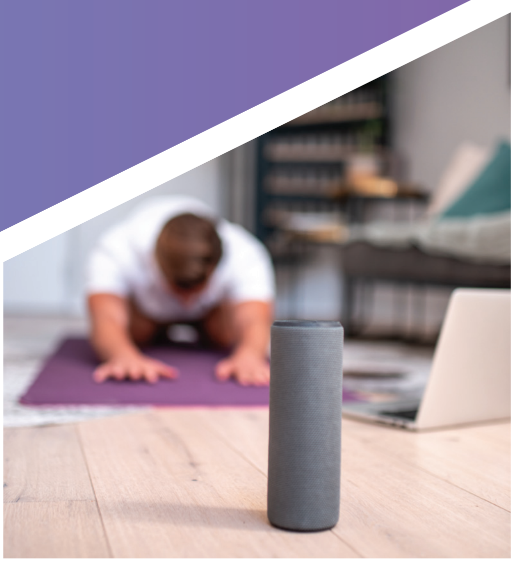
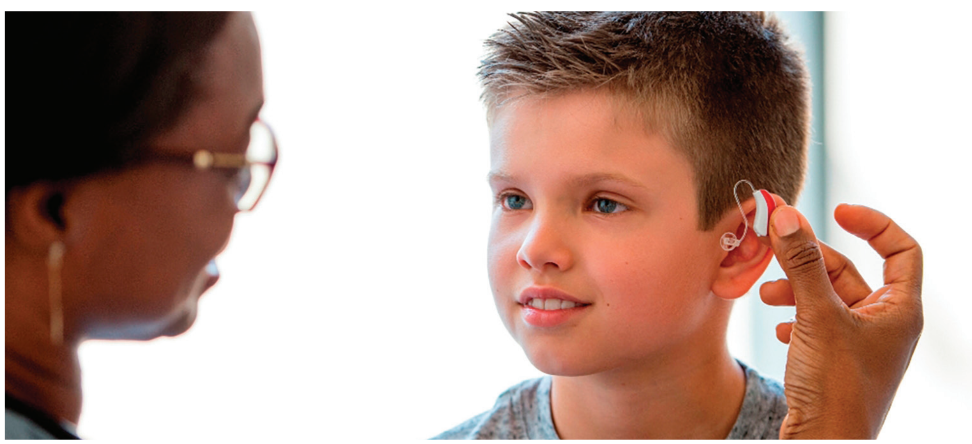
knowles

2020
ANNUAL REPORT





TO OUR STOCKHOLDERS

2020 was a very challenging year due to the global pandemic and I am proud of our execution and the second half results that we delivered. We weathered an extremely difficult first half of the year driven by weak demand in many of our end markets and took significant actions to position our businesses for success in the future while keeping product introductions on schedule.

In the first half of the year, COVID-19 had a significant impact on our operations due to local government restrictions and weak Audio demand. We responded quickly by decreasing operating expenses and capital expenditures, reducing build plans to keep inventories at manageable levels, and taking pay cuts across the organization to ensure we maintained sufficient liquidity to operate our business, all while continuing to invest for the future.

In Hearing Health, sales were under significant pressure during the first half of the year. This was due to audiologist office closures around the globe, coupled with hearing health's reliance on demand from people over the age of 65 who are at higher risk from COVID-19. As conditions began to improve late in Q2, we saw strong sequential revenue growth in both the 3rd and 4th quarters as audiologist offices re-opened and patients returned to address hearing impairment issues. We remain a leading acoustics supplier in the hearing health business and I am confident the business will fully recover in the near future as COVID-19 cases drop and vaccines become more widely available.

In MEMS microphones, consumer demand was down significantly as we entered Q2, but began to rebound late in the quarter. In the second half of 2020, we saw broad based improvement in MEMS microphone sales across both mobile and non-mobile end markets. In mobile, stronger sales to North American and Chinese OEMs drove the majority of the increase as 5G phone shipments accelerated. Non-mobile applications also increased, driven by work-from-home and remote-schooling trends and an increased emphasis on acoustical performance. We expect these trends in non-mobile applications to continue to be favorable for MEMS microphone sales in 2021.

