Risk Factors Comparison 2024-02-15 to 2023-02-23 Form: 10-K

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In addition to the other information in this Annual Report on Form 10- K, the following risk factors should be carefully considered in evaluating us and our common stock. Any of the following risks, many of which are beyond our control, could materially and adversely affect our financial condition, results of operations or cash flows or cause our actual results to differ materially from those projected in any forward- looking statements. We may also face other risks and uncertainties that are not presently known, are not currently believed to be material or are not identified below because they are common to all businesses. Past financial performance may not be a reliable indicator of future performance and historical trends should not be used to anticipate results or trends in future periods. For more information, see " Cautionary ~~Statement~~ **Statements** " in Item 7 of this Annual Report on Form 10- K. ~~Risk Factor Summary~~ Risks Related to Our Business and Industry **Fluctuations** ~~• The impact of declines~~ in ~~industry or worldwide economic conditions. • Uncertain geopolitical conditions. • Variability of revenues and operating results. • The evolving nature of the industries we serve and the impact of changes in products and technology. • Supply chain risks. • The impact of the COVID- 19 pandemic. • Operation of a global business. • The impact of tariffs, export controls and other~~ -- **the** ~~trade laws and restrictions, especially with respect to China. • Customer concentration. • Continuing innovation and introduction of new products. • Risks related to competition. • Our ability to successfully acquire or integrate other businesses, form joint ventures or divest businesses. • The impact of disruptions to our operations. • The use of hazardous materials in our operations. • Loss of key employees. • Our ability to obtain, protect and enforce intellectual property rights. • The impact of information technology system failures, network disruptions and breaches in data security. • The impact of climate change. • The costs and reputational risk associated with our environmental, social and governance initiatives. Risks Related to Government Regulation • The impact of environmental laws and regulations. • Risks related to the regulatory environment. • Changes in taxation or adverse tax rulings. Risks Related to Our Merger with CMC Materials • The integration of CMC Materials. Risks Related to Our Indebtedness • The impact of our indebtedness. • Restrictions on our operations as a result of the terms of the Credit Agreements and the Indentures. Risks Related to Owning our Common Stock • The volatility of the price of our common stock. • Changes in capital allocation strategy. • Provisions in our charter documents and Delaware law may delay or prevent us from being acquired. Declines in the semiconductor industry or worldwide economic conditions may cause~~ demand for **semiconductors and the overall volume of semiconductor manufacturing may decrease demand for** our products ~~to decrease~~ and ~~may adversely affect our business. Declines in industry or worldwide economic conditions, including the prospect of a recession, rising inflation, fluctuating foreign currency exchange rates and interest rates or tightening credit markets,~~ may adversely affect our business. Our revenue is primarily dependent upon demand from **the** semiconductor **ecosystem** ~~manufacturers, which is largely driven by the current and anticipated demand for electronic products that utilize semiconductors~~ . **The** ~~Despite secular trends of increasing demand for semiconductors in applications such as smartphones, 5G wireless technology, cloud computing, the Internet of Things, machine learning, artificial intelligence, high performance computing, smart transportation, smart healthcare, gaming and virtual reality, the~~ semiconductor industry has historically been, and is likely to continue to be, cyclical with periodic ~~significant~~ downturns, resulting in ~~significantly~~ decreased demand for **our** products **. The semiconductor industry may be negatively impacted by factors** such as ~~ours~~ **decreased consumer spending, macroeconomic uncertainty and slow or negative economic growth. Each of these factors could decrease consumer spending and business investment in technologies and products that contain semiconductors** . We have previously experienced ~~significant~~ **a reduction in** revenue ~~deterioration~~ and operating losses **during** ~~due to severe~~ downturns in the semiconductor industry, which ~~often~~ **can** occur suddenly **. During such downturns, we typically experience greater pricing pressure and shifts in product and customer mix, which can adversely affect our gross margin and net income** . The semiconductor industry is also affected by seasonal shifts in demand, and as a result, we ~~expect~~ **may experience** short- term fluctuation **in our results** of ~~demand within several quarters~~ **operations from one period to the next** . We are unable to predict the timing, duration or severity of any **current or** future downturns in the semiconductor industry. **To** ~~During downturns and periods of soft demand, our revenue is reduced, and we typically experience greater pricing pressure and shifts in product and customer mix, which often adversely affect our gross margin and net income. Furthermore, to~~ remain competitive **in the semiconductor industry** , we ~~must~~ **may** maintain ~~our~~ - **or** ~~engineering, research and development~~ **even increase our ER & D** activity ~~,~~ **and** invest in our infrastructure **, even during downturns** ~~and maintain flexibility to respond to any increases in demand~~ . As a result **of such expenditures** , a lower volume of sales can have a large and disproportionate impact on our profitability. ~~Even moderate seasonality can cause~~ **The fluctuating nature of the semiconductor industry requires us to maintain flexibility to respond to changes in demand, particularly during industry downturns, which may impact our ability to effectively manage our production capacity, workforce and inventory. Additionally, we may incur unexpected or additional costs to align our operations with demand. If we do not, or are unable to, adequately anticipate changes in our business environment, we may lack the infrastructure, manufacturing capacity and resources to scale up our business to meet customer expectations and compete successfully during a period of growth. Conversely, we may expand our capacity too rapidly, resulting in excess fixed costs, and lower profitability. Global economic uncertainty may materially and adversely affect our business, financial condition and results of operations. Uncertain and volatile economic conditions, including uncertain and volatile financial markets, rising inflation and interest rates, economic slowdowns and / or recessions, national debt and bank failures, could materially and adversely impact** our operating results ~~to fluctuate significantly from one period to the next~~ . **Such** ~~Uncertain~~ **uncertain** and volatile ~~economic, political, public~~

~~health or business~~ conditions in any of our key sales **or manufacturing** regions can cause or exacerbate negative trends in business and consumer spending and have historically impacted customer demand for **our products and costs of manufacturing and delivering** our products. These conditions can cause material adverse changes in our results of operations and financial condition, including: • a decline in demand for our products, which would have an immediate **negative** impact on our revenues; • an increase in reserves for accounts receivable due to our customers' inability to pay us; • lower utilization of our manufacturing facilities, which could lead to lower margins; • an increase in write- offs for excess or obsolete inventory that we cannot sell; • potential impairment charges relating to goodwill, intangible assets, manufacturing equipment or other long- lived assets, to the extent that any downturn indicates that the carrying amount of the asset may not be recoverable; • **limiting our suppliers' ability to deliver parts and raw materials, which would negatively affect our ability to manage operations, manage our costs and sell our products; • consolidation or strategic alliances among other suppliers to semiconductor manufacturers, which could adversely affect our ability to compete effectively; •** greater challenges in forecasting operating results, making business decisions and identifying and prioritizing business risks; and • additional cost reduction efforts, including additional restructuring activities, which may adversely affect our ability to capitalize on opportunities. Our revenues and operating results ~~are variable~~ **have fluctuated in the past and may do so in the future, which could impact our stock price** . Our revenues and operating results may fluctuate significantly from quarter- to- quarter or year- to- year due to a number of factors, many of which are outside our control. We manage our expenses based in part on our expectations of future revenues. Because some of our expenses are relatively fixed in the short term, a change in the timing of revenue or the amount of profit we generate from a small number of transactions can unfavorably affect operating results in a particular period. Factors that may cause our financial results to fluctuate unpredictably include: • ~~economic conditions~~ **legal, tax, accounting or regulatory changes (including changes in import / export regulations and tariffs, such as regulations imposed by the U. S. government restricting exports to China) or changes in the interpretation or enforcement of existing requirements; • trends** in the semiconductor industry ~~or in the~~ **, macroeconomic and market conditions and geopolitical uncertainty, including impacts caused by** ~~other~~ -- **the** ~~industries we serve~~ **Russian invasion of Ukraine, the war between Israel and Hamas, the current conflict in the Red Sea or bank failures** ; • the size and timing of customer orders; • consolidation of our customers, which could impact their purchasing decisions and negatively affect our revenues; • procurement shortages, increased prices, the failure of suppliers to perform their obligations and additional expenses to respond promptly to any supply shortages or other supplier problems; • decisions to increase or accelerate our purchasing of raw materials, components or other supplies in an effort to mitigate supply risk; • changes in our capital expenditure requirements, such as our ~~KSP~~ **new** ~~facility~~ **facilities** in Taiwan and ~~our newly announced planned facility in~~ Colorado ~~Springs~~ , and the schedule and timing, including potential delays, thereof; • manufacturing difficulties; • customer decisions to decelerate orders in order to draw down their inventory; • customer cancellations of or delays in shipments, installations or customer acceptances or, alternatively, acceleration of orders from customers to increase their inventory; • our customers' rate of replacement of our consumable products or decision to delay expansion projects; • changes in average selling prices, customer mix and product mix; • our ability to develop, introduce and market new, enhanced and competitive products in a timely manner; • our competitors' introduction of new products; • disruptions in transportation, communication, demand, information technology **(" IT ")** or supply, including strikes, acts of God, wars, terrorist activities and natural or man- made disasters; • ~~legal, tax, accounting or regulatory changes (including changes in import / export regulations and tariffs) or changes in the interpretation or enforcement of existing requirements; •~~ changes in our estimated tax rate; and • foreign currency exchange rate fluctuations. **Interruptions in our supply chain** ~~The COVID- 19 pandemic has impacted~~ , **including those from our single** and **limited source suppliers,** could ~~further impact, many of these factors. We