,326)	(144,375)
Dividends paid	(50,383)	(46,324)	(30,730)
Repurchases of common stock	(38,238)	(14,720)	(44,288)
Proceeds from issuance of stock	14,427	17,210	23,031
Proceeds from issuance of long-term debt	—	1,062,337	—
Proceeds from revolving line of credit	150,000	—	—
Repayment on revolving line of credit	(150,000)	—	—

Debt issuance costs	—	(18,745)	—
Other financing activities	(149)	—	(1,200)
Net cash provided by (used in) financing activities	(97,656)	894,432	(197,562)
Effect of exchange rate changes on cash	3,483	(863)	6,479
Increase (decrease) in cash and cash equivalents	68,859	(164,426)	(44,969)
Cash and cash equivalents at beginning of year	188,495	352,921	397,890
Cash and cash equivalents at end of year	<u>\$ 257,354</u>	<u>\$ 188,495</u>	<u>\$ 352,921</u>
Supplemental disclosure of cash flow information:			
Cash paid for income taxes (net of refunds received)	\$ 44,535	\$ 35,432	\$ 20,345
Cash paid for interest	45,281	39,181	2,464
Purchases of property, plant and equipment in accrued liabilities and accounts payable at the end of the period	5,365	8,690	1,975
Equity consideration related to the acquisition of KMG Chemicals, Inc	—	331,048	—
Cash paid during the period for lease liabilities	7,554	—	—
Right of use asset obtained in exchange for lease liabilities	7,435	—	—

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

CMC MATERIALS, INC
CONSOLIDATED STATEMENT OF CHANGES IN STOCKHOLDERS' EQUITY
(In thousands, except per share amounts)

	Common Stock (shares)	Treasury Stock (shares)	Common Stock	Capital In Excess of Par	Retained Earnings	Accumulated Other Comprehensive Income (Loss)	Treasury Stock	Total
Balance at September 30, 2017	35,231	9,948	\$ 35	\$ 580,938	\$ 397,881	\$ 3,949	\$ (387,766)	\$ 595,037
Share-based compensation expense				18,518				18,518
Repurchases of common stock under Share Repurchase Program		370					(40,726)	(40,726)
Repurchases of common stock - other		38					(3,562)	(3,562)
Exercise of stock options	488		1	19,278				19,279
Issuance of restricted stock under Deposit Share Program	93			300				300
Issuance of stock under Employee Stock Purchase Plan	50			3,464				3,464
Net income					110,043			110,043
Dividends (\$1.40 per share in dollars)					(36,251)			(36,251)
Foreign currency translation adjustment						679		679
Cash flow hedges						(63)		(63)
Minimum pension liability adjustment						(26)		(26)
Balance at September 30, 2018	35,862	10,356	\$ 36	\$ 622,498	\$ 471,673	\$ 4,539	\$ (432,054)	\$ 666,692
Share-based compensation expense				18,227				18,227
Repurchases of common stock under Share Repurchase Program		88					(10,002)	(10,002)
Repurchases of common stock - other		47					(4,850)	(4,850)
Exercise of stock options	313		1	13,194				13,195
Issuance of common stock in connection with acquisition of KMG Chemicals, Inc.	3,237		3	331,045				331,048
Issuance of restricted stock under Deposit Share Program	131			75				75
Issuance of stock under Employee Stock Purchase Plan	49			3,941				3,941
Net income					39,215			39,215
Dividends (\$1.66 per share in dollars)					(48,454)			(48,454)
Effect of the adoption of revenue recognition accounting standard					(933)			(933)
Foreign currency translation adjustment						(8,548)		(8,548)
Cash flow hedges						(18,780)		(18,780)
Minimum pension liability adjustment						(449)		(449)
Balance at September 30, 2019	39,592	10,491	\$ 40	\$ 988,980	\$ 461,501	\$ (23,238)	\$ (446,906)	\$ 980,377

	Common Stock (shares)	Treasury Stock (shares)	Common Stock	Capital In Excess of Par	Retained Earnings	Accumulated Other Comprehensive Income (Loss)	Treasury Stock	Total
Balance at September 30, 2019	39,592	10,491	\$ 40	\$ 988,980	\$ 461,501	\$ (23,238)	\$ (446,906)	\$ 980,377
Share-based compensation expense				16,396				16,396
Repurchases of common stock under Share Repurchase Program		318					(35,009)	(35,009)
Repurchases of common stock - other		25					(3,229)	(3,229)
Exercise of stock options	181			9,491				9,491
Issuance of restricted stock under Deposit Share Program	95			150				150
Issuance of stock under Employee Stock Purchase Plan	46			4,786				4,786
Net income					142,828			142,828
Dividends (\$1.74 per share in dollars)					(51,099)			(51,099)
Effect of the adoption of the stranded tax effect accounting standard					488	(488)		—
Foreign currency translation adjustment						19,286		19,286
Cash flow hedges						(10,711)		(10,711)
Minimum pension liability adjustment						1,047		1,047
Balance at September 30, 2020	39,914	10,834	\$ 40	\$ 1,019,803	\$ 553,718	\$ (14,104)	\$ (485,144)	\$ 1,074,313

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

CMC MATERIALS, INC
NOTES TO THE CONSOLIDATED FINANCIAL STATEMENTS
(In thousands, except per share amounts)

1. BACKGROUND AND BASIS OF PRESENTATION

On October 1, 2020, Cabot Microelectronics Corporation changed its name to CMC Materials, Inc. (“CMC”, “the Company”, “us”, “we”, or “our”). CMC is a leading global supplier of consumable materials to semiconductor manufacturers and pipeline companies. The Company’s products play a critical role in the production of advanced semiconductor devices, helping to enable the manufacture of smaller, faster and more complex devices by its customers. The Consolidated Financial Statements included in this Annual Report on Form 10-K include the financial results of KMG Chemicals, Inc. (“KMG”) since the Company’s acquisition of 100% of the outstanding stock of KMG (the “Acquisition”) on November 15, 2018 (the “Acquisition Date”).

Since the Acquisition, we operate our business within two reportable segments: Electronic Materials and Performance Materials. The Electronic Materials segment consists of our chemical mechanical planarization (“CMP”) slurries business, CMP pads business, and electronic chemicals business. The Performance Materials segment consists of our pipeline and industrial materials (“PIM”) business, wood treatment business and QED Technologies International, Inc. (“QED”) business.

The audited consolidated financial statements have been prepared by CMC pursuant to the rules of the Securities and Exchange Commission (“SEC”) and accounting principles generally accepted in the United States of America (“U.S. GAAP” or “GAAP”).

In Note 19. Income Taxes of this Annual Report on Form 10-K, the presentation for the table with the reconciliation between the Federal statutory rate and the Provision for income taxes at our effective tax rate has been updated for the fiscal year’s 2019 and 2018 to conform to the current year’s presentation. The amounts for those fiscal years that related to a change in reserve position and included in “U.S. benefits from research and experimentation activities” and “Other, net” previously, are now presented separately under “Change in reserve positions.”

2. SUMMARY OF SIGNIFICANT ACCOUNTING POLICIES

PRINCIPLES OF CONSOLIDATION

The Consolidated Financial Statements include the accounts of CMC Materials, Inc. and its subsidiaries. All intercompany transactions and balances between the companies have been eliminated.

USE OF ESTIMATES

The preparation of financial statements and related disclosures in conformity with U.S. GAAP requires management to make judgments, assumptions and estimates that affect the amounts reported in the consolidated financial statements and accompanying notes. We base our estimates on historical experience, current conditions, and on various other assumptions that we believe are reasonable under the circumstances. However, future events are subject to change and estimates and judgments routinely require adjustment. Actual results may differ from these estimates under different assumptions or conditions.

CASH, CASH EQUIVALENTS AND SHORT-TERM INVESTMENTS

We consider investments in all highly liquid financial instruments with original maturities of three months or less to be cash equivalents. Short-term investments include securities generally having maturities of 90 days to one year. We did not own any securities that were considered short-term investments as of September 30, 2020 or 2019.

ACCOUNTS RECEIVABLE AND ALLOWANCE FOR DOUBTFUL ACCOUNTS

Trade accounts receivable are recorded at the invoiced amount and do not bear interest. We maintain an allowance for doubtful accounts for estimated losses resulting from the potential inability of our customers to make required payments. Our allowance for doubtful accounts is based on historical collection experience, adjusted for any specific known conditions or circumstances such as customer bankruptcies and increased risk due to economic conditions. Uncollectible account balances are charged against the allowance when we believe that it is probable that the receivable will not be recovered. Amounts charged to bad debt expense are recorded in Selling, general and administrative expenses.

Our allowance for doubtful accounts changed during the fiscal year ended September 30, 2020 and 2019 as follows:

	2020	2019
Beginning Balance	\$ 2,377	\$ 1,900
Amount of charge (benefit) to expense	(1,122)	432
Deductions and adjustments	(672)	45
Ending Balance at September 30	<u>\$ 583</u>	<u>\$ 2,377</u>

CONCENTRATION OF CREDIT RISK

Financial instruments that subject us to concentrations of credit risk consist principally of accounts receivable. We perform ongoing credit evaluations of our customers' financial conditions and generally do not require collateral to secure accounts receivable. Our exposure to credit risk associated with nonpayment is affected principally by conditions or occurrences within the semiconductor industry, pipeline and adjacent industries, and the global economy. We have not experienced significant losses relating to accounts receivable from individual customers or groups of customers.

Customers who represented more than 10% of consolidated revenue, all of which are in the Electronic Materials segment, are as follows:

	Year Ended September 30,		
	2020	2019	2018
Intel	15 %	14 %	*
Samsung Group (Samsung)	11 %	11 %	18 %
Taiwan Semiconductor Manufacturing Co. (TSMC)	*	*	12 %
SK Hynix Inc.	*	*	10 %

* Customer did not represent more than 10% of consolidated revenue.

Of those customers who represented more than 10% of consolidated revenue, their net accounts receivable as a percentage of total net accounts receivable are as follows:

	September 30,	
	2020	2019
Intel	8.5 %	8.1 %
Samsung Group (Samsung)	7.0 %	5.5 %

FAIR VALUES OF FINANCIAL INSTRUMENTS

The recorded amounts of cash, accounts receivable, and accounts payable approximate their fair values due to their short-term, highly liquid characteristics. Fair value is defined as the price that would be received from the sale of an asset or paid to transfer a liability (an exit price) in the principal or most advantageous market for the asset or liability in an orderly transaction between market participants on the measurement date. The Financial Accounting Standards Board ("FASB") established a three-level hierarchy for disclosure based on the extent and level of judgment used to estimate fair value. Level 1 inputs consist of valuations based on quoted market prices in active markets for identical assets or liabilities. Level 2 inputs consist of valuations based on quoted prices for similar assets or liabilities, quoted prices for identical assets or liabilities in an inactive market, or other observable inputs. Level 3 inputs consist of valuations based on unobservable inputs that are supported by little or no market activity.

INVENTORIES

Inventories are recorded on the first-in, first-out (FIFO) basis and are stated at the lower of cost or net realizable value. Finished goods and work in process inventories include material, labor and manufacturing overhead costs. We regularly review and write down the value of inventory as required for estimated obsolescence or lack of marketability.

PROPERTY, PLANT AND EQUIPMENT

Property, plant and equipment are recorded at cost. Depreciation is based on the following estimated useful lives of the assets using the straight-line method:

Land Improvements	10-20 years
Buildings	15-30 years
Machinery and equipment	3-20 years
Furniture and fixtures	5-10 years
Vehicles	5-8 years
Information systems	3-5 years
Assets under financing leases	The shorter of the term of the lease or estimated useful life

Expenditures for repairs and maintenance are charged to expense as incurred.

LEASES

Effective October 1, 2019, the Company adopted the new lease accounting guidance which requires the recognition of a right of use asset and a corresponding lease liability for operating leases. The Company applies provisions of the guidance to operating leases with terms of more than twelve months for all lease classes except for real estate leases for which the guidance is applied to all leases. Additionally, the Company elected to account for non-lease components and lease components together as a single lease component for all asset classes. The Company's lease transactions primarily consist of leases for facilities, equipment, and vehicles under operating leases. The Company does not have any material finance leases. Certain of the Company's leases have an option to extend the lease term and the renewal period is included in determining the lease term for leases where the renewal option is reasonably certain to be exercised.

The new standard was adopted in our first quarter of fiscal 2020 using the modified retrospective transition method; however, we applied the optional transition adjustment that permits us to continue applying Topic 840 within the comparative periods disclosed.

ASSET RETIREMENT OBLIGATIONS

Our asset retirement obligations ("AROs") include reclamation requirements as regulated by government authorities or contractual obligations for the removal or storage of hazardous materials, decontamination or demolition of above ground storage tanks, and certain restoration and decommissioning obligations related to certain of our owned and leased properties. The Company recognizes an ARO in the period in which it is incurred, if a reasonable estimate can be made. The accounting for ARO requires estimates by management about when and how the assets will be retired, the cost of retirement obligations, discount and inflation rates used in determining fair values and the methods of remediation associated with our AROs. We generally use assumptions and estimates that reflect the most likely remediation method. Our estimated liability for AROs is revised annually, and whenever events or changes in circumstances indicate that a revision to the estimate is necessary.