While our Precision Devices revenue was impacted by COVID-19 in medtech and defense markets, I was pleased we were able to increase revenue in this segment in 2020 with growth coming from electric vehicle and industrial markets. We anticipate we will return to more robust growth in Precision Devices as both defense and medtech markets recover.

The diversity of our markets and our differentiated product portfolio coupled with the measures we took in the first half of the year allowed us to generate record cash flow, strengthen our balance sheet and allowed continued investment in new products and markets that position us to deliver shareholder value in the years to come.

2021 & Beyond

As we enter 2021, our company remains uniquely positioned as a market leader across a diverse set of end markets poised to grow over the next several years. We remain a global leader in hearing health solutions and expect a full recovery in this market in the near term. In MEMS microphones, we expect non-mobile applications to drive future growth at higher gross margins. For Precision Devices, we expect revenue growth in 2021 driven by defense and electric vehicle and a recovery in the medtech market. On top of these diverse growth opportunities, we have a renewed focus on gross margin expansion across our product portfolios and expect to deliver corporate gross margins above pre-pandemic levels.

As we look further into 2021 and beyond, and our markets continue to recover, I believe that we are well positioned to drive shareholder value by delivering strong earnings and cash flow.

Sincerely,

Jeffrey Niew
President and CEO

FORWARD LOOKING STATEMENTS

This Annual Report contains "forward-looking statements" within the meaning of the safe harbor provisions of the United States Private Securities Litigation Reform Act of 1995. Forward looking statements include all statements that pertain to future financial and business performance and conditions and other financial and business matters other than those statement of purely historical fact. These statements are based on management's current estimates, projections, assumptions and expectations and are subject to numerous risks, uncertainties and other unpredictable or uncontrollable factors which may cause actual results or performance to differ materially from the Company's expectations. Some of the risks, uncertainties and other factors that could cause actual results to differ materially from those expressed in the forward-looking statements are detailed in the "Risk Factors" section of, and elsewhere in, our accompanying 2020 Annual Report on Form 10-K and in our other filings with the SEC. Knowles Corporation undertakes no obligation to update any such statements.

KNOWLES
CORPORATION
FORM 10-K

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

FORM 10-K

(Mark One)

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

For the fiscal year ended December 31, 2020.

or

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

For the transition period from to

Commission File Number: 001-36102

Knowles Corporation

(Exact name of registrant as specified in its charter)

Delaware	**90-1002689**
(State or other jurisdiction of incorporation or organization)	*(I.R.S. Employer Identification No.)*
1151 Maplewood Drive, Itasca, IL	**60143**
(Address of Principal Executive Offices)	*(Zip Code)*

(630) 250-5100
(Registrant's telephone number, including area code)

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

Title of each class	Trading symbol	Name of each exchange on which registered
Common stock, $0.01 par value per share	KN	New York Stock Exchange

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

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

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

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

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

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

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

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

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

The aggregate market value of the voting and non-voting common stock held by non-affiliates of the registrant as of the close of business on June 30, 2020 was approximately $1,380,000,000. The number of outstanding shares of the registrant’s common stock as of February 8, 2021 was 91,726,375.

DOCUMENTS INCORPORATED BY REFERENCE

Portions of the definitive Proxy Statement for the registrant's 2021 Annual Meeting of Stockholders have been incorporated by reference into Part III of this Annual Report on Form 10-K.

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PART I

ITEM 1. BUSINESS

Unless the context otherwise requires, references in this Annual Report on Form 10-K to “Knowles,” the “Company,” “we,” “our,” or “us” refer to Knowles Corporation and its consolidated subsidiaries.

Our Company

We are a market leader and global provider of advanced micro-acoustic, audio processing, and precision device solutions, serving the mobile consumer electronics, communications, medtech, defense, electric vehicle, and industrial markets. We use our leading position in micro-electro-mechanical systems ("MEMS") microphones and strong capabilities in audio processing technologies to optimize audio systems and improve the user experience in mobile, ear, and Internet of Things ("IoT") applications. We are also a leader in acoustic components, high-end capacitors, and mmWave radio frequency ("RF") solutions for a diverse set of markets. Our focus on the customer, combined with our unique technology, proprietary manufacturing techniques, rigorous testing, and global scale, enables us to deliver innovative solutions that optimize the user experience. Knowles, founded in 1946 and headquartered in Itasca, Illinois, has approximately 7,000 employees at facilities located in 13 countries around the world.