serve constantly evolving industries, and any failure to manage our business effectively during periods of rapid change may adversely~~ affect our ~~business performance~~ **ability to manufacture our products and meet demand, which, in turn, could have an adverse effect on our revenue** and results of operations ~~. Intense competition in the semiconductor industry often leads to rapid changes in products and technology. These changes, along with shifts in demands for semiconductors, can significantly alter demand for our products; the amount and mix of customers' spending on our products can significantly impact our results of operations. Changes in demand may arise from factors such as advances in fabrication processes, new and emerging technologies, end- user demand, customers' production capacity and customers' capacity utilization. We must accurately forecast demand for each of our products and effectively manage our resources and production capacity across our various businesses. Although we regularly reassess our allocation of resources in response to the changing business environment, we may incur unexpected or additional costs to align our operations with demand. If we do not adequately anticipate changes in our business environment, we may lack the infrastructure, manufacturing capacity and resources to scale up our business to meet customer expectations and compete successfully during a period of growth, or we may expand our capacity too rapidly, resulting in excess fixed costs~~ . Our ability to increase sales of our products ~~, particularly our capital equipment products,~~ depends in part upon our ability, in a very short timeframe, to ramp up our manufacturing capacity and to mobilize our supply chain. If we are unable to expand our manufacturing capacity on a timely basis, manage the expansion effectively and obtain larger quantities of raw materials, our customers could obtain products from our competitors, which would reduce our market share, harm our reputation as a trusted partner and impact our results of operations. **Ensuring** ~~These challenges have been and may continue to be exacerbated by the COVID- 19 pandemic. In 2022, we continued to face instances where our manufacturing capacity or supply chain was constrained and the lead time to manufacture and deliver our customers' products was extended. If we are unable to meet our customers' demand for our products or deliver our products within our customers' required lead times, our customers may seek to replace us with alternative suppliers. Additionally, in the last two years, we have seen increased inventory levels in~~ a **robust** ~~challenging supply chain environment. Failure to adjust our inventory to more normalized levels may lead to an~~ **and resilient** ~~increased risk of excess and obsolete inventory and harm our cash flow. Interruptions in our supply chain, including our single and limited source suppliers,~~

~~could affect our ability to manufacture our products, meet demand, increase costs and have an adverse effect on our revenue results of operations. Our~~ supply chain is critical **in order for us** ~~to the supply of our products and solutions~~ to meet the **demand,** quality ~~, demand~~ and ~~technology~~ **technological** requirements **of** our customers. We rely on the timely delivery of parts, materials and services, including components and subassemblies, from our suppliers and contract manufacturers. **While we seek to limit instances where we rely on sole or limited source suppliers and utilize** ~~Alternative~~ **alternative** sources to mitigate the risk that the failure of any single provider or supplier will adversely affect our business **, these strategies** are not feasible **or practical solution** in all circumstances. For example, we rely on single or limited source suppliers for certain raw materials that are critical to the manufacturing of our products, such as plastic polymers, filtration membranes, abrasive particles, petroleum coke and other materials. If we were to lose any one of these or other critical sources, or there is as an industry- wide increase in demand for, or the discontinuation of, raw materials **or other components** used in our products, it could be difficult for us, or we may be unable, to find an alternative supplier ~~or~~ **to provide certain** raw ~~material~~ **materials and components** , in which case our operations could be adversely affected. ~~When these events occur, we work proactively and collaboratively with the supplier to solve the manufacturing issue in order to reestablish the supply of these materials or find alternative materials and work with our customers through their vigorous qualification process.~~ Demand for semiconductors ~~, electronic products,~~ and other factors **outside of our control** ~~, such as the COVID- 19 pandemic and the conflict in Ukraine,~~ have resulted in, and may ~~continue to~~ **in the future** result in, a shortage of raw materials and components needed to manufacture and deliver our products, **higher raw materials** ~~as well as increased~~ costs **, costly** and ~~risks associated~~ **time- consuming re- qualification of products manufactured** with ~~qualifying products that are manufactured using~~ new raw materials and delays in **,** and unpredictability of **,** shipments due to transportation interruptions **. These results** ~~, all of which~~ could harm our reputation or the competitiveness of our products. Such shortages, delays and unpredictability have adversely impacted, and may continue to adversely impact ~~,~~ **or impact in the future (1)** our suppliers' ability to meet our demand requirements, **(2)** ~~have adversely impacted, and may continue to adversely impact,~~ our manufacturing operations ~~and~~ **, (3)** our ability to meet customer demand ~~and have impacted in the past~~ , **(4)** ~~and may impact in the future,~~ our gross margins and **(5)** our other operating results. Our actions to counteract adverse impacts to our gross margins and other operating results ~~,~~ could be unsuccessful ~~,~~ or **reduce** ~~could have the effect of reducing~~ demand, which would adversely impact our revenue. Additionally, our suppliers may not have the capacity to meet increases in our demand for raw materials **and other components** , in turn, making us unable to meet **customer** demand ~~from~~ **for** our ~~customers~~ **products** . If our suppliers or sub- suppliers are unable to maintain their operations, due to operational restrictions or financial hardship caused by an economic slowdown or recession, we may increase our safety stocks of raw materials or components or alter our payment terms with such suppliers, including prepaying for raw materials, which could put downward pressure on our cash flow. **Further** ~~The COVID- 19 pandemic and continuing governmental responses has and could materially adversely affect our financial condition and results of operations. The COVID- 19 pandemic has had~~ , **increased restrictions** ~~and continues to have, an impact on the global economy and continues to cause macroeconomic uncertainty. Governmental authorities around the globe implemented, and may again in the future implement, numerous and evolving measures in response to the virus. Although countries around the world largely reopened in 2022, there remains significant uncertainty in certain jurisdictions, most notably, China. Any future constraints, limitations or modifications~~ imposed on **a class** ~~our operations or business practices, or those~~ of ~~our suppliers~~ **chemicals known as per- and polyfluoroalkyl substances (" PFAS ")** , **which are used in a number** ~~may limit our ability to meet customer demand, cause us to increase our safety stock~~ of ~~certain~~ **products, including parts and** materials **that are incorporated into** ~~, reduce our productivity, slow or diminish our research and development activities, make~~ our products ~~less competitive~~ , **may negatively impact** ~~or~~ **our** ~~cause~~ **supply chain due to the potentially decreased availability,** ~~our~~ - **or non- availability** ~~customers to seek alternative suppliers and delay customer qualification activities~~ , ~~any~~ of **PFAS- containing products. Proposed regulations under consideration could require that we transition away from the usage of PFAS- containing products,** which could ~~harm~~ **adversely impact** our business, ~~reduce our profitability~~ **operations, revenue, costs, and competitive position. Suitable replacements** ~~or~~ **for** ~~have~~ **PFAS- containing parts and materials may not be available at similar costs, or at all. Because** a **significant amount** ~~material adverse effect on our financial condition and results~~ of ~~operations. The degree to which COVID- 19 impacts our results will depend on future developments, which are highly uncertain and cannot be predicted, including, but not limited to, the duration and spread of any future outbreaks, their severity, potential additional waves of infection, the emergence of more virulent or~~ **our sales** ~~more dangerous strains of the virus, the actions to mitigate the virus~~ and ~~its impact,~~ **manufacturing activity occurs outside** the **U** ~~development, distribution, efficacy and acceptance of vaccines, and how quickly and to what extent normal economic and operating conditions can resume~~ . ~~We~~ **S., we** are exposed to ~~the~~ risks ~~of~~ **inherent in** operating a global business ~~, as a significant amount of our sales and manufacturing activity occur outside the United States~~ . Sales to customers outside the ~~United States~~ **U. S.** accounted for approximately **75 %,** 76 % ~~,~~ **and** 77 % ~~and 75 %~~ of our net sales in **2023,** 2022 ~~,~~ **and** 2021 ~~and 2020~~ , respectively. We anticipate that international sales will continue to account for a majority of our net sales. In addition, a number of our key domestic customers derive a significant portion of their revenues from sales in international markets. We also manufacture a significant portion of our products outside the ~~United States~~ **U. S.** and depend on international suppliers for many of our parts and raw materials. We intend to continue to pursue opportunities in both sales and manufacturing internationally. Our international operations are subject to a number of risks and potential costs that could adversely affect our revenue and profitability, including: • ~~global trade issues and~~ changes ~~in~~ and uncertainties with respect to trade and export regulations **(including new and changing regulations for exports of certain technologies to China)** , trade policies and sanctions, tariffs, ~~and~~ international trade disputes ~~, including new and changing export regulations for certain exports to China, where we have significant business,~~ and any retaliatory measures, which **impact countries in which we conduct significant business** could **(1)** impose additional costs on our operations ~~and~~ **, (2)** limit our ability to operate our business and ~~which could~~ **(3)** adversely impact us, our customers or our suppliers; • positions taken by governmental agencies regarding possible national, commercial and / or security issues posed by the development, sale or export of certain **raw materials,** products and technologies; • geopolitical tensions or conflicts, such as Russia' s invasion of Ukraine ~~or~~ **, the war between Israel and Hamas, the current conflict in the Red Sea and** increasing tensions with China, **and other** political and economic instability and uncertainty, which may result in severely diminished liquidity and credit availability, rating downgrades of sovereign debt, declining valuation of certain investments, declines in consumer confidence, declines in economic growth, volatility in unemployment rates **, increased logistics costs and delays** and uncertainty about economic stability; • challenges in hiring and integrating workers in different countries; • challenges in managing a diverse workforce with different experience levels, languages, cultures, customs, business practices and worker expectations, along with differing employment practices