In subsequent periods, the Company recognizes accretion expense in Cost of sales increasing the ARO balances, such that the balance will ultimately equal the expected cash flows at the time of settlement. AROs are included in Other long-term liabilities on the Consolidated Balance Sheets.

The Company has multiple production facilities with an indeterminate useful life and there is insufficient information available to estimate a range of potential settlement dates for the obligation. Therefore, the Company cannot reasonably estimate the fair value of the liability. When a reasonable estimate can be made, an asset retirement obligation will be recorded, and such amounts may be material to the consolidated financial statements in the period in which they are recorded.

IMPAIRMENT OF LONG-LIVED ASSETS

We assess the recoverability of the carrying value of long-lived assets to be held and used, whenever events or changes in circumstances indicate that the carrying value may not be recoverable. For purposes of recognition and measurement of an impairment loss, long-lived assets are either individually identified or grouped with other assets and liabilities at the lowest level for which identifiable cash flows are largely independent of the cash flows of other assets and liabilities. When a long-lived asset is considered impaired a loss is recognized based on the amount by which the carrying value exceeds the fair value of the long-lived asset.

GOODWILL AND OTHER INTANGIBLE ASSETS

Goodwill represents the excess of the aggregate purchase price over the fair value of the net assets acquired in business combinations. Goodwill and Intangible assets that have indefinite lives are tested for impairment annually on September 30, or between annual tests if an event occurs or circumstances change that would more likely than not reduce the fair value of a reporting unit below its carrying amount. The Company's reporting units are CMP slurries, CMP pads, electronic chemicals, PIM, wood treatment, and QED.

Intangible assets that have finite lives are amortized over their respective useful lives of 2 to 20 years. Intangible assets are tested for impairment if an event occurs or circumstances change that indicates the carrying value may not be recoverable.

For each reporting unit, the Company has the option to perform either the qualitative analysis ("step zero") or a quantitative analysis ("step one"). In the event a reporting unit fails the qualitative assessment, it is required to perform the quantitative test. The goodwill impairment assessment is performed by comparing the estimated fair value of the reporting units to their carrying amounts. Estimated fair values are determined using the average of a discounted cash flows model and a market approach based on earnings before interest, taxes, and depreciation for a group of guideline comparable companies. Factors requiring significant judgment include the selection of valuation approach and assumptions related to future revenue and gross margin, discount rates, and terminal growth rates. If the fair value of the reporting unit is less than its carrying value, the reporting unit will recognize an impairment for the lesser of either the amount by which the reporting unit's carrying amount exceeds the fair value of the reporting unit or the reporting unit's goodwill carrying value. We used a step zero qualitative analysis for the CMP slurries reporting unit in fiscal 2018, 2019 and 2020, and for precision optics in fiscal 2019 and 2020. Aside from those previously noted, all other reporting units were assessed for goodwill impairment using a step one approach.

The Flowchem LLC ("Flowchem") trade name, an indefinite-lived intangible asset, was assessed for impairment using a relief from royalty approach. Factors requiring significant judgment include projected revenue, royalty rates, terminal growth rates, and discount rates.

The Company provides disclosure of the potential risk of impairment when a reporting unit's fair value exceeds its carrying value by less than ten percent.

REVENUE RECOGNITION

Performance Obligations and Material Rights

The Company recognizes revenue using the five-step process of 1) identifying the contract, 2) identifying the performance obligation within the contract, 3) determining the transaction price, 4) allocating the transaction price to the performance obligations, and 5) recognizing the revenue as the performance obligations are satisfied through the transfer of control. A majority of the Company's contracts have a single performance obligation which represents, in most cases, the products, equipment or services being sold to the customer. Some contracts include delivery of free product that we have concluded represents a material right.

Contracts vary in length and payment terms vary depending on the products or services offered, however, the period of time between invoicing and when payment is due is typically not significant. As a result, we do not have significant financing components. Transaction price is determined upon establishment of the contract that contains the final terms of the sale, including the description, quantity, and price of goods or services purchased. In instances where we receive consideration from a customer prior to transferring goods or services to the customer under the terms of a sales contract, we record a contract liability until the performance obligation is satisfied. Contracts with prospective tiered price discounts require judgment in determining the transaction price. For sales contracts that contain multiple performance obligations, the Company allocates the transaction price to each performance obligation identified in the contract based on relative standalone selling prices or estimates of such prices. When we invoice for products shipped under contracts with multiple performance obligations, we defer a portion of the revenue associated with the material rights on the balance sheet as a contract liability.

The Company recognizes revenue related to product sales at a point in time following the transfer of control of such products to the customer, which generally occurs upon shipment, or delivery depending on the terms of the underlying contracts. Revenue is recognized on consignment sales when control transfers to the customer, generally at the point of customer usage of the product. For services provided to customers in the pipeline and adjacent industries, including preventive maintenance, repair, and specialized isolation sealing on pipelines and training, revenue is recorded at a point in time when the services are completed as this is when right to payment and customer acceptance occurs.

Costs to Obtain and Fulfill a Contract

For certain contracts within the Performance Materials segment, commissions are paid to sales agents based upon a percentage of end-customer invoice value after funds are received by the Company from its customers. As a practical expedient, the Company does not capitalize commissions as the associated contracts are generally one year or less in duration. For shipping and handling activities performed after a customer obtains control of the goods, the Company has elected to account for these costs as activities to fulfill the promise to transfer the goods and included in Cost of sales.

RESEARCH, DEVELOPMENT AND TECHNICAL

Research, development and technical costs are expensed as incurred and consist primarily of staffing costs, materials and supplies, depreciation, utilities and other facilities costs.

LEGAL COSTS

Legal costs are expensed as incurred.

INCOME TAXES

Current income taxes are determined based on estimated taxes payable or refundable on tax returns for the current year. Deferred income taxes are determined using enacted tax rates for the effect of temporary differences between the book and tax bases of recorded assets and liabilities. The effect on deferred tax assets and liabilities of changes in tax rates is recognized in income in the period that includes the enactment date. Provisions are made for both U.S. and any foreign deferred income tax liability or benefit. We assess whether or not our deferred tax assets will ultimately be realized and record an estimated valuation allowance on those deferred tax assets that may not be realized. We recognize the tax benefit of an uncertain tax position only if it is more likely than not that the tax position will be sustained by the taxing authorities, based on the technical merits of the position.

The Company recognizes interest and penalties related to unrecognized tax benefits within the Provision for income taxes. Accrued interest and penalties are included in Other long-term liabilities.

DERIVATIVES AND HEDGING

The Company is exposed to various market risks, including risks associated with interest rates and foreign currency exchange rates. We enter into certain derivative transactions to mitigate the volatility associated with these exposures. We have policies in place that define acceptable instrument types we may enter into and we have established controls to limit our market risk exposure. We do not use derivative financial instruments for trading or speculative purposes. In addition, all derivatives, whether designated in hedging relationships or not, are recorded on the Consolidated Balance Sheets at fair value on a gross basis.

Interest Rate Swaps

During the second quarter of fiscal 2019, we entered into a floating-to-fixed interest rate swap agreement to hedge the variability in London Inter-bank Offered Rate ("LIBOR") based interest payments on a portion of our outstanding variable rate debt. The fair value of our interest rate swaps is estimated using standard valuation models using market-based observable inputs over the contractual term, including one-month LIBOR-based yield curves, among others. We consider the risk of nonperformance, including counterparty credit risk, in the calculation of the fair value. We have designated these swap agreements as cash flow hedges. As cash flow hedges, unrealized gains are recognized as assets and unrealized losses are recognized as liabilities. Unrealized gains and losses are designated as effective or ineffective based on a comparison of the changes in fair value of the interest rate swaps and changes in fair value of the underlying exposures being hedged. The effective portion is recorded as a component of accumulated other comprehensive income or loss, while the ineffective portion is recorded as a component of Interest expense. Changes in the method by which we pay interest from one-month LIBOR to another rate of interest could create ineffectiveness in the swaps, and result in amounts being reclassified from other comprehensive income into Net income. Hedge effectiveness is tested quarterly to determine if hedge treatment is appropriate. Realized gains and losses are recorded on the same financial statement line as the hedged item, which is Interest expense.

Foreign Currency Contracts Not Designated as Hedges

On a regular basis, we enter into forward foreign exchange contracts in an effort to mitigate the risks associated with currency fluctuations on certain foreign currency balance sheet exposures. These foreign exchange contracts do not qualify for hedge accounting; therefore, the gains and losses resulting from the impact of currency exchange rate movements on our forward foreign exchange contracts are recognized as Other income (expense), net in the accompanying Consolidated Statements of Income in the period in which the exchange rates change.

SHARE-BASED COMPENSATION

The Company's long-term equity incentive plan authorizes the Compensation Committee of the Board of Directors to provide equity-based compensation in the form of stock options, restricted stock, restricted stock units ("RSUs"), and performance share units ("PSUs") for the purpose of providing our employees, officers, and non-employee directors incentives and rewards for performance. We also have an employee stock purchase plan ("ESPP"). All grants under share-based payment plans are accounted for at fair value at the date of grant. We recognize expense on share-based awards to employees expected to vest over the service period, which is the shorter of the period until the employees' retirement eligibility dates or the service period of the award.

EARNINGS PER SHARE

Basic earnings per share ("EPS") is calculated by dividing Net income available to common stockholders by the weighted-average number of common shares outstanding during the period, excluding the effects of unvested restricted stock awards with a right to receive non-forfeitable dividends, which are considered participating securities and are included in the calculation using the two-class method. Diluted EPS is calculated in a similar manner, but the weighted-average number of common shares outstanding during the period is increased to include the weighted-average dilutive effect of "in-the-money" stock options and unvested restricted stock shares using the treasury stock method.

EFFECTS OF RECENT ACCOUNTING PRONOUNCEMENTS

Recently Adopted Accounting Pronouncements

Accounting Standards Update ("ASU") 2016-02 "Leases" (Topic 842) changed the criteria for recognizing leasing transactions. The provisions of this guidance require a lessee to recognize a right of use asset and a corresponding lease liability for operating leases. Under this guidance, rental expense for operating leases, continues to be recognized on a straight-line basis over the non-cancelable lease term. As of October 1, 2019, the Company began applying the provisions of this standard prospectively for all lease transactions as of and after the effective date. The Company elected the package of practical expedients permitted under the transition guidance within the new standard, which among other things, allowed the historical lease classification to carry forward. We did not elect the hindsight practical expedient. Upon adoption, the Company recorded a lease liability of \$30,881 and a right of use asset of \$30,115. The difference between the right of use asset and lease liability primarily relates to deferred rent recorded prior to adoption. The new guidance did not have a material impact on our results of operations or cash flows for the year ended September 30, 2020. Refer to Note 14 of this Annual Report on Form 10-K for additional information regarding the Company's lease transactions.

ASU No. 2018-02 "Income Statement – Reporting Comprehensive Income" (Topic 220) allows for an optional one-time reclassification of the stranded tax effects resulting from the change in the U.S. federal corporate income tax rate under the Tax Cuts and Jobs Act (the "Tax Act") from Accumulated other comprehensive income to Retained earnings. The Company adopted this standard effective October 1, 2019, which resulted in an increase of \$488 to both Retained earnings and Accumulated other comprehensive loss.

Accounting Pronouncements Issued But Not Yet Adopted

ASU No. 2016-13, "Measurement of Credit Losses on Financial Instruments" (Topic 326) requires financial assets measured at amortized cost to be presented at the net amount expected to be collected using an allowance account and provides that credit losses relating to available-for-sale debt securities should be recorded through an allowance for credit losses. The guidance was amended through various ASU's subsequent to ASU 2016-13, all of which is effective for the Company beginning October 1, 2020. We are finalizing the impact of this standard on our financial statements and it is not expected to have a material impact to the Company's results of operations or financial condition.

ASU No. 2018-13 “Fair Value Measurement” (Topic 820): Disclosure Framework—Changes to the Disclosure Requirements for Fair Value Measurement provides specific guidance on various disclosure requirements in Topic 820, including removal, modification and addition to current disclosure requirements. ASU 2018-13 will be effective for us beginning October 1, 2020. We are finalizing the impact of this standard on our disclosures and do not expect the adoption to have a material impact in our disclosures.

ASU No. 2018-15 “Intangibles—Goodwill and Other—Internal-Use Software” (Subtopic 350-40): Customer’s Accounting for Implementation Costs Incurred in a Cloud Computing Arrangement That Is a Service Contract (a consensus of the FASB Emerging Issues Task Force) requires an entity (customer) in a hosting arrangement that is a service contract to follow the guidance in Subtopic 350-40 to determine which implementation costs to capitalize as an asset related to the service contract and which costs to expense. ASU 2018-15 will be effective for us beginning October 1, 2020. We are finalizing the impact of this standard on our financial statements and do not expect the adoption to have a material impact.