Our Strategy

The Company is focused on investing in high value solutions to diversify its revenue and increase exposure to high-growth markets.

In our Audio segment, our primary focus is to position the Company to benefit from the positive trends across consumer devices. With products ranging from mobile phones to headsets, and from smart speakers to household appliances, improved audio quality and voice-powered interactions have emerged as critical and necessary features. Across mobile, ear, and IoT markets, consumers want better audio performance and to engage with technology through natural, spoken commands, and original equipment manufacturers (“OEMs") are developing and deploying the technology to enable it. Our unique capabilities in MEMS microphones, balanced armature speakers, and digital signal processing place us in a competitive position to enhance audio performance and enable voice input.

Our focus on strategically positioning the business to support favorable trends in audio includes significant investments in MEMS microphones and balanced armature speakers to maintain our leadership positions and optimize our manufacturing footprint across our business units. We also divested our low-margin speaker and receiver product line for handsets ("Speaker and Receiver Product Line") in 2016 to focus on higher-value solutions for end markets exhibiting greater unit growth.

In our Precision Devices segment, we continue to focus on sales growth and improved operating margins through both organic initiatives and acquisitions. In 2017, we reshaped our portfolio by divesting our timing device business ("Timing Device Business") to increase our focus on growth platforms in Precision Devices where we have strong market positions and attractive margin profiles, including telecom, medtech, defense, electric vehicle, and industrial applications.

Our Business Segments

Our reportable segments are as follows:

- Audio Segment
  Our Audio group designs and manufactures innovative audio products, including microphones, balanced armature speakers, and audio processors used in applications that serve the mobile, ear, and IoT markets. Locations include the sales, support, and engineering facilities in North America, Europe, and Asia, as well as manufacturing facilities in Asia.

- Precision Devices ("PD") Segment
  Our PD group specializes in the design and delivery of high performance capacitors and mmWave RF solutions for technically demanding applications. Our high performance capacitor products are used in applications such as power supplies and medical implants, which sell to a diverse set of customers for mission critical applications across the communications, medtech, defense, electric vehicle, and industrial markets. Our mmWave RF solutions primarily solve high frequency filtering challenges for our military customers, who use them in their satellite communication and radar systems, as well as our telecommunications infrastructure customers deploying mmWave 5G base stations. Locations include the sales, support, engineering, and manufacturing facilities in North America, Europe, and Asia.

We sell our products directly to OEMs and to their contract manufacturers and suppliers and to a lesser extent through distributors worldwide.

Market Trends

In our Audio segment, voice has been embraced as a primary user interface across consumer electronic devices. Voice assistants are proliferating throughout a variety of applications from mobile phones to headsets, and from smart speakers to household appliances. Across mobile, ear, and IoT markets, consumers want to engage with technology through natural, spoken commands, and OEMs are developing and deploying the technology to enable it. Our unique capabilities in MEMS microphones, balanced armature speakers, and digital signal processing place us in a competitive position to enhance audio performance and enable voice input.

Within the hearing aid market, sales are largely driven by aging demographics, healthcare spending, increasing affluence in emerging markets, and government subsidies.

Our Precision Devices segment sells high reliability, high voltage and high temperature ceramic capacitors, and electromagnetic interference filters across diverse end markets, including telecom, defense, medtech, and industrial markets. Portions of this segment face much greater exposure to capital investment cycles and government spending, both direct and indirect, as some of these end markets are largely dependent on project upgrades, expansion, and government contracts.

Geographic Trends

We strive to maintain our manufacturing facilities in close proximity to our direct customers. In Audio, we currently operate 4 facilities in Asia to serve the contract manufacturers who build OEM equipment on behalf of our end-customers. These contract manufacturers are largely based in China, Taiwan, India, Singapore, Indonesia, and Vietnam. Although end-user demand for consumer electronics and hearing aids is global and marketing activities occur globally, the majority of our manufacturing is located in Asia, primarily in China, Malaysia, and the Philippines.

In PD, we operate 5 facilities in North America and 1 facility in Asia for the manufacturing of capacitors that support our global customers, as well as their suppliers and contract manufacturers.