and labor issues; • challenges of maintaining appropriate business processes, procedures and internal controls and complying with legal, environmental, health and safety, anti- bribery, anti- corruption **, data privacy, cybersecurity** and other regulatory requirements that vary by jurisdiction; • challenges in developing relationships with local customers, suppliers and governments; • fluctuating pricing and availability of raw materials and supply chain interruptions or slowdowns, including as a result of difficulties, financial or otherwise, faced by segments of the transportation industry; • public health crises, such as the COVID- 19 pandemic, and related implications thereof; • expense and complexity of complying with U. S. and foreign import and export regulations, including the ability to obtain **and renew** required import and export licenses; • fluctuations in interest rates and currency exchange rates, including the relative strength or weakness of the U. S. dollar against foreign currencies that are important to our business, including the Japanese yen, euro, Taiwanese dollar, Korean won, Chinese renminbi, Singapore dollar, Malaysian ringgit, Canadian dollar or Israeli shekel, which could cause our sales and profitability to decline; • liability for foreign taxes assessed at rates higher than those applicable to our domestic operations; • **imposition of a global minimum tax rate, including by the Organization of Economic Co- operation and Development (" OECD "); •** challenges and costs associated with the protection of our intellectual property throughout the world **; • challenges associated with managing global and regional third- party service providers, including certain engineering, software development, manufacturing, IT and other functions** ; and • customer or government efforts to encourage operations and sourcing in a particular country, such as Korea or China, including efforts to develop and grow local competitors, require local manufacturing, and provide special incentives to government- backed local customers to buy from local competitors. In the past, these factors have disrupted our operations and increased our costs, and we expect that these factors will continue to do so in the future. Furthermore, there is inherent risk, based on the complex relationships among China, Japan, Korea, Taiwan, and the ~~United States~~ **U. S.** , that political, diplomatic and national security influences could lead to trade disputes, impacts and / or disruptions, in particular those affecting the semiconductor industry. This can adversely affect our business with China, Japan, Korea, and / or Taiwan and ~~perhaps~~ **potentially** the entire Asia Pacific region or global economy. A significant trade dispute, impact and / or disruption in any area where we do business could have a materially adverse impact on our future revenue and profits. Tariffs, export controls and other trade laws and restrictions resulting from international trade disputes, strained international relations and changes to foreign and national security policy, especially as they relate to China, could have an adverse impact on our operations and reduce the competitiveness or availability of our products relative to local and global competitors. Tariffs, additional taxes, trade barriers and other measures, particularly those arising out of relations between the ~~United States~~ **U. S.** and China, may increase costs of raw materials and our manufacturing costs, decrease margins, reduce the competitiveness of our products or inhibit our ability to sell products or purchase necessary equipment and supplies, any of which could have a material adverse effect on our business, results of operations or financial condition. ~~For example, both~~ **Both** the ~~United States~~ **U. S.** and China have implemented several rounds of tariffs and ~~retaliations~~ **countermeasures** with respect to certain products imported from the other country, some of which have impacted certain raw materials we use. ~~Our operational changes in an effort to mitigate the impact of these tariffs on our products may not be successful.~~ In addition, we are subject to export control and economic sanctions laws and regulations that restrict the delivery of some of our products and services to certain **countries (and nationals thereof), to certain** end users, ~~countries~~ and **for** ~~nationals of~~ certain ~~countries~~ **end uses** . ~~In~~ **These restrictions may prohibit the transfer of** certain ~~circumstances, these restrictions may prohibit the transfer of certain~~ of our products, services and technologies, and ~~in other circumstances~~ they may require us to obtain a license from the U. S. government before delivering the controlled item or service. Obtaining export licenses may be difficult, costly and time- consuming, and ~~there is no assurance that~~ we ~~will be issued~~ **may fail to receive** licenses that we apply for on a timely basis or at all. We must also comply with export control and economic sanctions laws and regulations imposed by other countries. Our export and trade control compliance program may be ineffective or circumvented, exposing us to legal liabilities. Compliance with these laws could significantly limit our sales in the future. Changes in, and responses to, U. S. trade controls could reduce the competitiveness of our products and cause our sales to ~~drop~~ **decline** , which could have a material adverse effect on our business, financial condition and results of operations. Over the last several years, the U. S. government has significantly expanded export controls on certain technologies and commodities to certain markets, particularly with respect to semiconductor and other high technology exports to China. **On** ~~For example, on~~ October ~~7~~ **17** , ~~2022~~ **2023** , the U. S. ~~Commerce~~ Department of Commerce, Bureau of Industry and Security (" BIS ") announced ~~new~~ **updates to** export control regulations ~~that restrict~~ **, originally issued on October 7, 2022, regarding** the sale of certain products and services **related** to ~~some~~ **advanced computing items, semiconductor manufacturing equipment, and items that can support end uses related to the development and production of advanced- node integrated circuits and semiconductor manufacturing equipment, among others. The updated rules modify and expand restrictions on the sale of products and the provision of certain services by U. S. persons to certain** companies and domestic fabs **located** in **countries of concern, including** China **, without prior U. S. governmental authorization** . Additionally, effective June 29, 2020, the U. S. Department of Commerce imposed new export controls on the transfer of many U. S. products and technologies, including many commercial- grade electronics, to " military end users " in China, a term which may include many Chinese commercial companies that sell products to or do business with the military. These and other regulations have reduced our ability to sell our products to customers in China and it is possible future regulation could further reduce demand for our products. As a result of these restrictive measures, certain of our customers have made efforts to source products domestically in order to mitigate perceived risks to their supply chain. If these efforts are successful, are widespread amongst our customers and expand to our products and solutions broadly, overall global demand for our customers' products or for other products produced or manufactured in the United States or based on U. S. technology may be reduced, in turn reducing demand for our products, which could have a material adverse effect on our business, financial condition and results of operations. Furthermore, government authorities may take retaliatory actions, impose conditions that require the use of local suppliers or partnerships with local companies, or require the license or other transfer of intellectual property, which could have a significant adverse impact on our business. Such risks may be especially exacerbated as they relate to China, a market that is important to our business, representing approximately ~~15~~ **16** % of our sales in ~~2022~~ **2023** . A significant portion of our sales is concentrated on a limited number of key customers, and our net sales and profitability may materially decline if we were to lose one or more of these customers. Sales to a limited number of large customers constitute a significant portion of our overall revenue, shipments, cash flows, collections and profitability. Our top ten customers accounted for 43 %, 43 % and ~~46~~ **43** % of our net sales in **2023,** 2022 ~~, and~~ **and** 2021 ~~and 2020~~ , respectively. ~~Our~~ **We would have no or limited contractual recourse if our** customers ~~could~~ **decided to** stop **buying and** using our products in their manufacturing processes with limited advance notice to us ~~, and we would have limited or no contractual recourse~~ . The cancellation, reduction or deferral of purchases of our products by any one of these customers could significantly reduce our revenues in any particular quarter. If we were to lose any of our significant customers, if our products are not specified for our significant customers' products or if we suffer a material reduction in their purchase orders, our revenue could decline and our business, financial condition and results of operations could be materially and adversely affected. Due to the long design and development cycle and lengthy customer product qualification periods required for most of our products, we may be unable to replace these customers quickly, if at all. In addition, our principal customers hold considerable purchasing power and may be able to negotiate sales terms that result in decreased pricing, increased costs, ~~and / or~~ lower margins **and /** ~~for~~ **or limit** ~~us, and limitations on~~ our ability to share jointly **-** developed technology with others. The semiconductor industry may continue to undergo consolidation, and if any of our customers merge or are acquired, we may experience lower overall sales to the merged or combined companies. Our customer base is also geographically concentrated, particularly in Taiwan, Korea, Japan, China and the ~~United States~~ **U. S** . As a result, export regulations or other trends that apply to customers in certain countries, such as those in China, have exposed and may further expose our business and results of operations to greater volatility. The geographic concentration of our customer base could shift over time as a result of government policy and incentives to develop regional semiconductor industries. If we are unable to anticipate and respond to rapid technological change and customer requirements by continuing to innovate and introduce new and enhanced products and solutions, **we may experience a loss of market share, decreased sales, revenue, profitability and damage to** our **reputation** ~~business could be seriously harmed~~ . The semiconductor industry is subject to rapid technological change, changing customer requirements and frequent new product introductions. In our industry, the first company to introduce an innovative product that addresses an identified market need will often have a significant advantage over competing products. ~~For this reason, we make significant expenditures to research, develop, engineer and market new products and make significant capital investments in technology and manufacturing capacity in anticipation of future business and without any purchase commitment from our customers. We incurred $ 229. 0 million, $ 167. 6 million and $ 136. 1 million for engineering, research and development expense in 2022, 2021 and 2020, respectively, to support new product and technology development. In addition, we have been investing significantly in our manufacturing footprint, such as our KSP facility in Taiwan and our newly announced planned facility in Colorado Springs, to meet anticipated demand for our products.