ASU No. 2019-12 “Income Taxes” (Topic 740): Simplifying the Accounting for Income Taxes was issued to simplify Topic 740 through improving consistency and removing certain exceptions to general principles. ASU 2019-12 will be effective for us beginning October 1, 2021. We are currently evaluating the impact of implementing this standard on our financial statements.

ASU No. 2020-04 “Reference Rate Reform” (Topic 848) - Facilitation of the Effects of Reference Rate Reform on Financial Reporting provides optional guidance for accounting for contracts, hedging relationships, and other transactions affected by the reference rate reform, if certain criteria are met. The provisions of this standard are available for election through December 31, 2022. We are currently evaluating the impact of the reference rate reform on our contracts and the resulting impact of adopting this standard on our financial statements.

3. REVENUE FROM CONTRACTS WITH CUSTOMERS

Disaggregated Revenue

The Company disaggregates revenue by product area and segment as it best depicts the nature and amount of the Company’s revenue. See Note 23 of this Annual Report on Form 10-K for more information.

Contract Balances

The following table provides information about contract liability balances:

	Consolidated Balance Sheet Location	September 30, 2020	September 30, 2019
Contract liabilities (current)	Accrued expenses, income taxes payable and other current liabilities	\$ 8,501	\$ 5,008
Contract liabilities (noncurrent)	Other long-term liabilities	1,288	1,130

The amount of revenue recognized during the year ended September 30, 2020 and 2019 that was included in the opening current contract liability balances in our Performance Materials segment was \$3,576 and \$4,989, respectively. The amount of revenue recognized during the year ended September 30, 2020 and 2019 that was included in our opening contract liability balances in our Electronic Materials segment was not material.

Transaction Price Allocated to Remaining Performance Obligations

The table below discloses (1) the aggregate amount of the transaction price allocated to performance obligations that are unsatisfied (or partially unsatisfied) as of the end of the reporting period for contracts with an original duration of greater than one year and (2) when the Company expects to recognize this revenue.

	Less Than 1 Year	1-3 Years	3-5 Years	Total
Revenue expected to be recognized on contract liability amounts as of September 30, 2020	\$ 1,446	\$ 1,288	\$ —	\$ 2,734

4. BUSINESS COMBINATION

On the Acquisition Date, the Company completed the Acquisition, and KMG's results of operations have been included in our Consolidated Statements of Income and Consolidated Statements of Comprehensive Income (Loss) from that date. The Acquisition was accounted for using the acquisition method of accounting and the total purchase consideration was \$1,513,235, including consideration transferred of \$1,536,452, less cash acquired of \$23,217. See below for a summary of the different components that comprise the total consideration.

	Amount
Total cash consideration paid for KMG outstanding common stock and equity awards	\$ 900,756
Cash provided to payoff KMG debt	304,648
Total cash consideration paid	1,205,404
Fair value of CMC common stock issued for KMG outstanding common stock and equity awards	331,048
Total consideration transferred	<u>\$ 1,536,452</u>

The following table sets forth the components of identifiable intangible assets acquired:

	Acquisition Date Fair Value	Estimated Useful Life (years)
Customer relationships - Flowchem	\$ 315,000	20
Customer relationships - Electronic chemicals	280,000	19
Customer relationships - all other	109,000	15-16
Technology and know-how	85,500	9-11
Trade name - Flowchem	46,000	Indefinite
Trade name - all other	7,000	1-15
EPA product registration rights	2,300	15
Total intangible assets	<u>\$ 844,800</u>	

The intangible assets subject to amortization have a weighted average useful life of 17.9 years. For intangible assets related to the wood treatment business, the remaining useful lives were limited to the end of the calendar year 2021.

The allocation of goodwill to each of the Electronic Materials and Performance Materials segments as a result of the Acquisition was \$259,859 and \$353,475, respectively.

The following unaudited supplemental pro forma information summarizes the combined results of operations as if the Acquisition had occurred on October 1, 2017.

	Year Ended September 30,	
	2019	2018
Revenue	\$ 1,099,674	\$ 1,063,563
Net income	67,722	50,055
Earnings per share - basic	\$ 2.34	\$ 1.74
Earnings per share - diluted	\$ 2.30	\$ 1.70

The following costs are included in the years ended September 30, 2019 and 2018:

- Non-recurring transaction costs of \$2,495 and \$33,208, respectively.
- Non-recurring transaction-related employee costs, such as accelerated stock compensation costs, retention and severance expense of \$427 and \$38,132, respectively.
- Non-recurring charge for fair value write-up of inventory sold of \$0 and \$14,869, respectively.

The historical financial information has been adjusted by applying the Company's accounting policies and giving effect to the pro forma adjustments, which consist of (i) amortization expense associated with identified intangible assets; (ii) depreciation of fixed asset step-up (for pre-Acquisition periods only); (iii) accretion of inventory step-up value; (iv) the elimination of Interest expense on pre-Acquisition KMG debt and replacement of Interest expense related to the Acquisition-related financing; (v) transaction-related costs; (vi) accelerated share-based compensation expense (pre-Acquisition periods only); (vii) retention and severance expense incurred as a direct result of the Acquisition; and (viii) an adjustment to tax-effect the aforementioned unaudited pro forma adjustments using an estimated weighted-average effective income tax rate of each entity and the jurisdictions to which the above adjustments relate. The pro forma consolidated results are not necessarily indicative of what the consolidated results actually would have been had the Acquisition been completed on October 1, 2017. The pro forma consolidated results do not purport to project future results of combined operations, nor do they reflect the expected realization of any revenue or cost synergies associated with the Acquisition.

5. FAIR VALUE OF FINANCIAL INSTRUMENTS

The following table presents financial instruments, other than debt, that we measured at fair value on a recurring basis at September 30, 2020 and 2019. See Note 13 of this Annual Report on Form 10-K for a discussion of our debt. In instances where the inputs used to measure the fair value of an asset fall into more than one level of the hierarchy, we have classified them based on the lowest level input that is significant to the determination of the fair value.

September 30, 2020	Level 1	Level 2	Level 3	Total Fair Value
Assets:				
Cash and cash equivalents	\$ 257,354	\$ —	\$ —	\$ 257,354
Other long-term investments	1,214	—	—	1,214
Derivative financial instruments	—	27	—	27
Liabilities:				
Derivative financial instruments	\$ —	\$ 38,157	\$ —	\$ 38,157

September 30, 2019	Level 1	Level 2	Level 3	Total Fair Value
Assets:				
Cash and cash equivalents	\$ 188,495	\$ —	\$ —	\$ 188,495
Other long-term investments	980	—	—	980
Liabilities:				
Derivative financial instruments	\$ —	\$ 24,244	\$ —	\$ 24,244

Our cash and cash equivalents consist of various bank accounts used to support our operations and investments in institutional money-market funds that are traded in active markets. We invest only in AAA-rated, prime institutional money market funds, comprised of high quality, short-term fixed income securities. Our other long-term investments represent the fair value of investments under our supplemental employee retirement plan ("SERP"), which is a non-qualified supplemental savings plan. The fair value of the investments is determined through quoted market prices within actively traded markets. Although the investments are allocated to individual participants and investment decisions are made solely by those participants, the SERP is a non-qualified plan. Consequently, the Company owns the assets and the related offsetting liability for disbursement until such time as a participant makes a qualifying withdrawal.

Our derivative financial instruments include foreign exchange contracts and an interest rate swap contract. During the second quarter of fiscal 2019, we entered into a floating-to-fixed interest rate swap contract to hedge the variability in LIBOR-based interest payments on a portion of our outstanding variable rate debt. The fair value of our derivative instruments is estimated using standard valuation models and market-based observable inputs over the contractual term, including one-month LIBOR-based yield curves for the interest rate swap, and forward rates and/or the Overnight Index Swap curve for forward foreign exchange contracts, among others. We consider the risk of nonperformance, including counterparty credit risk, in the calculation of the fair value of derivative financial instruments. See Note 15 of this Annual Report on Form 10-K for more information on our use of derivative financial instruments.

6. INVENTORIES

Inventories consisted of the following:

	September 30,	
	2020	2019
Raw materials	\$ 66,591	\$ 60,157
Work in process	15,148	12,940
Finished goods	77,395	72,181
Total	<u>\$ 159,134</u>	<u>\$ 145,278</u>

7. PROPERTY, PLANT AND EQUIPMENT

Property, plant and equipment consisted of the following:

	September 30,	
	2020	2019
Land	\$ 36,775	\$ 36,276
Buildings	166,907	142,585
Machinery and equipment	280,432	257,706
Vehicles	18,719	13,497
Furniture and fixtures	9,865	9,615
Information systems	56,573	46,516
Finance leases	2,514	1,200
Construction in progress	123,441	63,636
Total property, plant and equipment	<u>695,226</u>	<u>571,031</u>
Less: accumulated depreciation	<u>(333,159)</u>	<u>(294,213)</u>
Net property, plant and equipment	<u>\$ 362,067</u>	<u>\$ 276,818</u>

Depreciation expense was \$39,929, \$37,584 and \$17,255 for the years ended September 30, 2020, 2019 and 2018, respectively.

In fiscal 2020 and 2019, we recorded impairment charges of \$450 and \$4,063, respectively, of property, plant and equipment related to the wood treatment asset group, and adjusted the remaining useful lives such that they do not extend beyond the announced plant closures around the end of the calendar year 2021. See Note 10 of this Annual Report on Form 10-K for further information. We did not record any impairment expense on property, plant and equipment in fiscal 2018.

8. ASSET RETIREMENT OBLIGATIONS

The following table provides a roll-forward of the AROs reflected in the Company's Consolidated Balance Sheets:

	2020	2019
Beginning Balance	\$ 12,675	\$ —
Purchase Accounting in connection with the Acquisition	(860)	12,145
Liabilities settled	—	—
Accretion of discount	599	530
Estimate revision	(655)	—
Ending Balance at September 30	<u>\$ 11,759</u>	<u>\$ 12,675</u>

9. GOODWILL AND OTHER INTANGIBLE ASSETS

Goodwill activity for each of the Company's reportable segments for the years ended September 30, 2020 and 2019 is shown below:

	Electronic Materials	Performance Materials	Total
Balance at September 30, 2018	\$ 96,083	\$ 5,000	\$ 101,083
Foreign currency translation impact	(3,145)	4	(3,141)
Goodwill arising from the Acquisition	259,859	352,270	612,129
Balance at September 30, 2019	\$ 352,797	\$ 357,274	\$ 710,071
Foreign currency translation impact	7,628	(257)	7,371
Other	—	1,205	1,205
Balance at September 30, 2020	\$ 360,425	\$ 358,222	\$ 718,647

The components of other intangible assets are as follows:

	September 30, 2020			September 30, 2019		
	Gross Carrying Amount	Accumulated Amortization	Net	Gross Carrying Amount	Accumulated Amortization	Net
Other intangible assets subject to amortization:						
Customer relationships, trade names, and distribution rights	\$ 690,716	\$ 140,037	\$ 550,679	\$ 684,764	\$ 64,471	\$ 620,293
Product technology, trade secrets and know-how	122,135	49,228	72,907	123,948	37,993	85,955
Acquired patents and licenses	8,921	8,713	208	9,023	8,397	626
Total other intangible assets subject to amortization	821,772	197,978	623,794	817,735	110,861	706,874
Other intangible assets not subject to amortization:						
Other indefinite-lived intangibles*	47,170	—	47,170	47,170	—	47,170
Total other intangible assets not subject to amortization	47,170	—	47,170	47,170	—	47,170
Total other intangible assets	\$ 868,942	\$ 197,978	\$ 670,964	\$ 864,905	\$ 110,861	\$ 754,044

* Other indefinite-lived intangibles not subject to amortization primarily consist of trade names.

	Gross Carrying Amount			Balance at September 30, 2020	Accumulated Amortization	Net at September 30, 2020
	Balance at September 30, 2019	Impairment ¹	FX and Other			
Other intangible assets subject to amortization:						
Customer relationships, trade names, and distribution rights	\$ 684,764	\$ (1,419)	\$ 7,371	\$ 690,716	\$ 140,037	\$ 550,679
Product technology, trade secrets and know-how	123,948	(343)	(1,470)	122,135	49,228	72,907
Acquired patents and licenses	9,023	(102)	—	8,921	8,713	208
Total other intangible assets subject to amortization	817,735	(1,864)	5,901	821,772	197,978	623,794
Other intangible assets not subject to amortization:						
Other indefinite-lived intangibles*	47,170	—	—	47,170	—	47,170
Total other intangible assets not subject to amortization	47,170	—	—	47,170	—	47,170
Total other intangible assets	\$ 864,905	\$ (1,864)	\$ 5,901	\$ 868,942	\$ 197,978	\$ 670,964

¹ Refer to Note 10 of this Annual Report on Form 10-K for additional information regarding the impairment.