Competitive Landscape

Success in the electronic components industry is primarily driven by innovation and flexibility as customers compete to gain a share of the growing consumer device market. We compete across consumer platforms to deliver superior acoustic performance through customized products. Our investments in research and development enable us to capture new design wins across consumer OEMs. Our ability to balance and shift between full and semi-automation is key to our ability to optimize our operations and operating expenses. Additionally, it is important for suppliers to have flexibility and quick time-to-market to meet clients' needs. Key competitors include:

- **Audio** - AAC Technologies, Goertek, Infineon, and Sonion; and
- **PD** - Kyocera Corporation, Yageo Corporation, and Murata.

In the Audio segment, our investments in research and development enable us to continually introduce new products with better features and performance. Our customers are adopting these higher value microphones to improve the overall audio performance of their devices which in turn improves the end user experience. Typically our new products have higher average selling prices than the products they are replacing. Once introduced, the pricing for these products trend lower, as is typical in the consumer electronics market.

For products that were introduced more than 18 months ago, we strive to offset anticipated price erosion through bill of material cost reductions, yield improvements, equipment efficiency, and movement to lower-cost manufacturing locations.

In the PD segment, the end markets tend to have less pricing pressure. We see a fragmented set of competitors across high end capacitors for a diverse set of end markets including telecom, defense, medtech, and industrial.

Customers, Sales, and Distribution

We serve customers in the mobile consumer electronics, industrial, defense, electric vehicle, medtech, and telecommunications markets. Our customers include some of the largest OEMs and operators in these markets. In addition, many of our OEM customers outsource their manufacturing to Electronic Manufacturing Services ("EMS") companies. Other customers include global mobile phone manufacturers, hearing aid manufacturers, and many of the largest global EMS companies, particularly in China.

The Company's customers that accounted for 10% or more of total revenues were as follows:

	Revenues		
	Years Ended December 31,		
	2020	2019	2018
Apple Inc.	23 %	22 %	19 %

We manufacture and develop our products as well as maintain sales and technical customer support offices in North America, Europe, and Asia. In our PD segment, we supplement our direct sales force with external sales representatives and distributors. Our global distribution center is located in Penang, Malaysia. Our worldwide sales force provides geographically specific support to our customers and specialized selling of product lines to various customer bases. For further detail and for additional disclosures regarding sales and long-lived assets by geographic location, see Note 18. Segment Information to our Consolidated Financial Statements under Item 8, "Financial Statements and Supplementary Data."

Raw Materials

We use a wide variety of raw materials, primarily metals, and semi-processed or finished components. Commodity pricing for various metals, such as palladium, gold, brass, stainless steel, and copper, fluctuates. As a result, our operating results are exposed to such fluctuations. Although some cost increases may be recovered through increased prices to customers, if commodity prices trend upward, we attempt to control such costs through fixed-price contracts with suppliers and various other programs.

We rely on highly specialized suppliers or foundries for critical materials, components, or subassemblies that are used in our products which, in some cases, may be sole sourced from such suppliers or foundries or, such suppliers or foundries may also be a strategic supplier to one of our competitors or a customer. The loss of any single supplier has not had a material impact on operating profits. However, should an event occur which affects the ability or willingness of any supplier or foundry to continue to deliver materials or components to us in a timely manner, we may not be able to identify or qualify an alternative supplier in a timely manner which, in any such period and future periods, could have a material adverse impact on our results of operations. See Item 1A. Risk Factors for additional information regarding risks related to our business.

Research and Development

We concentrate our research and development efforts on the design and development of new products for each of our principal markets. We also fund certain other emerging product and technology opportunities. Our future success is highly dependent upon our ability to develop complex new products, transfer new products to volume production, introduce them into the marketplace in a timely fashion, and have them selected for design into our customers' products at competitive prices. Our future success may also depend on increasing acoustic content in our customers' products including assisting our customers with integration of our products and software into their new products and providing support from the concept stage through design, launch, and production ramp.