~~ Following development, it may take several years for sales of a new product to reach a substantial level ~~of sales~~ , if ever. If a product concept does not progress beyond the development stage or only achieves limited acceptance in the marketplace, we may not receive a direct return on our expenditures, we may lose market share and our revenue **,** and ~~our~~ profitability may decline. **In** ~~For example, in~~ the past, we incurred significant impairment charges for capital expenditures related to developing the capability to manufacture shippers and FOUPs for 450 ~~mm~~ **millimeter** wafers, which major semiconductor manufacturers announced that they would not initiate manufacturing for in the foreseeable future. We believe that our future success will depend upon our ability to continue to develop mission- critical solutions to maximize our customers' manufacturing yields and enable higher performance semiconductor devices. A failure to successfully anticipate and respond to technological changes by developing, marketing and manufacturing new products or enhancements to our existing products could harm our business prospects and significantly reduce our sales. ~~For example, as 3D NAND technology advances to higher densities, the conventional process used to etch critical features no longer works. Recognizing the need for a new chemistry, we developed a series of prototype formulations for highly selective nitride etch and developed a specialized liquid filter that removes contaminants while simultaneously maintaining the critical components that make the chemistry function. While we have achieved process- of- record for these specific etch processes with certain customers and we are preparing for rapid, high- volume ramp, we may not generate significant revenue from these solutions.~~ We cannot **guarantee** ~~assure you~~ that the new products and technology we choose to develop and market will be successful. In addition, if new products have reliability or quality problems, we may experience reduced orders, higher manufacturing costs, delays in acceptance and payment, additional service and warranty expense and damage to our reputation ~~. Competition from new or existing companies could harm our financial condition, results of operations and cash flow. We operate in a highly competitive industry. We face many competitors, some of which have substantially greater manufacturing, financial, research and development and marketing resources than we do. In addition, some of our competitors may have better- established customer relationships than we do, which may enable them to have their products specified for use more frequently and more quickly by these customers. We also face competition from smaller, regional companies that focus on serving customers in their regions. Further, customers continually evaluate the~~

~~benefits of internal manufacturing versus outsourcing, and a customer' s decision to internally manufacture products that we provide may negatively impact us. If we are unable to maintain our competitive position, we could experience downward pressure on prices, fewer customer orders, reduced margins, the inability to take advantage of new business opportunities and a loss of market share, any of which could have a material adverse effect on our results of operations. Further, we expect that existing and new competitors will improve their products and introduce new products with enhanced performance characteristics. The introduction of new products or more efficient production of existing products by competitors could diminish our market share and increase pricing pressure on our products. We may acquire other businesses, form joint ventures or divest businesses, any of which could negatively affect our financial performance. We intend to continue to engage in business combinations, acquisitions, joint ventures, investments, divestitures or other types of collaborations to address gaps in our product offerings, adjust our business and product portfolio to meet our ongoing strategic objectives, diversify into complementary markets, increase our scale or accomplish other strategic objectives. These transactions involve numerous risks to our business, financial condition and operating results, including but not limited to: • experiencing difficulty in identifying suitable acquisition candidates and completing transactions at appropriate valuations, in a timely manner, on a cost- effective basis or at all, due to substantial competition for acquisition targets; • inability to successfully integrate any acquired businesses into our business operations; • failure to realize the anticipated synergies or other benefits of any such transaction; • entering into markets in which we have limited or no prior experience; • finding acquirors and obtaining adequate value for businesses that no longer meet our objectives; • inability to complete proposed or pending transactions due to factors such as the failure or inability to obtain regulatory or other approvals; • requirements imposed by government regulators in connection with their review of a transaction, which may include, among other things, divestitures and restrictions on the conduct of our existing business or the acquired business; • undertaking multiple transactions at the same time in order to take advantage of acquisition or divestiture opportunities that do arise, which could strain our ability to effectively execute and integrate such transactions; • diversion of management' s attention from our day- to- day business due to dedication of significant management resources to such transactions; • employee uncertainty and lack of focus during the integration process that may also disrupt our business; • the risk of litigation or claims associated with a proposed or completed transaction; • challenges associated with managing new, more diverse and more widespread operations, projects and people, potentially located in regions where we have not historically conducted or operated our business; • dependence on unfamiliar or less secure supply chains and inefficient scale of the acquired entity; • increasing costs of performing due diligence to meet the expectations of investors and government regulators; • despite our due diligence, we could assume unknown, underestimated or contingent liabilities, such as potential environmental, health and safety liabilities, any of which could lead to costly litigation or mitigation actions; • an acquired technology or product may have inadequate or invalid intellectual property protection or may be subject to claims of infringement by a third party, which may result in claims for damages and lower than anticipated revenue; • we could experience negative effects on our reported results of operations from dilutive results from operations and / or from future potential impairment of acquired assets, including goodwill, related to acquisitions; • an acquired company may have inadequate or ineffective internal controls over financial reporting, disclosure controls and procedures, cybersecurity, privacy, environmental, health and safety, anti-bribery, anti- corruption, human resource or other policies or practices, which may require unexpected or additional integration, mitigation and remediation costs; • reductions in cash or increases in debt to finance transactions, which reduce the cash flow available for general corporate or other purposes, including share repurchases and dividends; and • difficulties in retaining key employees or customers of an acquired business~~ . Manufacturing interruptions or delays, or other disruptions to our operations, could adversely affect our business, financial condition and results of operations. Our manufacturing processes are complex and require the use of expensive and technologically sophisticated equipment and materials. These processes are frequently modified to improve manufacturing yields, process stability and product quality. We have, on occasion, experienced manufacturing difficulties, such as critical equipment breakdowns or the introduction of impurities in the manufacturing process. Any future difficulties could cause lower yields, make our products unmarketable and / or delay deliveries to customers. In addition, any modification to the manufacturing process of a product could require that the product be re- qualified by customers, which can increase our costs and delay our ability to sell this product to our customers. ~~These and other manufacturing difficulties may result in the loss of sales and exposure to warranty and product liability claims. Some of our products are manufactured at only one or two facilities in different countries, many of which are subject to severe weather events and natural catastrophes, such as typhoons in Taiwan, Malaysia and China, earthquakes in Japan and Taiwan, hurricanes in east Texas and Florida, severe winter weather in Texas, wildfires in California and Colorado and flooding in Arkansas. Our suppliers and customers face similar dangers. Our continuity plans designed to mitigate the impact of natural disasters on our operations may be insufficient, and any catastrophe may disrupt our ability to manufacture and deliver products to our customers, resulting in an adverse impact on our business and results of operations. A disruption at our manufacturing facilities could impact sales of the products manufactured at those facilities until another facility could commence or expand production of those products, and disruptions at our other facilities may similarly adversely affect our operations. In addition to natural disasters, disruptions may be caused by other factors, including civil unrest, outbreaks of disease, terrorist actions or other events outside our control.~~ We have moved, and we may again move, the manufacture of certain products from one plant to another. If we fail to transfer and re- establish the manufacturing processes in the destination plant efficiently and effectively, we may not be able to meet customer demand, we may lose credibility with our customers and our business may be harmed. Even if we successfully move our manufacturing processes, we may not achieve the anticipated levels of cost savings or efficiencies, if any **. These and other manufacturing difficulties may result in the loss of sales and exposure to warranty and product liability claims. Disruptions to our operations may be caused by factors outside of our control, including severe weather events and natural catastrophes, civil unrest, outbreaks of disease, and terrorist actions. Our continuity plans designed to mitigate the impact of disruptions to our operations may be insufficient, and any prolonged disruption**