Amortization expense was \$85,557, \$59,931 and \$7,495 for fiscal 2020, 2019 and 2018, respectively. Estimated future amortization expense of intangible assets as of September 30, 2020 for the five succeeding fiscal years is as follows:

Fiscal Year	Estimated Amortization Expense
2021	\$81,985
2022	74,695
2023	62,879
2024	55,664
2025	50,526

As of September 30, 2020, the estimated fair value of the PIM reporting unit exceeded the carrying value by approximately 8% and no impairment was recognized. In estimating the fair value, the Company used the average of a discounted cash flows model and a market approach based on earnings before interest, taxes, and depreciation for a group of guideline comparable companies. The most significant estimates and assumptions inherent in the discounted cash flows model are the forecasted revenue growth rate, forecasted gross margin, the discount rate and the terminal growth rate. These assumptions are classified as level 3 inputs. The Company's projections for revenue and gross margin are based on the Company's multiyear forecast which reflects a recovery from the COVID-19 pandemic ("Pandemic") during the forecast period. The discount rate was based on an estimated weighted average cost of capital ("WACC") for the PIM reporting unit. The components of WACC are the cost of equity and the cost of debt, each of which requires judgment by management to estimate. The company developed its cost of equity estimate based on perceived risks and predictability of future cash flows.

The extent to which the Pandemic or future geopolitical events in the oil and gas industry may further impact our PIM business, operations, results of operations and financial condition is uncertain and difficult to estimate, however the impact could negatively affect future revenue and gross margin. The carrying value of the PIM reporting unit includes \$318.2 million of goodwill and \$46.0 million of trade-name intangible assets. Potential future impairments could be material to the Company's Consolidated Balance Sheets and to the Consolidated Statements of Income, but we do not expect them to affect the Company's reported Net cash provided by operating activities. No impairment charges to goodwill were recognized in any periods presented.

10. LONG-LIVED ASSET IMPAIRMENT - WOOD TREATMENT

As a result of to the previously announced planned closure of the Company's wood treatment business' facilities by approximately the end of calendar year 2021, the Company recognized non-cash pre-tax impairment charges in the Performance Materials segment of \$2,314 and \$67,372, for the years ending September 30, 2020 and 2019, respectively, for the wood treatment asset group which is also a reporting unit, and adjusted the remaining useful lives such that they do not extend beyond the announced plant closures. The Company recognized a tax benefit of \$608 and \$17,072, for the years ending September 30, 2020 and 2019, respectively in Provision for income taxes in the Consolidated Statements of Income.

The Company tested the recoverability of its long-lived assets and determined the carrying amount of the assets exceeded the sum of the expected undiscounted future cash flows. The resulting impairment charge of \$2,314 was recorded to reduce the carrying values of these assets to fair value and was allocated as follows:

	September 30,	
	2020	2019
Property, plant, and equipment, net	\$ 450	\$ 4,063
Other intangible assets – Product technology	343	9,651
Other intangible assets – Acquired patents and licenses	102	1,689
Other intangible assets – Customer relationships, distribution rights, and other	1,419	51,969
Total	\$ 2,314	\$ 67,372

Testing the assets for recoverability involves developing estimates of future cash flows directly associated with, and that are expected to arise as a direct result of, the use and eventual disposition of the assets. As the inputs for testing recoverability, including estimates of revenue and expenses, not generally observable in active markets, the Company considers such measurements to be Level 3 measurements in the fair value hierarchy. The duration of the revenue and expense estimates are limited to the period through the closure date.

The fair value of the wood treatment asset group was sufficient such that the recognized impairment was limited to long-lived assets and the reporting unit goodwill was not impaired, however, as the Company approaches the closure date of the facilities and there are lower estimated future cash flows, the carrying value of the wood treatment asset group and reporting unit will not be recoverable, resulting in future impairments. The remaining carrying value of the wood treatment business as of September 30, 2020 includes \$35.0 million and \$3.8 million of goodwill and intangible assets, respectively, which we anticipate will be periodically impaired through the closure date, resulting in no fair value ascribed to the wood treatment business by the date of closure. The amount of the periodic impairments will vary depending on the timing of the remaining future cash flows of the business.

11. OTHER LONG-TERM ASSETS

Other long-term assets consisted of the following:

	September 30,	
	2020	2019
Long-term right of use assets	\$ 30,999	\$ —
Long-term vendor contract assets	2,889	1,164
Long-term SERP investments	1,214	980
Prepaid unamortized debt issuance costs - revolver	537	709
Other long-term assets	4,368	2,858
Total	\$ 40,007	\$ 5,711

12. ACCRUED EXPENSES, INCOME TAXES PAYABLE AND OTHER CURRENT LIABILITIES

Accrued expenses, income taxes payable and other current liabilities consisted of the following:

	September 30,	
	2020	2019
Accrued compensation	\$ 46,465	\$ 33,809
Income taxes payable	16,216	15,725
Dividends payable	13,669	12,953
Interest rate swap liability	11,992	5,351
Contract liabilities (current)	8,501	5,008
Current portion of operating lease liability	6,513	—
Taxes, other than income taxes	5,044	6,281
Goods and services received, not yet invoiced	3,957	3,075
Accrued interest	29	3,739
KMG - Bernuth warehouse fire-related (See Note 20)	—	7,998
Other	9,056	9,679
Total	\$ 121,442	\$ 103,618

13. DEBT

Total debt consisted of the following:

	September 30,	
	2020	2019
Senior Secured Term Loan Facility, one-month LIBOR plus 2.00% and 2.25%, respectively	\$ 936,363	\$ 959,676
Less: Unamortized debt issuance costs	(14,949)	(17,900)
Total debt	921,414	941,776
Less: Current maturities and short-term debt	(10,650)	(13,313)
Total long-term debt excluding current maturities	\$ 910,764	\$ 928,463

Term Loan Facility

In connection with the Acquisition, we entered into a credit agreement, which provides for senior secured financing of up to \$1,265.0 million ("Credit Agreement"), which includes the Senior Secured Term Loan Facility ("Term Loan Facility") in an aggregate principal amount of \$1,065.0 million. During the first quarter of fiscal 2020, the Company amended the Credit Agreement ("Amended Credit Agreement") to reduce the interest rate on the Term Loan Facility. Borrowings under the Term Loan Facility bear interest at a rate per annum equal to, at the Company's option, either (a) a LIBOR, subject to a 0.00% floor, or (b) a base rate, in each case, plus an applicable margin of, in the case of borrowings under the Term Loan Facility, 2.00% for LIBOR loans and 1.00% for base rate loans. The borrowings are guaranteed by each of the Company's wholly-owned domestic subsidiaries and are secured by substantially all assets of the Company and of each subsidiary guarantor, in each case subject to certain exceptions.

The Term Loan Facility matures on November 15, 2025, and amortizes in equal quarterly installments of 0.25% of the initial principal amount beginning January 1, 2019. In addition, the Company is required to prepay outstanding loans under the Term Loan Facility, subject to certain exceptions, with up to 50% of the Company's annual excess cash flow, as defined under the Amended Credit Agreement, and 100% of the net cash proceeds of certain recovery events and non-ordinary course asset sales. We made total prepayments on the Term Loan Facility of \$10.0 million and \$100.0 million during the fiscal years ended September 30, 2020 and 2019, respectively.

At September 30, 2020, the fair value of the Term Loan Facility, using level 2 inputs, approximated its carrying value of \$936,363 as the loan bears a floating market rate of interest.

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In the second quarter of fiscal 2019, we entered into a floating-to-fixed interest rate swap contract to hedge the variability in our LIBOR-based interest payments on our Term Loan Facility balance. See Note 15 of this Annual Report on Form 10-K for additional information.

The Amended Credit Agreement contains certain affirmative and negative covenants that limit the ability of the Company, among other things and subject to certain significant exceptions, to incur debt or liens, make investments, enter into certain mergers, consolidations, asset sales and acquisitions, pay dividends and make other restricted payments and enter into transactions with affiliates. We believe we are in compliance with these covenants.

The Amended Credit Agreement contains certain events of default, including relating to a change of control. If an event of default occurs, the lenders under the Credit Facilities will be entitled to take various actions, including the acceleration of amounts due under the Credit Facilities.

As of September 30, 2020, scheduled principal repayments of the Term Loan Facility were:

Fiscal Year	Principal Repayments
2021	\$ 10,650
2022	10,650
2023	10,650
2024	10,650
2025	10,650
Thereafter	883,113
	<u>\$ 936,363</u>

Revolving Credit Facility

The Company has a revolving credit facility under the Amended Credit Agreement ("Revolving Credit Facility") with an aggregate principal amount of up to \$200.0 million, including a letter of credit sub-facility of up to \$50.0 million. Borrowings under the Revolving Credit Facility bear interest at a rate per annum equal to a base rate in each case, plus an applicable margin of 1.50% for LIBOR loans and 0.50% for base rate loans. The applicable margin for borrowings under the Revolving Credit Facility varies depending on the Company's first lien secured net leverage ratio. The Revolving Facility matures on November 15, 2023, the five-year anniversary of the Acquisition Date.

During the second quarter of fiscal 2020, the Company drew \$150.0 million under the Revolving Credit Facility as a precautionary measure in order to increase its cash position and preserve financial flexibility in light of uncertain global economic conditions resulting from the Pandemic. The entire amount, which was unused in full, was repaid in the fourth quarter of fiscal 2020 and no amount remains outstanding as of September 30, 2020.

14. LEASES

We lease certain vehicles, warehouse facilities, office space, machinery, and equipment under cancellable and noncancellable leases, most of which expire in five years and may be renewed at our option.

The components of lease expense are as follows:

Lease Components	Year Ended September 30, 2020
Operating lease cost	\$ 7,871
Variable and short-term costs	1,637
Total lease cost	<u>\$ 9,508</u>

Lease expense for the years ended September 30, 2019 and 2018 totaled \$7,975 and \$4,307, respectively.

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Supplemental balance sheet information related to leases is as follows:

Lease Components	Consolidated Balance Sheet Location	September 30, 2020
Lease right-of-use assets	Other long-term assets	\$ 30,999
Lease liabilities - current	Accrued expenses, income taxes payable and other current liabilities	\$ 6,513
Lease liabilities - non-current	Other long-term liabilities	25,967
Total lease liabilities		\$ 32,480
Weighted-average remaining lease term (in years)		7 years
Weighted-average discount rate		3.06 %

Future maturities of operating lease liabilities for the years ended September 30 are as follows:

Fiscal Year	Amount
2021	\$ 7,196
2022	6,672
2023	5,645
2024	4,242
2025	3,499
2026 and future years	8,261
Total future lease payments	35,515
Less: Imputed interest	3,035
Operating lease liability	32,480
Less: Current portion of operating lease liability	6,513
Long-term portion of operating lease liability	\$ 25,967

As of September 30, 2019, minimum lease payments under non-cancellable operating leases in excess of one year are as follows:

Fiscal Year	Amount
2020	\$ 6,984
2021	4,941
2022	4,291
2023	4,122
2024	3,710
Thereafter	12,010
Total future minimum lease payments	\$ 36,058

15. DERIVATIVE FINANCIAL INSTRUMENTS

We are exposed to various market risks, including risks associated with interest rates and foreign currency exchange rates. We enter into certain derivative transactions to mitigate the volatility associated with these exposures.

Cash Flow Hedges – Interest Rate Swap Contract

We have a floating-to-fixed interest rate swap contract to hedge the variability in LIBOR-based interest payments on a portion of our outstanding variable rate debt. The notional amount is scheduled to decrease bi-annually and will expire on January 31, 2024. Based on certain quantitative and qualitative assessments, we have determined that the hedge is highly effective and qualifies for hedge accounting. Accordingly, unrealized gains and losses on the hedge are recorded in other comprehensive income. Realized gains and losses are recorded on the same financial statement line as the hedged item, which is Interest expense.

Foreign Currency Contracts Not Designated as Hedges

We enter into forward foreign exchange contracts in an effort to mitigate the risks associated with currency fluctuations on certain foreign currency balance sheet exposures. These foreign exchange contracts do not qualify for hedge accounting; therefore, the gains and losses resulting from the impact of currency exchange rate movements on our forward foreign exchange contracts are recognized as Other income (expense), net in the accompanying Consolidated Statements of Income in the period in which the exchange rates change.