Intellectual Property and Intangible Assets

We rely on patent, copyright, trademark, and trade secret laws to protect our intellectual property, products, and technology. Our U.S. patents expire in calendar years 2021 through 2039. While our patents are an important element of our success, our business as a whole is not dependent on any one patent or group of patents. We do not anticipate any material effect on our business due to any patents expiring in 2021, and we continue to obtain new patents through our ongoing research and development. We have maintained U.S. federal trademark registrations for KNOWLES and Knowles logo designs, along with various other trademarks. These U.S. registrations may be renewed as long as the marks continue to be used in interstate commerce. We have also filed or obtained foreign registration for these marks in other countries or jurisdictions where we conduct, or anticipate conducting, international business. To complement our own research and development efforts, we have also licensed and expect to continue to license, a variety of intellectual property and technologies important to our business from third parties. See Item 1A. Risk Factors for additional information regarding risks related to our business.

Seasonality

In general, our businesses tend to have higher revenues in the third and fourth quarters of each fiscal year. This is particularly true of those businesses that serve the consumer electronics market. Our businesses tend to have short product cycles and the timing of new OEM product launches can impact quarterly revenues, earnings, and cash flow.

Human Capital Management

As of December 31, 2020, Knowles had approximately 7,000 employees at facilities located in 13 countries around the world. Approximately 84% of our employees are located in Asia and approximately 70% of our employees identify as female. We believe our success is dependent upon attracting, developing, and retaining high performing employees at all levels of the organization. An important component of achieving this goal is fostering a workplace environment that embraces diversity and inclusion. Our Chief Human Resources Officer is responsible for developing and executing on our human capital strategy, with oversight by the Compensation Committee of our Board of Directors. Key initiatives of the Company with respect to human capital management include:

Recruitment, Training, and Development

We utilize a variety of recruitment vehicles to source top talent, including strategic partnerships with search firms, leveraging social media channels, strategic partnerships with universities and industry organizations, and a robust employee referral program. We invest in the ongoing training and development of our employees by offering tuition and continuous education reimbursement, leveraging an e-learning platform, and implementing formal mentorship programs. Our Chief Human Resources Officer annually reviews with the Board of Directors our overall talent management strategy and progress.

Commitment To Diversity, Inclusion, and Equality

We believe our diverse teams, with their unique ideas, thoughts, and perspectives, form the building blocks for our culture of innovation at Knowles. We strive to create and maintain a workplace environment that embraces the diversity of thoughts, ideas, beliefs, and experiences, brought by our team members. We recognize that nurturing an inclusive workplace enables us to attract, develop, and retain our team members regardless of their race, color, gender identity, language, national origin, religion, orientation, or age. As part of our diversity and inclusion strategy, during fiscal year 2020, we launched implicit bias training for our U.S. employees and created a Diversity and Inclusion Council. The Diversity and Inclusion Council is comprised of employees from various areas of the Company along with members of senior management who serve as executive sponsors. The Council is tasked with advising the management team on concrete initiatives we can undertake as an organization to strengthen diversity and inclusion at the Company.

Knowles is also committed to the advancement of women in the workplace and gender diversity in engineering careers. We endeavor to be known as an Employer of Choice for Women in Engineering and have implemented programs with the goal of increasing the representation of women in the engineering community. For example, we have partnered with the University of Illinois at Chicago ("UIC") as a sponsor of their Women in Engineering Summer Program. We have also supported UIC's women engineering students with programs such as academic scholarships, summer internship programs, mentorship programs, and full-time employment opportunities. Our goal is to build a pipeline of multi-generational talent and accelerate the development of women engineers into advanced technical and leadership positions at Knowles. Additionally, we are focused on increasing the representation of women in leadership roles at Knowles.

Providing a Competitive Total Rewards Program

To be able to attract and retain the best employees, Knowles provides a competitive total rewards program that incorporates our pay for performance philosophy. Our total rewards program includes market-competitive base pay, broad-based short-term and long-term incentive plans, healthcare benefits, retirement plans, paid time off, family leave, and employee assistance programs.

Fostering a Safe Work Environment

We believe it is important to provide a healthy and safe workplace for our employees. We maintain an Environmental, Health, and Safety Policy that reflects our goals to not only reduce our carbon footprint, but to ensure the health, safety, and welfare of our employees. We provide environmental, health, and safety training and instruction at all levels within the Company. In addition, throughout the COVID-19 pandemic, we have adopted enhanced safety measures and practices across all of our facilities, including adopting social distancing measures (such as limiting or reducing the number of workers at our sites), enacting enhanced cleaning measures, and providing workers with personal protection equipment.