may impede our ability to manufacture and deliver products to our customers, resulting in an adverse impact on our business and results of operations . Our operations use hazardous materials that expose us to various risks, including potential liability for personal injury and potential remediation obligations. Our operations involve, and we are exposed to the risks associated with, the use and manufacture of hazardous materials. In particular, we manufacture specialty chemicals, which is an inherently hazardous process that may result in accidents, and store and transport hazardous raw materials, products and waste in, to and from various facilities. Potential risks that may disrupt our operations or expose us to significant losses and liabilities include explosions and fires, chemical spills and other discharges, releases of toxic or hazardous substances or gases, and pipeline and storage tank leaks and ruptures. These and other hazards may result in **(1)** liability for personal injury, death, damage to property and contamination of the environment; **(2)** suspension of operations; **(3)** the imposition of civil or criminal fines, penalties and other sanctions; **(4)** cleanup costs; **(5)** claims by governmental entities or third parties; **(6)** reputational harm; **(7)** increases in our insurance costs; and **(8)** other adverse impacts on our results of operations. Moreover, a failure of one of our products at a customer site could interrupt the business operations of the customer. For example, while we believe that our SDS and VAC delivery systems are safe to transport, store and deliver toxic gases, any leakage could cause serious damage, including injury or death, to any person exposed to those toxic gases, potentially creating significant product liability exposure for us. Our insurance coverage may be inadequate to satisfy any such liabilities, and our financial results or financial condition could be adversely affected. **We carry a significant amount of goodwill on our balance sheet. As of December 31, 2023, we had goodwill of $ 3, 945. 9 million. The future occurrence of a potential indicator of impairment, such as a significant adverse change in business climate, an adverse action or assessment by a regulator, unanticipated competition, a material negative change in relationships with significant customers, strategic decisions made in response to economic or competitive conditions, loss of key personnel, or a more- likely- than- not expectation that a reporting unit or a significant portion of a reporting unit will be sold or disposed of, could result in goodwill impairment charges. We have recorded goodwill impairment charges in the past, and such charges have materially affected our historical results of operations. For additional information, see Note 10 – Goodwill and Intangible Assets to the accompanying consolidated financial statements.** Loss of any of our key personnel could harm our business, and our inability to attract and retain new qualified personnel could inhibit our ability to operate and grow our business successfully. Many of our key personnel have significant experience in the semiconductor industry and deep technical expertise. The loss of the services of any of our key employees or an inability to attract, **hire,** train and retain qualified and skilled employees, particularly research and development and engineering personnel, **including as a result of changes to immigration policies,** could **cause business interruptions and** inhibit our ability to operate and grow our business. As the semiconductor industry has grown in recent years, competition for qualified talent, particularly those with significant industry experience, has intensified. **We have** ~~During 2022, we~~ experienced **in the past** , and may in the future continue to experience, an increasingly competitive and constrained labor market, which may limit our ability to add headcount required to meet our customers' demand, decrease our productivity due to an influx of inexperienced workers and cause our labor costs to increase and our profitability to decline. As a result, the difficulty and costs associated with attracting and retaining employees has risen and may continue to rise. If we fail to obtain, protect and enforce intellectual property rights, our business and prospects could be harmed. Our future success and competitive position depend in part upon our ability to obtain, maintain and enforce intellectual property rights. We rely on patent, trade secret and trademark laws to protect many of our major product platforms. Although we often file **new** applications for ~~additional~~ patents, our pending applications may not be approved. Moreover, any patents that we own or obtain may not provide us with any competitive advantage ~~,~~ **or** may be designed around ~~and~~ **.** ~~these~~ **These** patents may **also** expire or be challenged, invalidated, circumvented, rendered unenforceable or otherwise compromised by third parties. In addition, any failure to obtain intellectual property protection in the international jurisdictions we serve could expose us to increased competition, which could limit our growth and future revenue. The confidentiality agreements we enter into with our employees and certain third parties to protect our proprietary information and technology may be inadequate to protect our interests, and the remedies available to us for any breach may not adequately mitigate any breach ~~or our~~ **. Our** confidential and proprietary information and technology may be replicated or obtained through lawful means. Additionally, we may lose trade secret protection as a result of ~~the~~ actions or omissions by us, our employees or third parties. **Furthermore, the failure** ~~Any weakness in our ability~~ to ~~protect our~~ **effectively implement artificial intelligence strategies may result in the loss of** intellectual property **and raise complex compliance, intellectual property and other issues. Infringement or misappropriation of our intellectual property rights could result in uncompensated lost market and revenue opportunities, which** could adversely affect our business ~~,~~ **and** financial condition ~~and results of operations~~ . Third parties may misappropriate our intellectual property rights, and disputes regarding intellectual property rights may arise. We may bring litigation in order to enforce our patents, copyrights or other intellectual property rights, to protect our trade secrets, to determine the validity and scope of the proprietary rights of others or to defend against claims of infringement. Such litigation could **(1)** result in substantial costs ~~,~~ **and the** diversion of resources, **(2)** require us to pay damages or royalties, ~~require us to~~ alter our products or processes, or ~~require us to~~ obtain a license **to continue selling the impacted product** , which we may be unable to do on commercially acceptable terms, or at all ~~, to continue selling the impacted product,~~ and ~~could~~ **(3)** negatively affect our sales, profitability and prospects ~~. From 2015 until 2020, we were party to litigation to enforce our intellectual property rights against Gudeng Precision Industrial Co., Ltd. for their patent infringement. We settled this dispute in 2020 by licensing certain of our intellectual property rights to Gudeng. In 2021, Gudeng filed a patent lawsuit against us, and the lawsuit is pending. We are party to ongoing litigation with Dupont relating to claims that certain Dupont products infringe on certain of our CMP slurry patents~~ . We continue to vigorously defend and enforce our patents and rights, which will cause us to incur costs. We may initiate other costly litigation against our competitors or other third parties in order to protect our intellectual property rights. We cannot predict how any existing or future litigation will be resolved or what impact it may have on us. **From time to time third parties have asserted, and may continue to assert, intellectual property**

claims against us and our products. Claims that our products infringe the rights of others, whether or not meritorious, can be expensive and time- consuming to defend and resolve, and may divert the efforts and attention of management and personnel. The inability to obtain rights to use third- party intellectual property on commercially reasonable terms could have an adverse impact on our business. We may face claims based on the theft, unauthorized use or disclosure of third- party trade secrets and other confidential business information. Any such incidents and claims could severely harm our business and reputation, result in significant expenses, harm our competitive position, and prevent us from selling certain products, all of which could have a material and adverse impact on our business and results of operations. We may be subject to **IT** ~~information technology~~ system failures, network disruptions and breaches in data security, which could damage our reputation and adversely affect our financial condition, results of operations and cash flows **. New** ~~, and new~~ laws and regulations regarding data privacy may **also** increase our costs. ~~We~~ **In conducting our business, we use,** collect and store sensitive data, including our financial information, intellectual property, confidential information, proprietary business information and personally identifiable information of our employees and others, as well as similar information of our customers, suppliers and business partners. We maintain this information in our data centers, on our networks and on ~~information technology, or~~ IT ~~,~~ systems owned and maintained by third parties. The secure processing, maintenance and transmission of this information is critical to our operations. All IT systems are subject to ~~disruption~~ **disruptions** , **security** ~~breach or failure. Data~~ breaches, **outages and failures** ~~including those sponsored by state actors, have become increasingly common in recent years. For example, during 2020, the United States government was hacked via third- party software applications by hackers suspected of being sponsored by a foreign intelligence agency~~ . We and our third- party suppliers have experienced, and expect to continue to be subject to, cybersecurity threats and incidents ranging from employee **or contractor** error or misuse, to individual attempts to gain unauthorized access to systems, to sophisticated and targeted measures known as advanced persistent threats. ~~Despite the precautions we and~~ **Cybersecurity threats may target us directly or indirectly through** our third- party providers ~~undertake~~ **and global supply chain. Cybersecurity attacks are increasing in number and the attackers are increasingly organized and well- financed** , **or at times supported by state actors. Geopolitical tensions or conflicts, such as Russia' s invasion of Ukraine or increasing tensions with China, may create a heightened risk of cybersecurity attacks. Artificial intelligence capabilities may be used by threat actors to identify vulnerabilities and craft increasingly sophisticated cybersecurity attacks. The use of artificial intelligence by us, our customers, suppliers and other business partners and third- party providers may introduce vulnerabilities onto our IT systems and data. We continue to devote significant resources to network security, threat monitoring and other measures to protect our systems and data from unauthorized access or misuse, and we may be required to expend greater resources in the future, especially in the face of evolving and increasingly sophisticated cybersecurity threats and laws, regulations, and other actual and asserted obligations to which we are or may become subject relating to privacy, data protection, and cybersecurity.** IT system failures, network disruptions and breaches of data security could **(1)** cause disruption in our operations, issues with customer communication and order management, the unauthorized or unintentional disclosure of sensitive information, **or** disruptions in our transaction processing or **(2)** undermine the integrity of our disclosure controls and procedures and our internal control over financial reporting, which could affect our reputation, result in significant liabilities and expenses, adversely affect our ability to report our financial results in a timely manner and could have a material adverse effect on our financial condition, results of operations and cash flows. ~~These risks may be further amplified by~~ **Our efforts to comply with current and evolving laws, regulations and** ~~the~~ **other obligations, such as contractual or commercial obligations from** ~~increased reliance on remote access to IT systems by us and~~ our customers **or** ~~, suppliers and~~ other third parties ~~as a result of employees working remotely in response to the COVID- 19 pandemic. Moreover~~ , **concerning privacy** ~~new laws and regulations~~ , **cybersecurity, and** ~~such as the European Union' s General Data~~ **data** ~~Protection~~ **protection** ~~Regulation~~ , ~~the California Consumer Privacy Act and China' s Personal Information Protection Law, add to the complexity of our compliance obligations, which increases~~ - **increase** our compliance costs ~~. Although we have established internal controls~~ and ~~procedures intended to achieve compliance with such laws and regulations, a failure to fully comply~~ could result in significant ~~penalties~~ **additional expenses** . **Any actual** ~~Climate change may have a long- term impact on our~~ - **or alleged failure to comply with** ~~business. There are inherent climate- related risks wherever our business is conducted. Changes in market dynamics, stakeholder expectations, local, national and