The notional amount of our derivative instruments are as follows:

	September 30,	
	2020	2019
Derivatives designated as hedging instruments		
Interest rate swap contract	\$ 571,000	\$ 699,000
Derivatives not designated as hedging instruments		
Foreign exchange contracts to purchase U.S. dollars	8,054	6,239
Foreign exchange contracts to sell U.S. dollars	25,105	24,270

The fair value of our derivative instruments included in the Consolidated Balance Sheets was as follows:

	Consolidated Balance Sheets Location	Derivative Assets		Derivative Liabilities	
		September 30,		September 30,	
		2020	2019	2020	2019
Derivatives designated as hedging instruments					
Interest rate swap contract	Accrued expenses, income taxes payable and other current liabilities	\$ —	\$ —	\$ 11,992	\$ 5,351
	Other long-term liabilities	—	—	26,000	18,841
Derivatives not designated as hedging instruments					
Foreign exchange contracts	Prepaid expenses and other current assets	27	—	—	—
	Accrued expenses, income taxes payable and other current liabilities	—	—	165	52

The following table summarizes the effect of our derivative instrument on our Consolidated Statements of Income:

		Gain (Loss) Recognized in Consolidated Statements of Income		
		Fiscal Year Ended September 30,		
		2020	2019	2018
Consolidated Statements of Income Location				
Derivatives designated as hedging instruments				
Interest rate swap contract	Interest expense	\$ (9,360)	\$ 524	\$ 515
Derivatives not designated as hedging instruments				
Foreign exchange contracts	Other income (expense), net	(222)	28	(1,569)

The following table summarizes the effect of our derivative instrument on Accumulated other comprehensive income:

		Amount of Gain (Loss) Recognized in Other Comprehensive Income		
		Fiscal Year Ended September 30,		
		2020	2019	2018
Derivatives designated as hedging instruments				
Interest rate swap contract		\$ (23,161)	\$ (23,667)	\$ 430

We expect approximately \$11,992 to be reclassified from Accumulated other comprehensive (loss) income into Interest expense during the next twelve months related to our interest rate swap based on projected rates of the LIBOR forward curve as of September 30, 2020.

16. ACCUMULATED OTHER COMPREHENSIVE INCOME (LOSS)

The table below summarizes the components of Accumulated other comprehensive income (loss), net of income tax expense (benefit).

	Year Ended September 30,		
	2020	2019	2018
Beginning Balance	\$ (23,238)	\$ 4,539	\$ 3,949
Foreign currency translation adjustment	19,642	(7,957)	(1,730)
Income tax expense (benefit)	(356)	(591)	2,409
Foreign currency translation adjustment, net of tax	19,286	(8,548)	679
Pension and other postretirement	891	(479)	(25)
Income tax expense (benefit)	156	30	(1)
Pension and other postretirement, net of tax	1,047	(449)	(26)
Unrealized gain (loss) on cash flow hedges:			
Change in fair value	(23,161)	(23,667)	430
Reclassification adjustment into earnings	9,360	(524)	(515)
Income tax expense	3,090	5,411	22
Unrealized loss on cash flow hedges, net of tax	(10,711)	(18,780)	(63)
Effect of the adoption of the stranded tax effect accounting standard	(497)	—	—
Income tax expense	9	—	—
Effect of the adoption of the stranded tax effect accounting standard, net of tax	(488)	—	—
Net Change	9,134	(27,777)	590
Ending Balance	\$ (14,104)	\$ (23,238)	\$ 4,539

During the first quarter of fiscal 2020, the Company adopted ASU No. 2018-02 regarding the reclassification of stranded tax effects resulting from the change in the U.S. federal corporate income tax rate under the Tax Act and as a result, we reclassified \$488 of stranded tax effects from Accumulated other comprehensive income to Retained earnings.

17. SHARE-BASED COMPENSATION PLANS

We grant share-based compensation to eligible participants under our 2012 Omnibus Incentive Plan (the "OIP"), which was amended as of March 2017, and prior to that under our 2000 Equity Incentive Plan (the "EIP"). The OIP allows for the granting of six types of equity incentive awards: stock options, restricted stock, restricted stock units, stock appreciation rights ("SARs"), performance-based awards, and substitute awards in connection with an acquisition (in the case of the Acquisition, "Replacement Awards"). The OIP authorizes up to 4,978 shares of stock to be granted thereunder, including up to 2,074 shares of stock in the aggregate of awards other than options or SARs and up to 2,539 incentive stock options. In addition, shares that become available from awards under the EIP and the OIP because of events such as forfeitures, cancellations or expirations will also be available for issuance under the OIP. Shares issued under our share-based compensation plans are issued from new shares rather than from treasury shares.

In fiscal 2019, in connection with the Acquisition, we awarded a total of 43,443 restricted stock unit awards to certain KMG employees in substitution for certain unvested restricted stock unit awards that KMG had awarded subsequent to the entry into the definitive agreement for the Acquisition, but prior to the Acquisition Date. The Replacement Awards vest in three equal installments on the first three anniversaries of the original award date. If the recipient was terminated without cause or resigned with good reason during the 18 months following the Acquisition Date, the Replacement Awards will have vested as of such termination date in a number of shares equal to 150% of the Replacement Award.

STOCK OPTIONS

Non-qualified stock options issued under the OIP are generally time-based and provide for a ten-year term, with options generally vesting equally over a four-year period. Non-qualified stock options granted to non-employee directors on an annual basis vest 100% on the first anniversary of the award date. Under the OIP employees may also be granted incentive stock options to purchase common stock at not less than the fair value on the date of the grant, but to date we have not granted incentive stock options.

The fair value of our share-based awards, as shown below, was estimated using the Black-Scholes model with the following weighted-average assumptions:

	Year Ended September 30,		
	2020	2019	2018
Weighted-average grant date fair value	\$ 39.68	\$ 27.34	\$ 26.59
Expected term (in years)	6.96	6.86	6.68
Expected volatility	32 %	26 %	26 %
Risk-free rate of return	1.6 %	2.8 %	2.4 %
Dividend yield	1.3 %	1.6 %	1.0 %

A summary of stock option activity is as follows:

	Stock Options	Weighted Average Exercise Price	Weighted Average Remaining Contractual Term (in years)	Aggregate Intrinsic Value (in thousands)
Outstanding at September 30, 2019	879	\$ 63.44		
Granted	121	129.60		
Exercised	(182)	51.50		
Forfeited or canceled	(11)	75.59		
Outstanding at September 30, 2020	807	\$ 75.87	6.2	\$ 54,078
Exercisable at September 30, 2020	499	\$ 58.27	5.1	\$ 42,184
Expected to vest at September 30, 2020	308	\$ 104.39	8.1	\$ 11,836

	Year Ended September 30,		
	2020	2019	2018
Intrinsic value of options exercised	\$ 19,077	\$ 20,711	\$ 30,345
Cash received from exercise of options	9,350	13,193	19,247
Tax benefit from exercise of options	3,629	4,449	7,503
Fair value of options vested	3,765	4,506	5,008

As of September 30, 2020, there was \$5,267 of total unrecognized share-based compensation expense related to unvested stock options. That cost is expected to be recognized over a weighted-average period of 2.3 years.

EMPLOYEE STOCK PURCHASE PLAN

The ESPP allows all full-time, and certain part-time, employees of our Company and its designated subsidiaries to purchase shares of our common stock through payroll deductions, subject to a maximum number of shares that a participant may purchase and a maximum dollar expenditure in any six-month offering period, and certain other criteria. The provisions of the ESPP allow shares to be purchased at a price no less than the lower of 85% of the closing price at the beginning or end of each semi-annual stock purchase period. As of September 30, 2020, a total of 291 shares are available for purchase under the ESPP.

The Black-Scholes model is primarily used in estimating the fair value of short-lived exchange traded options that have no vesting restrictions and are fully transferable. Because employee stock options and ESPP purchases have certain characteristics that are significantly different from traded options, and because changes in the subjective assumptions can materially affect the estimated value, our use of the Black-Scholes model for estimating the fair value of stock options and ESPP purchases may not provide an accurate measure. Although the value of our stock options and ESPP purchases are determined in accordance with applicable accounting standards using an option-pricing model, those values may not be indicative of the fair values observed in a willing buyer/willing seller market transaction.

	Year Ended September 30,		
	2020	2019	2018
Weighted-average grant date fair value	\$ 39.17	\$ 25.16	\$ 20.94
Shares issued	46	49	50
Expected term (in years)	0.5	0.5	0.5
Expected volatility	52 %	34 %	26 %
Risk-free rate of return	1.7 %	2.3 %	1.5 %
Dividend yield	1.3 %	1.6 %	1.1 %

RESTRICTED STOCK, RESTRICTED STOCK UNITS, AND PERFORMANCE SHARE UNITS

Under the OIP, employees and non-employees may be awarded shares of restricted stock or RSUs, which generally vest over a four-year period. Restricted shares under the OIP may be purchased and placed "on deposit" by executive officers pursuant to the 2001 Deposit Share Program. Shares purchased under this Deposit Share Program receive a 50% match in restricted shares that vest at the end of a three-year period, and are subject to forfeiture upon early withdrawal of the deposit shares. The fair value of our restricted stock and restricted stock unit awards represents the closing price of our common stock on the date of award. Share-based compensation expense related to restricted stock and RSU awards is recorded net of expected forfeitures.

In December 2017, we began awarding PSU awards to certain employees on an annual basis. These PSUs fully vest upon certification of performance achieved with respect to the PSU following the third anniversary of the performance period tied to the PSU, according to the terms and conditions of the relevant PSU award agreement. Stock-based compensation for the awards is recognized over the requisite service period (three years) beginning on the date of award through the end of the performance period based on the number of PSUs expected to vest under the awards at the end of the performance period. The expected amount of vesting is determined using certain performance measures and is re-evaluated at the end of each fiscal year through the end of the performance period. In addition, the PSUs awarded may be subject to downward or upward adjustment depending on the total shareholder return achieved by the Company during the particular performance period related to the PSUs, relative to the total shareholder return of the S&P SmallCap 600 Index or the S&P MidCap 400 Index, as specified in the respective PSU award agreement. We estimate fair value of the PSUs at award date by using a Monte Carlo simulation model. This model simulates the stock price movements of the Company and relevant Index constituents using certain assumptions, including the stock price of our company and relevant Index constituents, the risk-free interest rate and stock price volatility.

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A summary of the activity of the restricted stock awards, RSU awards, and PSU awards is presented below:

	Restricted Stock Awards and Units	Weighted Average Grant Date Fair Value
Nonvested at September 30, 2019	275	\$ 87.36
Granted ¹	88	125.14
Vested	(100)	74.65
Forfeited	(6)	83.65
Nonvested at September 30, 2020	257	\$ 104.83

¹ Includes PSUs awarded

	Year Ended September 30,		
	2020	2019	2018
Weighted average grant date fair value	\$ 104.83	\$ 87.36	\$ 70.42

The total fair value of restricted stock awards and RSUs vested during fiscal years 2020, 2019 and 2018 was \$7,481, \$11,060 and \$6,669, respectively. As of September 30, 2020, there was \$14,256 of total unrecognized share-based compensation expense related to unvested restricted stock awards and RSUs, including PSUs, under the OIP. That cost is expected to be recognized over a weighted-average period of 2.09 years.

SHARE-BASED COMPENSATION EXPENSE

Total share-based compensation expense and the classification of that expense in the Consolidated Statements of Income for the years ended September 30, 2020, 2019 and 2018, is as follows:

	Year Ended September 30,		
	2020	2019	2018
Cost of sales	\$ 2,863	\$ 2,727	\$ 2,450
Research, development and technical	2,090	2,150	1,940
Selling, general and administrative	11,443	13,350	14,128
Tax benefit	(3,162)	(3,767)	(4,306)
Total share-based compensation expense, net of tax	\$ 13,234	\$ 14,460	\$ 14,212

Total gross share-based compensation expense is attributable to the following awards:

	Year Ended September 30,		
	2020	2019	2018
Stock Options	\$ 4,406	\$ 4,267	\$ 6,392
Restricted stock, restricted stock units, and replacement awards	8,259	11,400	9,186
Performance share units	1,957	1,279	2,056
ESPP	1,774	1,281	885

18. EMPLOYEE RETIREMENT PLANS

Defined Contribution Plans

The Company has 401(k) defined contribution plans covering employees in the U.S., and the expense for the plans totaled \$7,658, \$6,698 and \$5,562 for the fiscal years ended September 30, 2020, 2019 and 2018, respectively.

The Company's United Kingdom and Singapore subsidiaries make contributions to retirement plans that function as defined contribution retirement plans. The contributions to those plans were approximately \$1,766 and \$1,356 for the fiscal years ended September 30, 2020 and 2019, respectively.