Other Information

Knowles was incorporated in Delaware on June 12, 2013 and was spun-off from Dover Corporation in 2014 (the "Separation"). The address of our principal executive offices is 1151 Maplewood Drive, Itasca, Illinois 60143. Our telephone number is 630-250-5100.

We post our annual reports on Form 10-K, quarterly reports on Form 10-Q, current reports on Form 8-K, and any amendments to these reports on the "Financial Information - SEC Filings” link on the Investor Relations section of our website, www.knowles.com. We post each of these reports on the website as soon as reasonably practicable after the report is filed with or furnished to the Securities and Exchange Commission ("SEC"). The information on our website is not incorporated into this Form 10-K.

ITEM 1A. RISK FACTORS

Cautionary Statement Concerning Forward-Looking Statements

This Annual Report on Form 10-K contains certain statements regarding business strategies, market potential, future financial performance, future action, results, and any other statements that do not directly relate to any historical or current fact which are “forward-looking” statements within the meaning of the Securities Act of 1933, as amended (the "Securities Act"), the Exchange Act, and the Private Securities Litigation Reform Act of 1995. The words “believe,” “expect,” “anticipate,” “project,” “estimate,” “budget,” “continue,” “could,” “intend,” “may,” “plan,” “potential,” “predict,” “seek,” “should,” “will,” “would,” “expect,” “objective,” “forecast,” “goal,” “guidance,” “outlook,” “effort,” “target,” and similar expressions, among others, generally identify forward-looking statements, which speak only as of the date the statements were made.

In particular, information included under the sections entitled “Business,” “Risk Factors,” and “Management’s Discussion and Analysis of Financial Condition and Results of Operations” contain forward-looking statements.

Readers are cautioned that the matters discussed in these forward-looking statements are subject to risks, uncertainties, assumptions, and other factors that are difficult to predict and which could cause actual results to differ materially from those projected, anticipated, or implied in the forward-looking statements. Where, in any forward-looking statement, an expectation or belief as to future results or events is expressed, such expectation or belief is based on the current plans and expectations of management and expressed in good faith and believed to have a reasonable basis, but there can be no assurance that the expectation or belief will be achieved or accomplished. Many factors that could cause actual results or events to differ materially from those anticipated include those risks and uncertainties described below and elsewhere in this Annual Report on Form 10-K, including under the section entitled “Management’s Discussion and Analysis of Financial Condition and Results of Operations.” We caution you not to place undue reliance on these forward-looking statements, which speak only as of the date of this Annual Report on Form 10-K and Knowles does not assume any obligation to update any forward-looking statement as a result of new information, future events, or otherwise, except as required by applicable law. All forward-looking statements, expressed or implied, included in this Annual Report on Form 10-K are expressly qualified in their entirety by this cautionary statement. This cautionary statement should also be considered in connection with any subsequent written or oral forward-looking statements that we may make or persons acting on our behalf may issue.

You should consider each of the following factors as well as the other information in this Annual Report on Form 10-K, including our financial statements and the related notes, in evaluating our business and our prospects. The risks and uncertainties described below are not the only ones we face. In general, we are subject to the same general risks and uncertainties that impact many other companies such as general economic, industry, and/or market conditions and growth rates; possible future terrorist threats or armed conflicts and their effect on the worldwide economy; and changes in laws or accounting rules. Additional risks and uncertainties not presently known to us or that we currently consider immaterial may also impair our business operations. If any of these risks occur, our business and financial results could be harmed. In that case, the trading price of our common stock could decline.

Risks Related to the COVID-19 Pandemic

Financial condition and results of operations have been and are expected to continue to be adversely impacted by the recent COVID-19 pandemic.