international climate change policies, and the~~ **these obligations** ~~frequency and intensity of extreme weather events on critical infrastructure in the United States and abroad, all have the potential to disrupt our business and operations. Such events~~ could result in ~~a significant increase in~~ **inquiries, investigations, and other proceedings against us by regulatory authorities** ~~our~~ - **or other third parties** ~~costs and expenses and harm our future revenue, cash flows and financial performance. Global climate change is resulting in, and may continue to result, in certain natural disasters and adverse weather events, such as drought, wildfires, storms, sea- level rise and flooding, occurring more frequently or with greater intensity, which could cause business disruptions and impact employees' abilities to commute or to work from home effectively~~ . Our environmental, social and governance commitments could result in additional costs, and our inability to achieve them could have an adverse impact on our reputation and performance. From time to time we communicate our strategies, commitments and targets related to sustainability, carbon emissions, diversity and inclusion, human rights, and other environmental, social and governance matters. These strategies, commitments and targets reflect our current plans and aspirations, and we may be unable to achieve them. Changing customer sustainability requirements, as well as our sustainability targets, could cause us from time to time to alter our manufacturing, operations or products, and incur substantial additional expense to meet such requirements and targets. Any failure **or perceived failure** to **timely** meet these sustainability requirements or targets could adversely impact the demand for our products and subject us to significant costs and liabilities and reputational risks that could adversely affect our business, financial condition and results of operations. In addition, standards and processes for measuring and reporting carbon emissions and other sustainability metrics may change over time ~~,~~ and ~~may~~

result in inconsistent data ~~,~~ or ~~could result in~~ significant revisions to our strategies, commitments and targets, ~~or~~ **and** our ability to achieve them. Any scrutiny of our carbon emissions or other sustainability disclosures or our failure to achieve related strategies, commitments and targets **, or our failure to disclose our sustainability measures consistent with applicable laws and regulations or to the satisfaction of our stakeholders,** could negatively impact our reputation or performance. Risks Related to Our Acquisition of CMC Materials **Our acquisition** ~~Combining our businesses and those~~ of CMC **Materials involves a number of risks** ~~may be more difficult, costly or time- consuming than~~ **that could** ~~expected and we may fail to realize the anticipated benefits of the acquisition, which may~~ adversely affect our business ~~results~~ **,** and ~~negatively affect~~ **we may not realize** the ~~value of~~ **financial and strategic goals we anticipate. In July 2022, we completed** our ~~common stock following the~~ acquisition **of CMC Materials, which we refer to in this risk factor as the " acquisition "** . The **ultimate** success of the acquisition will depend ~~, in part,~~ on ~~our~~ **, among other things, the** ability to ~~realize anticipated benefits from~~ **continue to combine the two businesses in a manner that facilitates growth opportunities. While we have completed many key** ~~integrating~~ - **integration steps, such as migrating the core legacy** CMC **Materials** ~~into the Company. To realize these anticipated benefits, our~~ businesses **onto our Enterprise Resource Planning system, there are other processes, policies, procedures, operations** and ~~those of CMC must be successfully~~ **systems that we continue to integrate. The** combined **company has and may continue to incur ongoing restructuring, integration and other costs associated with combining the operations of the two companies** . ~~If~~ **For example,** we ~~are not able~~ **have recently combined** ~~to~~ **two** ~~achieve~~ **legacy segments,** ~~these~~ -- **the** ~~objectives,~~ **Advanced Planarization Solutions and** the ~~anticipated benefits of~~ **Specialty Chemicals and Engineered Materials segments, to form** the ~~acquisition may not be realized fully~~ **Materials Solutions segment to better position** ~~or~~ **our** ~~at all,~~ **business to service** ~~or~~ **our** ~~may take longer to realize~~ **customers across critical semiconductor process steps such as etch, deposition, CMP and post- CMP, which resulted in an organizational restructuring. It is possible that the ongoing integration process could result in (1) the loss of customers, (2) the disruption of ongoing businesses, (3) inconsistencies in standards, controls, procedures and policies, (4) unexpected integration issues, (5) higher** than expected **integration costs and (6)** ~~. An inability to realize the full extent of the anticipated benefits of the acquisition and~~ - **an overall** ~~the other transactions contemplated by the merger agreement, as well as any delays encountered in the~~ integration process **that takes longer than originally** ~~, could have an adverse effect upon our revenues, level of expenses and operating results, which may adversely affect the value of our common stock. Moreover, the actual integration may result in additional and unforeseen expenses, and the~~ anticipated ~~benefits of the integration plan may not be realized~~ . Actual growth ~~and cost savings~~ , if achieved, may be lower than what we expect and may take longer to achieve than anticipated. ~~It~~ **Even if we successfully integrate CMC Materials, we may not be able to do so in a way that maximizes the combined business to the fullest extent. If we are not able to successfully achieve our objectives, the benefits of the acquisition may not be fully realized or may take longer to achieve than expected. Furthermore, in connection with the completed sale of the EC business to Fujifilm, we are actively working to transition corporate support services relating to this business to Fujifilm, and it** is possible that **this** ~~the integration~~ process could result in ~~the loss of customers, the disruption~~ **distraction from** ~~of either company' s or~~ **our core** ~~both companies' ongoing businesses~~ -- **business** ~~, inconsistencies in standards, controls, procedures and policies~~ , unexpected ~~integration~~ **transition** issues, higher than expected ~~integration~~ **transition** costs and **a transition** ~~an overall integration~~ process that ~~take~~ **takes** longer than originally anticipated. **Risks Related** ~~Specifically, the following issues, among others, must be addressed in integrating our operations and those of CMC in order to realize the anticipated benefits of the acquisition: • combining the companies' operations and corporate functions; • combining the companies' businesses and meeting our capital requirements following the acquisition, in a manner that permits us to achieve any cost savings or revenue synergies anticipated to result from the acquisition, the failure of which would result in the anticipated benefits of the acquisition not being realized in the time frame currently anticipated or at all; • integrating personnel from the two~~ - **to** ~~companies; • integrating the companies' technologies; • integrating and unifying the offerings and services available to customers; • identifying and eliminating redundant and underperforming functions and assets; • harmonizing the companies' operating practices, employee development and compensation programs, internal controls and other policies, procedures and processes; • maintaining existing agreements with customers, distributors, providers and vendors and avoiding delays in entering into new agreements with prospective customers, distributors, providers and vendors; • addressing possible differences in business backgrounds, corporate cultures and management philosophies; • consolidating the companies' administrative and information technology infrastructure; • coordinating distribution and marketing efforts; • managing the movement~~ **Government Regulation** ~~of certain positions to different locations; and • coordinating geographically dispersed organizations. In addition, at times, the attention of management and our resources may be focused on completion of business integration and diverted from day- to- day business operations or other opportunities that may have been beneficial to us, which may disrupt our ongoing business.~~ We are subject to a variety of environmental laws and regulations that could cause us to incur significant liabilities and expenses. **The** ~~Failure to comply with the~~ wide variety of federal, state, local and non- U. S. regulatory requirements relating to the release, use, storage, treatment, transportation, discharge, disposal and remediation of, and human exposure to, hazardous chemicals could result in future liabilities **, remediation efforts** or the suspension of production or shipment. These requirements **are dynamic and** have become **more** ~~stricter~~ -- **strict** over time. These laws and regulations, among others, increase the complexity and costs of transporting our products from the country in which they are manufactured to our customers. Further changes to **or our failure to comply with** these and similar regulations could **(1)** restrict our ability to expand, build or acquire new facilities, **(2)** require us to acquire costly control equipment, **(3)** cause us to incur expenses associated with remediation of contamination, **(4)** cause us to modify our manufacturing or shipping processes or **(5)** otherwise increase our cost of doing business ~~and~~ **, which may** have a negative impact on our financial condition, results of operations and cash flows. In addition, the potential adoption of new laws, rules or regulations related to climate change **and the use or sale of PFAS- containing products** poses risks **, including subjecting us to future costs and liabilities,** that could harm our results of operations or affect the way we conduct our businesses. For example, new or modified regulations could require us to make substantial expenditures to enhance our environmental compliance efforts. We are exposed to various risks from our regulatory environment. We are subject to risks related to new, different, inconsistent, or even conflicting laws, rules, and regulations that may be enacted by legislative or executive bodies and / or regulatory agencies in the countries where we operate; disagreements or disputes related to international trade; and the interpretation and application of laws, rules, and regulations. As a public company with global operations, we are subject to the laws of multiple jurisdictions and the rules and regulations of various governing bodies, including those related to health and safety, export controls, financial and other disclosures, corporate governance, privacy, anti- corruption, such as the Foreign Corrupt Practices Act and other local laws prohibiting corrupt payments to governmental officials or customers, conflict minerals or other social responsibility legislation, employment practices, immigration or travel regulations and antitrust regulations, among others. Each of these laws, rules and regulations imposes costs on our business, including financial costs and potential diversion of our management' s attention, and may present risks to our business, including potential fines, restrictions on our actions and reputational damage if we do not fully comply. The volume of changes to such laws, rules and regulations may increase in the ~~United States over the next several quarters as the Biden administration continues~~ -- **countries where we operate** ~~to implement its policies~~ . To maintain high standards of corporate governance and public disclosure, we intend to invest in appropriate resources to comply with evolving standards. Changes in or ambiguous interpretations of laws, regulations and standards may create