Pension Obligations in Foreign Jurisdictions

The Company has defined benefit plans covering employees in Japan, South Korea, and France as required by local law. These plans are unfunded. A summary of these combined plans are:

	September 30,	
	2020	2019
Projected benefit obligation	\$ 11,627	\$ 11,121
Accumulated benefit obligation	8,680	8,314
Pension cost included in Accumulated other comprehensive income (loss)	(764)	(1,811)
Weighted average discount rate	1.32 %	0.73 %
Weighted average rate of increases in future compensation levels	3.01 %	2.89 %

Benefit costs for the combined plans were \$1,403, \$1,345 and \$1,236 in fiscal years 2020, 2019 and 2018, respectively, consisting primarily of service costs. Net service costs are included in Cost of sales and Operating expenses, and all other costs are recorded in the Other income (expense), net in our Consolidated Statements of Income. Estimated future benefit payments are as follows:

Fiscal Year	Amount
2021	\$ 519
2022	542
2023	641
2024	661
2025	1,209
2026 to 2030	5,172

19. INCOME TAXES

Income before income taxes was as follows:

	Year Ended September 30,		
	2020	2019	2018
Domestic	\$ 94,002	\$ (45,364)	\$ 46,254
Foreign	79,345	108,470	115,457
Total	\$ 173,347	\$ 63,106	\$ 161,711

Taxes on income consisted of the following:

	Year Ended September 30,		
	2020	2019	2018
U.S. federal and state:			
Current	\$ 20,733	\$ 23,461	\$ 14,698
Deferred	(7,048)	(23,182)	10,347
Total	13,685	279	25,045
Foreign:			
Current	21,053	27,580	26,135
Deferred	(4,219)	(3,968)	488
Total	16,834	23,612	26,623
Total U.S. and foreign	\$ 30,519	\$ 23,891	\$ 51,668

The Provision for income taxes at our effective tax rate differed from the statutory rate as follows:

	Year Ended September 30,		
	2020	2019	2018
Federal statutory rate	21.0 %	21.0 %	24.5 %
U.S. benefits from research and experimentation activities	(1.5)	(2.9)	(0.8)
State taxes, net of federal effect	1.1	(4.7)	0.1
Foreign income at other than U.S. rates	1.7	10.3	1.2
Excess compensation	0.4	6.4	0.4
Share-based compensation	(2.2)	(7.2)	(4.3)
U.S. tax reform	—	14.1	11.2
Global Intangible Low Taxed Income ("GILTI")	—	3.1	—
Foreign derived intangible income	(3.4)	(3.9)	—
Change in reserve positions	1.9	0.3	(0.5)
Other, net	(1.4)	1.4	0.2
Provision for income taxes	17.6 %	37.9 %	32.0 %

The decrease in the effective tax rate during fiscal 2020 was primarily attributable to the absence of a discrete charge recorded in fiscal 2019 related to the final regulations issued under the Tax Act and the absence of unfavorable tax treatment of certain non-deductible costs related to the Acquisition. Additionally, the tax rate was favorably impacted by the final tax regulations issued in July 2020, which provided for a high-tax exception for those jurisdictions subject to the GILTI tax, for which the Company qualified.

The increase in the effective tax rate during fiscal 2019 was primarily due to increased tax expense related to the final regulations related to the Tax Act, which impacted our reserves for uncertain tax positions, and the unfavorable tax treatment of certain Acquisition-related costs. Partially offsetting these adverse items, the Tax Act reduced the corporate income tax rate to 21.0% effective January 1, 2018, resulting in a change in our blended tax rate of 24.5% in fiscal 2018 to 21.0% beginning with our fiscal 2019.

The accounting guidance regarding uncertainty in income taxes prescribes a threshold for the financial statement recognition and measurement of tax positions taken or expected to be taken on a tax return. Under these standards, we may recognize the tax benefit of an uncertain tax position only if it is more likely than not that the tax position will be sustained by the taxing authorities, based on the technical merits of the position.

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The following table presents the changes in the balance of gross unrecognized tax benefits during the last three fiscal years:

Balance September 30, 2017	\$	2,270
Additions for tax positions relating to the current fiscal year		263
Additions for tax positions relating to prior fiscal years		116
Lapse of statute of limitations		(1,215)
Balance September 30, 2018		1,434
Additions for tax positions relating to the current fiscal year		271
Additions for tax positions relating to prior fiscal years		9,839
Balance September 30, 2019		11,544
Additions for tax positions relating to the current fiscal year		4,691
Additions for tax positions relating to prior fiscal years		140
Reduction for tax positions relating to prior fiscal years		(1,337)
Balance September 30, 2020	\$	15,038

The entire balance of unrecognized tax benefits shown above as of September 30, 2020 and 2019, would affect our effective tax rate if recognized. Additions for tax positions of \$4,691 recorded in the current fiscal year are mainly due to liabilities related to mix of jurisdictional earnings from intercompany transactions. Interest accrued on our Consolidated Balance Sheets was \$233 and \$281 at September 30, 2020 and 2019, respectively, and any interest and penalties charged to expense in fiscal years 2020, 2019 and 2018 was immaterial.

At September 30, 2020, the tax periods open to examination by the U.S. federal, state and local governments include fiscal years 2013 through 2020, and the tax periods open to examination by foreign jurisdictions include fiscal years 2015 through 2020. We do not anticipate a significant change to the total amount of unrecognized tax benefits within the next 12 months.

Significant components of net deferred tax assets and liabilities were as follows:

	September 30,	
	2020	2019
Deferred tax assets:		
Employee benefits	\$ 8,920	\$ 5,719
Inventory	4,657	3,811
Accrued expenses	2,615	4,202
Share-based compensation expense	5,709	5,215
Credit and other carryforwards	5,803	9,743
Interest rate swap	8,506	5,412
Other	1,238	1,088
Valuation allowance	(2,948)	(2,574)
Total deferred tax assets	\$ 34,500	\$ 32,616
Deferred tax liabilities:		
Depreciation and amortization	\$ 131,237	\$ 140,092
Withholding on transition taxes	4,156	6,026
Other	3,606	1,926
Total deferred tax liabilities	\$ 138,999	\$ 148,044

As of September 30, 2020, the Company had foreign and domestic net operating loss carryforwards (“NOLs”) of \$1,025, which will expire over the period between fiscal year 2021 and fiscal year 2040. We have recorded a tax-effected valuation allowance of \$2,948 against the deferred tax assets related to certain foreign and U.S. federal and state NOLs, as well as on certain federal tax credit carryforwards. As of September 30, 2020, the Company had a U.S. federal and state tax credit carryforward of \$1,131, which will expire beginning in fiscal years 2021 through 2030.

Prior to enactment of the Tax Act, the Company did not record income tax expense for the undistributed earnings of its international subsidiaries. As a result of the Tax Act, the Company no longer intends to maintain the indefinite reinvestment assertion.

20. COMMITMENTS AND CONTINGENCIES

LEGAL PROCEEDINGS AND OTHER CONTINGENCIES

We periodically become a party to legal proceedings, arbitrations, regulatory proceedings, inquiries and investigations (“contingencies”) arising in the ordinary course of our business operations. The ultimate resolution of these contingencies is subject to significant uncertainty, and should we fail to prevail in any of them or should several of them be resolved against us in the same reporting period, these matters could, individually or in the aggregate, be material to our consolidated financial statements. One of these contingencies, related to Star Lake Canal, which we assumed in connection with the Acquisition, is discussed below. The ultimate outcome of these matters, however, cannot be determined at this time, nor can the amount of any potential loss be reasonably estimated, and as a result except where indicated no amounts have been recorded in our consolidated financial statements.

On May 31, 2019, a fire occurred at the warehouse of the wood treatment facility of KMG’s subsidiary, KMG-Bernuth, Inc.’s (“KMG-Bernuth”), in Tuscaloosa, Alabama, which processes pentachlorophenol (“penta”) for sale to customers in the U.S. and Canada. The warehouse fire, which we believe originated from non-hazardous waste materials temporarily stored in the warehouse for recycling purposes, caused no injuries and was extinguished in less than an hour. Company personnel investigated the incident, and KMG-Bernuth commenced cleanup with oversight from certain local, state and federal authorities. The carrying value of the warehouse and the affected inventory are not material. Applying the accounting guidance under ASC 410-30, Environmental Obligations and ASC 450, Contingencies, we determined that since we had environmental obligations as of the date of the fire, costs for the fire waste cleanup and disposal should be recognized to the extent they are probable and reasonably estimable. We recorded expense of \$1,551 and \$9,494 for the years ending September 30, 2020 and 2019, respectively. These disposal costs were charged to Cost of sales. Although we believe we have completed cleanup efforts related to the fire incident and the assessment of materials in the warehouse that had been impacted by the incident, there are potential other costs that cannot be reasonably estimated as of this time related to the fire incident due to the nature of federally-regulated penta-related requirements. We incurred significant fire waste cleanup and disposal costs and certain other costs related to the assessment of the impacted warehouse material due to these requirements, and we may incur additional costs related to the fire incident. We intend to continue to update the estimated losses as new information becomes available.

In addition, we are working with our insurance carriers on possible recovery of losses and costs related to the fire incident. We received \$468 of insurance recovery during the twelve months ended September 30, 2020 which was recorded in Cost of sales. At this point we cannot reasonably estimate whether we will receive any additional insurance recoveries, or if so, the amount of such recoveries. As such, no additional insurance recoveries have been recognized as of September 30, 2020.

Separately, in 2014, prior to the Acquisition, the United States Environmental Protection Agency (“EPA”) had notified KMG-Bernuth, that the EPA considered it to be a potentially responsible party under the Comprehensive Environmental Response, Compensation and Liability Act of 1980, as amended by virtue of its relationship with certain alleged predecessor companies, including Iacon, Inc (f/k/a Sonford Chemical Company) in connection with the Star Lake Canal Superfund Site near Beaumont, Texas. The EPA has estimated that the remediation will cost approximately \$22.0 million. KMG-Bernuth and approximately seven other parties entered into an agreement with the EPA in September 2016 to complete a remedial design phase of the remediation of the site. The remediation work will be performed under a separate future agreement. Although KMG-Bernuth has not conceded liability, a reserve in connection with the remedial design was established, and as of September 30, 2020, the reserve remaining was \$553.

We also may face other governmental or third-party claims, or otherwise incur costs, relating to cleanup of, or for injuries resulting from, contamination at sites associated with this or other past and present operations. We accrue for environmental liabilities when a determination can be made that they are probable and reasonably estimable. Other than as described herein, we are not involved in any legal proceedings that we believe could have a material impact on our consolidated financial position, results of operations or cash flows.

In addition, our Company is subject to extensive federal, state and local laws, regulations and ordinances in the U.S. and in other countries. These regulatory requirements relate to the use, generation, storage, handling, emission, transportation and discharge of certain hazardous materials, substances and waste into the environment. The Company, including its KMG entities, manage Environmental, Health and Safety (“EHS”) matters related to protection of the environment and human health, the cleanup of contaminated sites, the treatment, storage and disposal of wastes, and the emission of substances into the air or waterways, among other EHS concerns. Governmental authorities can enforce compliance with their regulations, and violators may be subject to fines, injunctions or both. The Company devotes significant financial resources to compliance, including costs for ongoing compliance.

Certain licenses, permits and product registrations are required for the Company’s products and operations in the U.S., Mexico and other countries in which it does business. The licenses, permits and product registrations are subject to revocation, modification and renewal by governmental authorities. In the U.S. in particular, producers and distributors of penta, which is a product manufactured and sold by KMG-Bernuth as part of the wood treatment business, are subject to registration and notification requirements under the Federal Insecticide, Fungicide and Rodenticide Act and comparable state law in order to sell this product in the U.S. Compliance with these requirements may have a significant effect on our business, financial condition and results of operations.

We are subject to contingencies, including litigation relating to EHS laws and regulations, commercial disputes and other matters. Certain of these contingencies are discussed above and below. The ultimate resolution of these contingencies is subject to significant uncertainty, and should we fail to prevail in any of them or should several of them be resolved against us in the same reporting period, these matters could, individually or in the aggregate, be material to the consolidated financial statements. The ultimate outcome of these matters cannot be determined at this time, nor can the amount of any potential loss be reasonably estimated, and as a result except where indicated no amounts have been recorded in our consolidated financial statements.

INDEMNIFICATION

In the normal course of business, we are a party to a variety of agreements pursuant to which we may be obligated to indemnify the other party with respect to certain matters. Generally, these obligations arise in the context of agreements entered into by us, under which we customarily agree to hold the other party harmless against losses arising from items such as a breach of certain representations and covenants including title to assets sold, certain intellectual property rights and certain environmental matters. These terms are common in the industries in which we conduct business. In each of these circumstances, payment by us is subject to certain monetary and other limitations and is conditioned on the other party making an adverse claim pursuant to the procedures specified in the particular agreement, which typically allow us to challenge the other party’s claims.

We evaluate estimated losses for such indemnifications under the accounting standards related to contingencies and guarantees. We consider such factors as the degree of probability of an unfavorable outcome and the ability to make a reasonable estimate of the amount of loss. To date, we have not experienced material costs as a result of such obligations and, as of September 30, 2020, have not recorded any liabilities related to such indemnifications in our financial statements as we do not believe the likelihood of such obligations is probable.

PURCHASE OBLIGATIONS

Purchase obligations include take-or-pay arrangements with suppliers, and purchase orders and other obligations entered into in the normal course of business regarding the purchase of goods and services. We have been operating under an abrasive particle supply agreement, the current term of which now runs through December 2022. As of September 30, 2020, purchase obligations include \$22,932 of contractual commitments related to this agreement. In addition, we have a purchase commitment of \$5,631 to purchase non-water based carrier fluid.

21. EARNINGS PER SHARE

Basic and diluted earnings per share were calculated as follows:

	Year Ended September 30,		
	2020	2019	2018
Numerator:			
Net income available to common shares	\$ 142,828	\$ 39,215	\$ 110,043
Less: income attributable to participating securities ¹	—	—	(123)
Net income available to common stockholders	\$ 142,828	\$ 39,215	\$ 109,920
Denominator:			
Weighted average common shares	29,136	28,571	25,518
Weighted average effect of dilutive securities	444	523	725
Diluted weighted average common shares	29,580	29,094	26,243
Earnings per share:			
Basic	\$ 4.90	\$ 1.37	\$ 4.31
Diluted	\$ 4.83	\$ 1.35	\$ 4.19

¹ Beginning in the first quarter of fiscal 2019, the amount of participating securities was no longer material and therefore, we have excluded such securities from our calculation of earnings per share in fiscal 2020 and 2019.