The effects on our operations due to the public health crisis caused by the COVID-19 pandemic and the measures being taken to limit COVID-19's spread have negatively impacted our operations and financial results and future impacts are uncertain and difficult to predict, but may include:

◦ The effects of the COVID-19 pandemic on our business may extend well beyond the current health crisis and immediate related governmental action. Disruptions resulting from COVID-19 have caused some of our customers to take cost-cutting actions. As a result, we are experiencing lower demand for products, customer requests for potential payment deferrals, pricing concessions, delays of deliveries, and other contract modifications. In addition, shifts in consumer spending and market downturns due to pandemic fears and the measures taken to contain its spread have negatively impacted demand for our products, primarily in our Audio segment, and may continue to have a significant negative impact to our markets.

- We may be restricted or prevented from conducting business activities for indefinite or intermittent periods of time, including as a result of employee health and safety concerns, shutdowns, shelter in place orders, travel restrictions, and other actions and restrictions that may be requested or mandated by governmental authorities. For example, we experienced a temporary reduction of our manufacturing and operating capacity in China, Malaysia, and the Philippines as a result of government-mandated actions to control the spread of COVID-19. While those restrictions have been lifted, they may be reinstated as the pandemic continues to evolve. In addition, our U.S. facilities have been designated as an essential business in jurisdictions where facility closures have been mandated, but we can give no assurance that this will not change in the future or that our business will continue to be classified as essential in each of the U.S. jurisdictions in which we operate.
- To date we have not experienced significant disruption to our supply chain. However, if our suppliers' operations were to be impacted, we may need to seek alternative suppliers, which may result in higher supply chain costs to us, supplies not being available, or delays in shipments to us and subsequently to our customers.
- We have experienced increased costs resulting from efforts to mitigate the impact of COVID-19 through social distancing measures (such as limiting or reducing the number of workers at our sites), as well as incremental costs associated with enhanced cleaning measures and providing workers with personal protection equipment.
- The Company believes that our future cash flow from operations and access to capital markets will provide adequate resources to fund our future working capital needs, capital expenditures, and strategic investments. However, the uncertainty regarding the duration and severity of the COVID-19 pandemic, including the effect on our product markets, pose heightened risks to our liquidity.

These and other impacts of the COVID-19 pandemic could have the effect of heightening many of the other risk factors disclosed herein. The ultimate impact on our business and results of operations depends on the severity and duration of the COVID-19 pandemic and actions taken by governmental authorities and other third parties in response, each of which is uncertain, rapidly changing and difficult to predict.

Risks Related To Our Business

Our largest segment, Audio, derives a significant portion of its revenues from a limited number of OEM customers. If revenues derived from these customers decrease or the timing of such revenues fluctuates, our operating results could be adversely affected.

Our Audio segment accounted for 77% of our consolidated revenues for fiscal 2020. Our Audio segment derives a significant portion of revenues from a small number of OEM customers. For 2020, Audio top five customers accounted for approximately 52% of Audio’s revenues. For the year ended December 31, 2020, Apple Inc. accounted for approximately 29% of Audio’s revenues and 23% of consolidated company revenues. The mobile handset industry is also subject to intense competition that could result in decreased demand and/or declining average selling prices for our products and those of our OEM customers. The loss of any one of Audio’s top customers or a reduction in the purchases of Audio’s products by such customers would reduce our total revenues and may have a material adverse effect on our operating results, and any delay of a significant volume of purchases by any one of our top customers, even if only temporary, would reduce our revenues in the period of the delay and may have a material adverse effect on our operating results. Further, concentration of market share among a few companies and the corresponding increase in purchasing power of these companies may result in lower prices for our products which, if not offset by a sufficient increase in the volume, or favorable changes in the mix, of purchases of our products, could have a material adverse effect on our revenues and margins. In addition, the timing, volume, and mix of purchases by our significant customers may be impacted by the timing of such customers’ new or next generation product introductions, and the timing of such introductions may have a material adverse effect on our operating results. Accordingly, if current market and industry dynamics continue, our Audio segment’s revenues will continue to depend largely upon, and be impacted by the timing, volume, and mix of future purchases by a limited number of our OEM customers.

We derive the majority of our Audio revenues from MEMS microphones and a significant reduction in our sales of MEMS microphones could significantly reduce our revenues and adversely impact our operating results.