uncertainty regarding compliance matters. Efforts to comply with new and changing regulations have resulted in, and are likely to continue to result in, increased administrative expenses and diversion of management' s time and attention from revenue- generating activities to compliance activities. If we are found by a court or regulatory agency not to be in compliance with laws and regulations, our reputation, business, financial condition and / or results of operations could be adversely affected, we may be disqualified or barred from participating in certain activities and we may be forced to modify our operations to achieve full compliance. Changes in taxation or adverse tax rulings could adversely affect our results of operations. We operate in many foreign countries and are subject to taxation at various rates and audit by multiple taxing authorities. Our results of operations could be affected by tax audits, changes in tax rates, changes in laws and regulations governing the calculation, location and taxation of earned profit, changes in laws and regulations affecting our ability to realize deferred tax assets on our balance sheet and changes in laws and regulations relating to the repatriation of cash into the United States. Each quarter **,** we forecast our tax liability based on our forecast of our performance for the year in each tax jurisdiction. If our performance forecast changes, our forecasted tax liability would also likely change, perhaps materially. We have undertaken and expect to continue to undertake a number of complex internal reorganizations of our foreign subsidiaries in order to rationalize and streamline our foreign operations, focus our management efforts on certain local opportunities and take advantage of favorable business conditions in certain localities. These or any future reorganizations could result in adverse tax consequences in one or more jurisdictions, which could adversely impact our profitability from foreign operations and result in a material reduction in our results of operations. Various other jurisdictions, including members of the Organization for Economic Cooperation and Development, are considering changes to their tax laws, including provisions intended to address base erosion and profit shifting by taxpayers. Any tax reform adopted in these or other countries may exacerbate the risks described above. **Risks Related to Our Indebtedness** We have a substantial amount of indebtedness and may in the future incur substantially more debt, each of which could adversely affect our ability to obtain financing in the future and react to changes in our business. As of December 31, ~~2022~~ **2023** , we had an aggregate principal amount of $ ~~5~~ **4** . ~~9~~ **7** billion of indebtedness outstanding, including the $ ~~2, 495~~ **1. 4** ~~million~~ **billion** from our senior secured term loan facility due 2029 **(** ~~, or~~ the **“** Term Loan Facility **”)** , $ 1. 6 billion aggregate principal amount of the 4. 75 % senior secured notes due April 15, 2029, $ ~~895~~ **1. 7** ~~million~~ **billion** aggregate principal amount of the 5. 95 % senior unsecured notes due June 15, 2030, our 4. 375 % senior unsecured notes due April 15, 2028, **and** our 3. 625 % senior unsecured notes due May 1, 2029 **(** ~~, or~~ collectively **,** the **“** Notes **”)** ~~, and our bridge credit facility due 2023, or the Bridge Credit Facility~~ . In addition, we have approximately $ 575 **. 0** million of unutilized capacity under our senior secured revolving credit facility due 2027 **(** ~~, or~~ the **“** Revolving Facility **”)** . We refer to the Term Loan Facility ~~,~~ and the Revolving Facility as the **“** ~~Senior Secured~~ Credit Facilities **”. The** ~~, the Senior Secured Credit Facilities and the Bridge Credit Facility as the Credit Facilities and the~~ credit agreements that govern the Credit Facilities **are referred to collectively** as the **“ Amended** Credit ~~Agreements~~ - **Agreement ”** . Further, we may incur significant additional secured and unsecured indebtedness in the future. Although the indentures governing the Notes **(** ~~, or~~ the **“** Indentures **”)** , and the **Amended** Credit ~~Agreements~~ - **Agreement** restrict our ability to incur additional indebtedness, the restrictions have a number of significant qualifications and exceptions. For example, the ~~credit agreement governing our Senior Secured Credit Facilities, or the~~ Amended Credit Agreement ~~,~~ provides that we can request additional loans and commitments up to the greater of $ 1 ~~, 100~~ **. 1** ~~million~~ **billion** or 100 % of our EBITDA, as well as additional amounts if our secured net leverage ratio is less than a specified ratio. Further, these restrictions do not prevent us from incurring monetary obligations that do not constitute indebtedness. If we add new indebtedness and other monetary obligations to our current debt levels, the related risks that we now face would intensify. Our debt could have important consequences, including: • limiting our ability to obtain additional financing to fund future working capital, capital expenditures, acquisitions or other general corporate purposes; • requiring a substantial portion of our cash flow to be dedicated to debt service payments instead of other purposes; • increasing our vulnerability to adverse changes in general economic, industry and competitive conditions; • exposing us to increased interest expense for borrowings with variable interest rates, including borrowings under the Credit Facilities; and • placing us at a disadvantage compared to other, less leveraged competitors or competitors with comparable debt having more favorable terms. We may be unable to generate sufficient cash to service our indebtedness and may be forced to take other actions, which may not be successful, to satisfy our obligations under our indebtedness. We may be unable to maintain sufficient cash flow from operating activities to permit us to pay the principal of, premium, if any, and interest on our indebtedness. Our ability to make scheduled payments on or to refinance our debt obligations depends on our financial condition and operating performance and the condition of the capital markets, which are subject to prevailing economic, industry and competitive conditions, as well as many financial, business, legislative, political, regulatory and other factors beyond our control. If our cash flow and capital resources are insufficient to fund our debt service obligations, we could face substantial liquidity problems, be forced to reduce or delay investments and capital expenditures, dispose of material assets or operations, seek additional debt or equity capital or restructure or refinance our indebtedness, any of which could have a material adverse effect on our business, financial position and results of operations. In addition, the level and quality of our earnings, operations, business and management, among other things, will impact the determination of our credit ratings. A decrease in the ratings assigned to us by the ratings agencies may negatively impact our access to the debt capital markets and increase our cost of borrowing. ~~There can~~ **In addition, we may** be ~~no assurance that we will be able~~ **unable to maintain the current credit worthiness or prospective credit rating of the Company. Any actual or anticipated changes or downgrades in such credit rating may have a negative impact on our liquidity, capital position or access to capital markets and affect our ability** to obtain any future required financing on acceptable terms or at all. ~~In addition, there can be no assurance that we will be able to maintain the current credit worthiness or prospective credit rating of the Company. Any actual or anticipated changes or downgrades in such credit rating may have a negative impact on our liquidity, capital position or access to capital markets.~~ Any refinancing of our debt could be at higher interest rates and may require us to comply with more onerous covenants, which could further restrict our business operations. We may not be able to implement any refinancing on commercially reasonable terms or at all and, even if successful, a refinancing may not allow us to meet our scheduled debt service obligations. The agreements governing our indebtedness restrict our ability to dispose of assets and use the proceeds of such dispositions, and we may be unable to consummate any dispositions or generate proceeds sufficient to meet our debt service obligations. If we cannot make scheduled payments on our debt, holders of the Notes and lenders under the Credit Facilities could declare all outstanding principal and interest to be due and payable, the lenders under the Revolving Facility could terminate their commitments to advance further loans, our secured lenders could foreclose against the assets securing their borrowings and we could be forced into bankruptcy or liquidation. The terms of the **Amended** Credit ~~Agreements~~ - **Agreement** and the Indentures may restrict our operations, particularly our ability to respond to changes or raise additional funds. The Amended Credit Agreement contains restrictive covenants that impose significant operating and financial restrictions that may limit our and our restricted subsidiaries' ability to take actions that may be in our long- term best interest, including restrictions on our and our restricted subsidiaries' ability to: • incur additional indebtedness and guarantee indebtedness; • pay dividends or make other distributions in respect of, or repurchase or redeem, capital stock; • prepay, redeem or repurchase certain debt; • make investments, loans, advances and acquisitions; • engage in sale- leaseback or hedging transactions; • create liens on, sell or otherwise dispose of assets, including capital stock of our subsidiaries; • enter into transactions with affiliates; • enter into agreements that restrict the ability to create liens, pay dividends or make loan repayments; • alter the businesses we conduct; and • merge or sell all or substantially all of our assets or incur a change of control in our capital stock ownership. Also, the Indentures ~~and the credit agreement governing our Bridge Credit Facility~~ contain limited covenants, such as a covenant restricting our ability and certain of our subsidiaries' ability to incur certain debt secured by liens, engage in sale- leaseback and incur additional indebtedness by any restricted subsidiary. In addition, the restrictive covenants under the credit agreement governing the Revolving Facility may, depending on the amount of revolving borrowings, unreimbursed letter of credit drawings and undrawn letters of credit, require us to maintain a secured net leverage ratio, which we may be unable to meet. Our failure to comply with these covenants could result in the acceleration of some or all of our indebtedness, which could lead to bankruptcy, reorganization or insolvency. **Risks Related to Owning our Common Stock** The price of our common stock has been and may remain volatile. The price of our common stock has been volatile. In ~~2022~~ **2023** , the closing price of our stock on The Nasdaq Global Select Market ~~, or~~ **("** Nasdaq ~~,~~ **")** ranged from a low of $ ~~62~~ **64** . ~~71~~ **13** to a high of $ ~~140~~ **121** . ~~83~~ **60** , and, as in past years, the price of our common stock may show even greater volatility in the future. The trading price of our common stock is subject to significant volatility in response to numerous factors, many of which are beyond our control or may be unrelated to our operating results, including the following: • ~~the significant increase in volatility in the stock market as a result of the COVID- 19 pandemic; • any~~ changes to our financial guidance, as well as potential decreased confidence in any guidance we do provide; • changes in global economic **and geopolitical** conditions, including those resulting from trade tensions, rising inflation, and fluctuations in foreign currency exchange and interest rates; • ~~the~~ failure to meet the expectations of securities analysts, which may vary significantly from our actual results; • changes