Shares excluded from the calculation of Diluted earnings per share as their inclusion would have been anti-dilutive were as follows:

	Year Ended September 30,		
	2020	2019	2018
Outstanding stock options	102	196	100

22. SEGMENT REPORTING

We identify our segments based on our management structure and the financial information used by our chief executive officer, who is our chief operating decision maker, to assess segment performance and allocate resources among our operating units. Historically, we operated in one industry segment – the development, manufacture and sale of CMP consumables products. In connection with the Acquisition, we reassessed our operating and reportable segments, and determined that we have the following two reportable segments:

Electronic Materials

Electronic Materials includes products and solutions for the semiconductor industry and consists of our CMP slurries business, CMP pads business, and electronic chemicals business.

Performance Materials

Performance Materials consists of our PIM business, wood treatment business, and QED business.

Beginning in fiscal 2019 and with the Acquisition, our chief operating decision maker evaluates segment performance based upon revenue and segment adjusted EBITDA. Segment adjusted EBITDA is defined as earnings before interest, income taxes, depreciation and amortization, adjusted for certain items that affect comparability from period to period. These adjustments include items related to the Acquisition, such as Acquisition and integration-related expenses, the impact of fair value adjustments to inventory acquired from KMG, certain costs related to the KMG-Bernuth warehouse fire, net of insurance recovery, asset impairment charges and net restructuring charges related to the wood treatment business and costs related to the Pandemic, net of grants received. We exclude these items from earnings when presenting our adjusted EBITDA measure because we believe they are not indicative of a segment's regular, ongoing operating performance. Adjusted EBITDA is also the basis of a performance metric for our fiscal 2020 Short-Term Incentive Program. In addition, our chief operating decision maker does not use assets by segment to evaluate performance or allocate resources, and therefore, we do not disclose assets by segment.

Since the two segments operate independently and serve different markets and customers, as a result there are no sales between segments. Revenue from external customers and segment adjusted EBITDA shown for Performance Materials for the year ended September 30, 2018 include the precision optics business. Revenue from external customers by segment are as follows:

	Year Ended September 30,		
	2020	2019	2018
Segment Revenue:			
Electronic Materials:			
CMP Slurries	\$ 480,617	\$ 460,053	\$ 476,828
Electronic Chemicals	316,253	278,413	—
CMP Pads	85,954	94,585	83,117
Total Electronic Materials	<u>882,824</u>	<u>833,051</u>	<u>559,945</u>
Performance Materials:			
PIM	141,503	140,553	—
Wood Treatment	62,655	31,898	—
QED	29,288	32,194	30,178
Total Performance Materials	<u>233,446</u>	<u>204,645</u>	<u>30,178</u>
Total	<u>\$ 1,116,270</u>	<u>\$ 1,037,696</u>	<u>\$ 590,123</u>

Capital expenditures by segment are as follows:

	Year Ended September 30,		
	2020	2019	2018
Capital Expenditures:			
Electronic Materials	\$ 26,536	\$ 40,166	\$ 18,668
Performance Materials	84,634	16,367	409
Corporate	11,344	5,663	3,918
Total	<u>\$ 122,514</u>	<u>\$ 62,196</u>	<u>\$ 22,995</u>

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Adjusted EBITDA by segment is as follows:

	Year Ended September 30,		
	2020	2019	2018
Net income	\$ 142,828	\$ 39,215	\$ 110,043
Interest expense	42,510	45,681	2,905
Interest income	(670)	(2,346)	(4,409)
Income taxes	30,519	23,891	51,668
Depreciation and amortization	127,737	98,592	25,876
EBITDA	342,924	205,033	186,083
Acquisition and integration-related expense	10,852	34,709	3,861
Charges related to asset impairment of wood treatment business	2,314	67,372	—
Costs related to KMG-Bermuth warehouse fire, net of insurance recovery	1,083	9,905	—
Costs related to the Pandemic, net of grants received	849	—	—
Charge for fair value write-up of acquired inventory sold	—	14,869	—
Net costs related to restructuring of the wood treatment business	(221)	1,530	—
Consolidated adjusted EBITDA	\$ 357,801	\$ 333,418	\$ 189,944
Segment adjusted EBITDA:			
Electronic Materials	\$ 299,037	\$ 294,902	\$ 222,019
Performance Materials	106,797	91,372	7,191
Unallocated corporate expenses	(48,033)	(52,856)	(39,266)
Consolidated adjusted EBITDA	\$ 357,801	\$ 333,418	\$ 189,944

The unallocated portions of corporate functions, including finance, legal, human resources, information technology, and corporate development, are not directly attributable to a reportable segment.

23. FINANCIAL INFORMATION BY GEOGRAPHIC AREA

Revenues are attributed to the U.S. and foreign regions based upon the customer location and not the geographic location from which our products were shipped. Financial information by geographic area was as follows:

	Year Ended September 30,		
	2020	2019	2018
Revenue:			
North America	\$ 399,993	\$ 372,247	\$ 79,019
Asia	546,866	515,833	471,215
Europe, Middle East, and Africa	169,099	149,305	39,889
South America	312	311	—
Total	\$ 1,116,270	\$ 1,037,696	\$ 590,123
Property, plant and equipment, net ¹ :			
North America	\$ 250,895	\$ 133,682	\$ 60,818
Asia	66,872	68,823	50,573
Europe	44,300	74,313	12
Total	\$ 362,067	\$ 276,818	\$ 111,403

¹ No individual countries other than the U.S. have material Property, plant and equipment

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The following table shows revenue from sales to customers in foreign countries that accounted for more than ten percent of our total revenue in fiscal 2020, 2019 and 2018:

	Year Ended September 30,		
	2020	2019	2018
Revenue:			
South Korea	\$ 127,972	\$ 135,844	\$ 136,403
Taiwan	133,059	125,895	130,500
China	113,570	*	97,254

* Not a country with more than 10% revenue.

SELECTED QUARTERLY OPERATING RESULTS

The following table presents our unaudited financial information for the eight quarterly periods ended September 30, 2020. This unaudited financial information has been prepared in accordance with accounting principles generally accepted in the United States of America, applied on a basis consistent with the annual audited financial statements and in the opinion of management, include all necessary adjustments, which consist only of normal recurring adjustments necessary to present fairly the financial results for the periods. The results for any quarter are not necessarily indicative of results for any future period.

SELECTED QUARTERLY OPERATING RESULTS (Unaudited and in thousands, except per share amounts)								
	September 30, 2020	June 30, 2020	March 31, 2020	Dec. 31, 2019	September 30, 2019	June 30, 2019	March 31, 2019	Dec. 31, 2018
Revenue	\$ 274,207	\$ 274,727	\$ 284,193	\$ 283,143	\$ 278,645	\$ 271,882	\$ 265,391	\$ 221,778
Cost of sales	157,144	152,973	163,091	154,461	165,535	156,492	150,571	122,445
Gross profit	117,063	121,754	121,102	128,682	113,110	115,390	114,820	99,333
Operating income (loss)	46,068	57,742	51,663	61,432	(17,623)	52,240	51,714	24,165
Net income (loss)	<u>\$ 36,855</u>	<u>\$ 34,525</u>	<u>\$ 32,899</u>	<u>\$ 38,549</u>	<u>\$ (20,243)</u>	<u>\$ 18,878</u>	<u>\$ 27,137</u>	<u>\$ 13,443</u>
Basic earnings (loss) per share ¹	<u>\$ 1.27</u>	<u>\$ 1.19</u>	<u>\$ 1.12</u>	<u>\$ 1.32</u>	<u>\$ (0.70)</u>	<u>\$ 0.65</u>	<u>\$ 0.94</u>	<u>\$ 0.50</u>
Diluted earnings (loss) per share ¹	<u>\$ 1.25</u>	<u>\$ 1.17</u>	<u>\$ 1.11</u>	<u>\$ 1.30</u>	<u>\$ (0.70)</u>	<u>\$ 0.64</u>	<u>\$ 0.92</u>	<u>\$ 0.48</u>

¹ The total of the individual quarters may not equal full year results as quarterly per share information is calculated using the quarterly weighted average shares.

SCHEDULE II - VALUATION AND QUALIFYING ACCOUNTS

The following table sets forth activities in our allowance for doubtful accounts:

Allowance For Doubtful Accounts	Balance At Beginning of Year	Amount of Charge (Benefit) To Expenses	Deductions and Adjustments	Balance At End of Year
Year ended:				
September 30, 2020	\$ 2,377	\$ (1,122)	\$ (672)	\$ 583
September 30, 2019	1,900	432	45	2,377
September 30, 2018	1,747	185	(32)	1,900

We have provided a valuation allowance on certain deferred tax assets. The following table sets forth activities in our valuation allowance:

Valuation Allowance	Balance At Beginning of Year	Amounts Charged To Expenses	Deductions and Adjustments	Balance At End of Year
Year ended:				
September 30, 2020	\$ 2,565	\$ 658	\$ (275)	\$ 2,948
September 30, 2019	133	2,432	—	2,565
September 30, 2018	2,271	—	(2,138)	133

MANAGEMENT RESPONSIBILITY

The accompanying consolidated financial statements were prepared by the Company in conformity with accounting principles generally accepted in the United States of America. The Company's management is responsible for the integrity of these statements and of the underlying data, estimates and judgments.

The Company's management establishes and maintains a system of internal accounting controls designed to provide reasonable assurance that its assets are safeguarded from loss or unauthorized use, transactions are properly authorized and recorded, and that financial records can be relied upon for the preparation of the consolidated financial statements. This system includes written policies and procedures, a code of business conduct and an organizational structure that provides for appropriate division of responsibility and the training of personnel. This system is monitored and evaluated on an ongoing basis by management in conjunction with its internal audit function.

The Company's management assesses the effectiveness of its internal control over financial reporting on an annual basis. In making this assessment, management uses the criteria set forth by the Committee of Sponsoring Organizations of the Treadway Commission in Internal Control – Integrated Framework (2013). Management acknowledges, however, that all internal control systems, no matter how well designed, have inherent limitations and can provide only reasonable assurance with respect to financial statement preparation and presentation. In addition, the Company's independent registered public accounting firm evaluates the Company's internal control over financial reporting and performs such tests and other procedures as it deems necessary to reach and express an opinion on the fairness of the financial statements.

In addition, the Audit Committee of the Board of Directors provides general oversight responsibility for the financial statements. Composed entirely of Directors who are independent and not employees of the Company, the Committee meets periodically with the Company's management, internal auditors and the independent registered public accounting firm to review the quality of financial reporting and internal controls, as well as results of auditing efforts. The internal auditors and independent registered public accounting firm have full and direct access to the Audit Committee, with and without management present.

/s/ David H. Li

David H. Li
Chief Executive Officer

/s/ Scott D. Beamer

Scott D. Beamer
Chief Financial Officer

/s/ Jeanette A. Press

Jeanette A. Press
Principal Accounting Officer

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

None.

ITEM 9A. CONTROLS AND PROCEDURES

EVALUATION OF DISCLOSURE CONTROLS AND PROCEDURES

Our management, with the participation of our Chief Executive Officer (CEO) and Chief Financial Officer (CFO), has conducted an evaluation of the effectiveness of the design and operation of our disclosure controls and procedures (as defined in Rule 13a-15(e) under the Securities Exchange Act of 1934, as amended (the “Exchange Act”), as of September 30, 2020. Based on that evaluation, our CEO and CFO have concluded that our disclosure controls and procedures were effective to ensure that information required to be disclosed in our Exchange Act reports is recorded, processed, summarized and reported within the time periods specified in the SEC's rules and forms, and to ensure that such information is accumulated and communicated to management, including the CEO and CFO, as appropriate to allow timely decisions regarding required disclosure.

While we believe the present design of our disclosure controls and procedures is effective enough to make known to our senior management in a timely fashion all material information concerning our business, we intend to continue to improve the design and effectiveness of our disclosure controls and procedures to the extent necessary in the future to provide our senior management with timely access to such material information, and to correct any deficiencies that we may discover in the future, as appropriate.

MANAGEMENT'S REPORT ON INTERNAL CONTROL OVER FINANCIAL REPORTING

Our management is responsible for establishing and maintaining adequate internal control over financial reporting for the Company. Internal control over financial reporting is defined in Rule 13a-15(f) or Rule 15d-15(f) promulgated under the Exchange Act as a process designed by, or under the supervision of, the Company's CEO and CFO, or person's performing similar functions, and effected by the Company's board of directors, management and other personnel to provide reasonable assurance regarding the reliability of our financial reporting and the preparation of financial statements for external purposes in accordance with generally accepted accounting principles in the United States of America. Internal control over financial reporting includes policies and procedures that: pertain to the maintenance of records that in reasonable detail accurately and fairly reflect our transactions and dispositions of the Company's assets; provide reasonable assurance that transactions are recorded as necessary for preparation of our financial statements in accordance with generally accepted accounting principles; provide reasonable assurance that receipts and expenditures of Company assets are made in accordance with management authorization; and provide reasonable assurance that unauthorized acquisition, use or disposition of Company assets that could have a material effect on our financial statements would be prevented or detected on a timely basis. 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.

Our management evaluated the effectiveness of our internal control over financial reporting based on the framework in *Internal Control-Integrated Framework* (2013) issued by the Committee of Sponsoring Organizations of the Treadway Commission (“COSO”). Based on this evaluation, our management concluded that the Company's internal control over financial reporting was effective as of September 30, 2020. The effectiveness of the Company's internal control over financial reporting as of September 30, 2020 has been audited by PricewaterhouseCoopers LLP, an independent registered public accounting firm, as stated in their report which appears under Item 8 of this Annual Report on Form 10-K.

CHANGES IN INTERNAL CONTROL OVER FINANCIAL REPORTING

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

INHERENT LIMITATIONS ON EFFECTIVENESS OF CONTROLS

Because of inherent limitations, our disclosure controls or our internal control over financial reporting may not prevent all errors and all fraud. A control system, no matter how well conceived and operated, can provide only reasonable, not absolute, assurance that the objectives of the control system are met. Further, the design of a control system must reflect the fact that there are resource constraints, and the benefits of controls must be considered relative to their costs. Because of the inherent limitations in all control systems, no evaluation of controls can provide absolute assurance that all control issues and instances of fraud, if any, within the Company have been detected. These inherent limitations include the realities that judgments in decision-making can be faulty, and that breakdowns can occur because of a simple error or mistake. Additionally, controls can be circumvented by the individual acts of some persons, by collusion of two or more people or by management override of the controls. The design of any system of controls also 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; over time, controls may become inadequate because of changes in conditions, or the degree of compliance with policies or procedures may deteriorate. Because of the inherent limitations in a cost-effective control system, misstatements due to error or fraud may occur and not be detected.

ITEM 9B. OTHER INFORMATION

None.

PART III

ITEM 10. DIRECTORS, EXECUTIVE OFFICERS AND CORPORATE GOVERNANCE

The information required by Item 10 of Form 10-K with respect to identification of directors, the existence of a separately-designated standing audit committee, identification of members of such committee, and identification of an audit committee financial expert, is incorporated by reference from the information contained in the sections captioned "Election of Directors" and "Board Structure and Compensation" in our definitive Proxy Statement for the Annual Meeting of Stockholders to be held March 3, 2020 (the "Proxy Statement"). In addition, for information with respect to the executive officers of our Company, see "Information about our Executive Officers" in Part I of this Annual Report on Form 10-K and the section captioned "Section 16(a) Beneficial Ownership Reporting Compliance" in the Proxy Statement. Information required by Item 405 of Regulation S-K is incorporated by reference from the information contained in the section captioned "Section 16(a) Beneficial Ownership Reporting Compliance" in the Proxy Statement.

We have adopted a code of business conduct for all of our employees and directors, including our principal executive officer, other executive officers, principal financial officer and senior financial personnel. A copy of our code of business conduct is available free of charge on our Company website at www.cmcmaterials.com. We intend to post on our website any material changes to, or waivers from, our code of business conduct, if any, within two days of any such event.

ITEM 11. EXECUTIVE COMPENSATION

The information required by Item 11 of Form 10-K is incorporated by reference from the information contained in the section captioned "Executive Compensation" in the Proxy Statement.

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

The information required by Item 12 of Form 10-K is incorporated by reference from the information contained in the sections captioned "Stock Ownership" and "Equity Compensation Plan Information for the year ended September 30, 2020" in the Proxy Statement.

ITEM 13. CERTAIN RELATIONSHIPS AND RELATED TRANSACTIONS AND DIRECTOR INDEPENDENCE

The information required by Item 13 of Form 10-K is incorporated by reference from the information contained in the section captioned "Certain Relationships and Related Transactions" in the Proxy Statement.

ITEM 14. PRINCIPAL ACCOUNTANT FEES AND SERVICES

The information required by Item 14 of Form 10-K is incorporated by reference from the information contained in the section captioned "Fees of Independent Auditors and Audit Committee Report" in the Proxy Statement.

PART IV

ITEM 15. EXHIBITS AND FINANCIAL STATEMENT SCHEDULES

(a) The following Financial Statements and Financial Statement Schedule are included in Item 8 herein:

1. Financial Statements:

Report of Independent Registered Public Accounting Firm
 Consolidated Statements of Income for the years ended September 30, 2020, 2019 and 2018
 Consolidated Statements of Comprehensive Income for the years ended September 30, 2020, 2019 and 2018
 Consolidated Balance Sheets at September 30, 2020 and 2019
 Consolidated Statements of Cash Flows for the years ended September 30, 2020, 2019 and 2018
 Consolidated Statements of Changes in Stockholders' Equity for the years ended September 30, 2020, 2019 and 2018
 Notes to the Consolidated Financial Statements

2. Financial Statement Schedule: Schedule II – Valuation and Qualifying Accounts for the years ended September 30, 2020, 2019 and 2018

3. Exhibits - The following exhibits are filed as part of, or incorporated by reference into, this Report on Form 10-K:

ITEM 16. FORM 10-K SUMMARY

None.

Exhibit No.	Description	Filed as an exhibit to, and incorporated by reference from		
		Form	File No.	Filing Date
2.1	Agreement and Plan of Merger, dated as of September 27, 2015, by and among NexPlanar Corporation, Cabot Microelectronics Corporation, Matrix Merger Co., and Shareholder Representative Services LLC solely in its capacity as representative.	8-K	000-30205	September 28, 2015
2.2	Agreement and Plan of Merger, dated as of August 14, 2018, by and among KMG Chemicals, Inc., Cabot Microelectronics Corporation, and Cobalt Merger Sub Corporation.	8-K	000-30205	August 17, 2018
3.2	(Fourth) Amended and Restated Bylaws of CMC Materials, Inc.	8-K	000-30205	October 1, 2020
3.3	(Second) Amended and Restated Certificate of Incorporation of CMC Materials, Inc.	8-K	000-30205	October 1, 2020
4.1	Form of CMC Materials, Inc. Common Stock Certificate.			
4.2	Description of the Company's Securities.			
10.1	CMC Materials, Inc. 2007 Employee Stock Purchase Plan, as Amended and Restated September 23, 2013.*†			
10.2	Form of Amended and Restated Change in Control Severance Protection Agreement.**	10-K	000-30205	November 25, 2008
10.3	Directors' Deferred Compensation Plan, as amended September 23, 2008.*†			
10.4	Form of Deposit Share Agreement.***	10-Q	000-30205	February 8, 2013
10.5	Adoption Agreement, as amended September 23, 2008, of Cabot Microelectronics Corporation Supplemental Employee Retirement Plan.*	10-K	000-30205	November 25, 2008

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10.6	Directors' Cash Compensation Umbrella Program.*†			
10.7	CMC Materials, Inc. Supplemental Employee Retirement Plan, as amended.*	10-K	000-30205	November 25, 2008
10.8	CMC Materials, Inc. 2012 Omnibus Incentive Plan, as amended effective March 7, 2017. *†			
10.9	Form of Cabot Microelectronics Corporation 2012 Omnibus Incentive Plan Non-Qualified Stock Option Grant Agreement (employees (including executive officers)).*	10-Q	000-30205	February 8, 2013
10.10	Form of Cabot Microelectronics Corporation 2012 Omnibus Incentive Plan Restricted Stock Award Agreement (employees (including executive officers)).*	10-Q	000-30205	February 8, 2013
10.11	Form of Cabot Microelectronics Corporation 2012 Omnibus Incentive Plan Non-Qualified Stock Option Grant Agreement (non-employee directors).*	10-Q	000-30205	August 8, 2012
10.12	Form of Cabot Microelectronics Corporation 2012 Omnibus Incentive Plan Restricted Stock Units Award Agreement (non-employee directors).*	10-Q	000-30205	August 8, 2012
10.13	Employment Offer Letter dated December 12, 2014 (David H. Li).*	10-Q	000-30205	February 6, 2015
10.14	CMC Materials, Inc. Short Term Incentive Program*†			
10.15	Cabot Microelectronics Corporation 2012 Omnibus Incentive Plan Fiscal Year 20[] Restricted Unit Award Agreement for United States Employees*	10-Q	000-30205	February 8, 2016
10.16	Cabot Microelectronics Corporation 2012 Omnibus Incentive Plan Fiscal Year 20[] Non-Qualified Stock Option Award Agreement for United States Employees*	10-Q	000-30205	February 7, 2018
10.17	Cabot Microelectronics Corporation 2012 Omnibus Incentive Plan Fiscal Year 20[] Restricted Stock Unit Award Agreement for United States Employees*	10-Q	000-30205	February 7, 2018
10.18	Cabot Microelectronics Corporation 2012 Omnibus Incentive Plan Fiscal Year 20[] Performance Share Unit Award Agreement for United States Employees*	10-Q	000-30205	February 7, 2018
10.19	Credit Agreement, dated as of November 15, 2018, by and among Cabot Microelectronics Corporation, the lenders party thereto and JPMorgan Chase Bank, N.A., as administrative agent.	8-K	000-30205	November 15, 2018
10.20	Amendment No. 1, dated December 20, 2019, to Credit Agreement, dated November 15, 2018, by and among Cabot Microelectronics Corporation, the lenders party thereto and JPMorgan Chas Bank, N.A., as administrative agent.	8-K	000-30205	December 24, 2019
21.1	Subsidiaries of CMC Materials, Inc.			
23.1	Consent of Independent Registered Public Accounting Firm.			
24.1	Power of Attorney.			
31.1	Certification of Chief Executive Officer as adopted pursuant to Section 302 of the Sarbanes-Oxley Act of 2002.			
31.2	Certification of Chief Financial Officer as adopted pursuant to Section 302 of the Sarbanes-Oxley Act of 2002.			
32.1	Certification pursuant to 18 U.S.C. Section 1350, as adopted pursuant to Section 906 of the Sarbanes-Oxley Act of 2002.			
101.INS	XBRL Instance Document – The Instance Document does not appear in the Interactive Data File because its XBRL tags are embedded within the Inline XBRL document.			
101.SCH	XBRL Taxonomy Extension Schema			
101.CAL	XBRL Taxonomy Extension Calculation Linkbase			

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101.DEF XBRL Taxonomy Extension Definition Linkbase

101.LAB XBRL Taxonomy Extension Label Linkbase

101.PRE XBRL Taxonomy Extension Presentation Linkbase

104 Cover Page Interactive Data File - The Cover Page Interactive Data File does not appear in the Interactive Data File because its XBRL tags are embedded within the Inline XBRL document.

* Management contract, or compensatory plan or arrangement.

** Substantially similar change in control severance protection agreements have been entered into with David H. Li, Scott D. Beamer, H. Carol Bernstein, Eleanor K. Thorp, Jeffrey M. Dysard, Colleen E. Mumford, Jeanette A. Press, and Daniel D. Woodland, with differences only in the amount of payments and benefits to be received by such persons.

*** Substantially similar deposit share agreements have been entered into with Scott D. Beamer, Jeffrey M. Dysard, David H. Li, and Eleanor K. Thorp with differences only in the amount of initial deposit made and deposit shares purchased by such persons.

† These documents are being re-filed solely to reflect the Company's name change.

SIGNATURES

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

CMC MATERIALS, INC.

Date: November 17, 2020 /s/ DAVID H. LI

David H. Li
President and Chief Executive Officer
[Principal Executive Officer]

Date: November 17, 2020 /s/ SCOTT D BEAMER

Scott D. Beamer
Vice President and Chief Financial Officer
[Principal Financial Officer]

Date: November 17, 2020 /s/ JEANETTE A. PRESS

Jeanette A. Press
Corporate Controller
[Principal Accounting Officer]

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

Date: November 17, 2020 /s/ WILLIAM P. NOGLOWS*

William P. Noglows
Chairman of the Board
[Director]

Date: November 17, 2020 /s/ DAVID H. LI

David H. Li
President and Chief Executive Officer
[Director]

Date: November 17, 2020 /s/ RICHARD S. HILL*

Richard S. Hill
[Director]

Date: November 17, 2020 /s/ BARBARA A. KLEIN*

Barbara A. Klein
[Director]

Date: November 17, 2020 /s/ PAUL J. REILLY*

Paul J. Reilly
[Director]

Date: November 17, 2020 /s/ SUSAN M. WHITNEY*

Susan M. Whitney
[Director]

Date: November 17, 2020 /s/ GEOFFREY WILD*

Geoffrey Wild
[Director]

* by H. Carol Bernstein as Attorney-in-fact pursuant to the requirements of Section 13 or 15(d) of the Securities Exchange Act of 1934, as amended.