in financial estimates by securities analysts; • press releases or announcements by, or changes in market values of, comparable companies; • high volatility in price and volume in the markets for high- technology stocks; • ~~the~~ public perception of equity values of publicly traded companies; • fluctuations in our results of operations; and • ~~the~~ other risks and uncertainties described in this Annual Report on Form 10- K and in our other filings with the SEC. Fluctuations in our results of operations could cause our stock price to decline significantly. We believe that period- to- period comparisons of our results of operations may not be meaningful, and you should not rely upon them as indicators of our future performance. Future decreases in our stock price may adversely impact our ability to raise sufficient additional capital in the future, if needed. **We may decrease or** ~~There can be no assurance that we will continue~~ **discontinue** ~~to declare~~ cash dividends ~~or that we will recommence the~~ **and may never adopt a new program to** repurchase ~~of~~ our shares **of common stock** ~~in any particular amounts or at all~~ . Future payments of quarterly dividends and any future repurchases of shares of our common stock are subject to capital availability and periodic determinations by our ~~board~~ **Board** of ~~directors~~ **Directors** that they are in the best interest of our stockholders and comply with all laws and applicable agreements. Future dividends and any future share repurchases may be affected by, among other factors, potential capital requirements for acquisitions and the funding of our research and development activities; legal risks; changes in federal and state income tax laws or corporate laws; contractual restrictions, such as financial or operating covenants in our debt arrangements; availability of domestic cash flow; and changes to our business model. The amounts of our dividend payments may change from time to time, and we may decide at any time to reduce, suspend or discontinue the payment of dividends or the repurchase of shares. A reduction, suspension or discontinuation of our dividend payments or the cessation of our share repurchase program could have a negative effect on the price of our common stock and may harm our reputation. Provisions in our charter documents and Delaware law may delay or prevent an acquisition of us, which could decrease the value of our shares. Our certificate of incorporation, our by- laws and Delaware law contain provisions that could make it harder for a third party to acquire us without the consent of our board of directors. These provisions include limitations on actions by written consent of our stockholders. Our certificate of incorporation makes us subject to the anti- takeover provisions of Section 203 of the Delaware General Corporation Law. In general, Section 203 prohibits publicly held Delaware corporations from engaging in a " business combination " with an " interested stockholder " for a period of three years after the date of the transaction in which the person became an interested stockholder, unless the business combination is approved in a prescribed manner. This provision could discourage parties from bidding for our shares of common stock and could, as a result, reduce the likelihood of an increase in the price of our common stock that would otherwise occur if a bidder sought to buy our common stock. Our certificate of incorporation authorizes our ~~board~~ **Board** of ~~directors~~ **Directors** to issue, without further stockholder approval, up to 5, 000, 000 shares of preferred stock in one or more series and to fix and designate the rights, preferences, privileges and restrictions of the preferred stock, including dividend rights, conversion rights, voting rights, redemption rights and liquidation preferences. The holders of any shares of preferred stock could have preferences over the holders of our common stock with respect to dividends and liquidation rights. Any issuance of preferred stock may have the effect of delaying, deterring or preventing a change in control. Any issuance of preferred stock could decrease the amount of earnings and assets available for distribution to the holders of common stock and could adversely affect the rights and powers, including voting rights, of the holders of common stock. The issuance of preferred stock could have the effect of decreasing the market price of our common stock. **General Risks Competition from new or existing companies could harm our financial condition, results of operations and cash flow. We operate in a highly competitive, global industry. We face many domestic and international competitors, some of which have substantially greater manufacturing, financial, research and development and marketing resources than we do. In addition, some of our competitors may have better- established customer relationships than we do, which may enable them to have their products specified for use more frequently and more quickly by these customers. We also face competition from smaller, regional companies that focus on serving customers in their regions. Further, customers continually evaluate the benefits of internal manufacturing versus outsourcing, and a customer' s decision to internally manufacture products that we provide may negatively impact us. If we are unable to maintain our competitive position, we could experience downward pressure on prices, fewer customer orders, reduced margins, the inability to take advantage of new business opportunities and a loss of market share, any of which could have a material adverse effect on our results of operations. Further, we expect that existing and new competitors will improve their products and introduce new products with enhanced performance characteristics. The introduction of new products or more efficient production of existing products by competitors could diminish our market share and increase pricing pressure on our products. Our competitors include companies outside of the U. S., including companies in countries where foreign governments seek to build a domestic- centric semiconductor ecosystem. From time to time, governments around the world may provide incentives or make other investments that could benefit and give competitive advantages to our competitors. For example, in August 2022, the U. S. government enacted the CHIPS and Science Act of 2022 (the " CHIPS Act ") to provide financial incentives to the U. S. semiconductor industry. Government incentives, including any that may be offered in connection with the CHIPS Act, may not be available to us on acceptable terms or at all. If our competitors can benefit from such government incentives and we cannot, it could strengthen our competitors' relative position and have a material adverse effect on our business. We may acquire other businesses, form joint ventures or divest businesses, any of which could negatively affect our financial performance. We intend to continue to engage in business combinations, acquisitions, joint ventures, investments, divestitures or other types of collaborations to (1) address gaps in our product offerings, (2) adjust our business and product portfolio to meet our ongoing strategic objectives, (3) diversify into new and complementary markets, (4) increase our scale or (5) accomplish other strategic objectives. These transactions involve numerous risks to our business, financial condition and operating results, including but not limited to: • difficulty in identifying suitable acquisition candidates and completing transactions at appropriate valuations, in a timely manner, on a cost- effective basis or at all, due to substantial competition for acquisition targets; • inability to successfully integrate any acquired businesses into our business operations; • failure to realize the anticipated synergies or other benefits of any such transaction; • entry into markets in which we have limited or no prior experience; • finding acquirors and obtaining adequate value for businesses that no longer meet our strategic objectives; • difficulties surrounding the disentanglement of a divested business, including the diversion of resources away from our business operations to address such matters; • inability to complete proposed or pending transactions due to factors such as the failure or inability to obtain regulatory or other approvals, which may be exacerbated by the recent, more aggressive regulatory approaches to merger control globally, such as the July 19, 2023 joint statement of antitrust policy by the Department of Justice and Federal Trade Commission and the April 15, 2023 Provisions on the Review of Concentrations of Undertakings issued by China' s State Administration for Market Regulation, among others; • requirements imposed by government regulators in connection with their review of a transaction, which may include, among other things, divestitures and restrictions on the conduct of our existing business or the acquired business; • undertaking multiple transactions at the same time in order to take advantage of acquisition or divestiture opportunities that do arise, which could strain our ability to effectively execute and integrate such transactions; • diversion of management' s attention from our day- to- day business due to dedication of significant management resources to such transactions; • employee uncertainty and lack of focus during the integration process that may also disrupt our business;**

• risk of litigation or claims associated with a proposed or completed transaction; • challenges associated with managing new, more diverse and more widespread operations, projects and people, potentially located in regions where we have not historically conducted or operated our business; • dependence on unfamiliar or less secure supply chains and inefficient scale of the acquired entity; • increasing costs of performing due diligence to meet the expectations of investors and government regulators; • despite our due diligence, we could assume unknown, underestimated or contingent liabilities, such as potential environmental, health and safety liabilities, any of which could lead to costly litigation or mitigation actions; • an acquired technology or product may have inadequate or invalid intellectual property protection or may be subject to claims of infringement by a third party, which may result in claims for damages and lower than anticipated revenue; • negative effects on our reported results of operations from dilutive results from operations and / or from future potential impairment of acquired assets, including goodwill, related to acquisitions; • an acquired company may have inadequate or ineffective internal controls over financial reporting, disclosure controls and procedures, cybersecurity, privacy, environmental, health and safety, anti- bribery, anti- corruption, human resource or other policies or practices, which may require unexpected or additional integration, mitigation and remediation costs; • reductions in cash or increases in debt to finance transactions, which reduce the cash flow available for general corporate or other purposes, including share repurchases and dividends; and • difficulties in retaining key employees or customers of an acquired business. Climate change may have a long- term impact on our business. There are inherent climate- related risks wherever our business is conducted. Changes in market dynamics, stakeholder expectations, local, national and international climate change policies, and the frequency and intensity of extreme weather events on critical infrastructure in the United States and abroad, all have the potential to disrupt our business and operations. Such events could result in a significant increase in our costs and expenses and harm our future revenue, cash flows and financial performance. Global climate change is resulting in, and may continue to result, in certain natural disasters and adverse weather events, such as drought, wildfires, storms, sea- level rise and flooding, occurring more frequently or with greater intensity, which could cause business disruptions and impact employees' abilities to commute or to work from home effectively.