Within our Audio segment, revenues are generated primarily from the sales of our MEMS microphones. Sales of MEMS microphones accounted for approximately 59% of our consolidated revenues for fiscal 2020. We expect that a substantial portion of our revenues will continue to be attributable to sales of MEMS microphones and any weakening of demand, loss of market share, or other factors adversely affecting our levels and the timing of our sales of MEMS microphones, including our customers’ product release cycles, market acceptance, product competition, the performance and reliability of our MEMS microphones, and economic and market conditions could cause our Audio revenues to substantially decline, which may have a material adverse effect on our operating results.

We depend on the mobile handset market for a significant portion of our revenues, and any downturn or slower than expected growth in this market could significantly reduce our revenues and adversely impact our operating results.

The mobile handset market accounted for approximately 28% of our consolidated revenues for fiscal 2020. While other markets such as mobile headsets, wearables, and IoT are gaining in significance, we expect that a substantial portion of our consolidated revenues will continue to be attributable to the mobile handset market, which is cyclical and characterized by continuous and rapid technological change, product obsolescence, price erosion, evolving standards, short product life cycles, and significant fluctuations in product supply and demand. Moreover, the mobile handset market may not continue to grow at the rate experienced in recent years or may decline for reasons outside of our control including competition among market participants, market saturation, and global economic conditions. The mobile handset market has experienced and may experience periodic downturns which may be characterized by diminished product demand, production overcapacity, high inventory levels, and accelerated erosion of average selling prices. Given that the strength of the mobile handset market is a primary driver of revenues for our Audio segment, any downturn in the mobile handset market could have a material adverse effect on our business and operating results. In addition, a decline in global economic conditions, particularly in China and other geographic regions with high concentrations of mobile handset users, could have adverse, wide-ranging effects on demand for our products or technologies, the products and services of our customers or licensees, particularly OEM handset manufacturers, the solvency of key suppliers, failures by counterparties, and negative effects on mobile handset inventories. In addition, our customers' ability to purchase or pay for our products and services and their customers' ability to upgrade their mobile handsets could be adversely affected by economic conditions, leading to a reduction, cancellation, or delay of orders for our products or services.

If we are unable to offset erosion of average selling prices in our Audio segment our gross margins may be adversely affected.

Like most technology sectors, the mobile handset industry has traditionally experienced an erosion of average selling prices due to a number of factors, including intense competition, component pricing trends, changes in demand mix, excess inventories, and rapid obsolescence resulting from technology advances. Within our Audio segment, while average selling prices vary significantly on a product to product basis, we have traditionally been successful with largely offsetting price erosion by shifting our product mix to new, higher end or higher performance microphones and gradually shifting customers from analog microphones to higher value digital microphones. To offset average selling price erosion, we must either continue to be successful with these initiatives or increase our selling prices. If we are unable to offset average selling price erosion, the average selling prices of our products may decrease and our future operating results may be materially adversely affected.

We rely on highly specialized suppliers for a variety of highly engineered or specialized components, and other inputs for which we may not be able to readily identify alternatives or substitutes in the event of a supply disruption or capacity constraint at or by any of these suppliers, which could have a material adverse impact on our results of operations.

Certain of our businesses rely on highly specialized suppliers or foundries for critical materials, components, or subassemblies that are used in our products. In some cases, such suppliers or foundries may be our sole source of supply or, such suppliers or foundries may also be a strategic supplier to one of our competitors or a customer. In either of these cases, should an event occur which affects the ability or willingness of any of such supplier or foundry to continue to deliver materials or components to us in a timely manner, we may not be able to identify or qualify an alternative supplier in a timely manner which, in any such period and future periods, could have a material adverse effect on our results of operations. Potential events or occurrences which could cause business or supply disruptions or affect the ability or willingness of a supplier or foundry to continue to supply us include changes in market strategy, the acquisition of, sale, or other change in control or ownership structure of a supplier or foundry, strategic divestiture, bankruptcy, insolvency or other financial difficulties, business disruptions, operational issues, or capacity constraints at a supplier or foundry.

Our success depends on our ability to attract and retain key employees, and if we are unable to attract and retain such qualified employees, our business and our ability to execute our business strategies may be materially impaired.

Our future success depends largely on the continued service and efforts of our executive officers and other key management and technical personnel and on our ability to continue to identify, attract, retain, and motivate them, particularly in an environment of cost reductions and a general move toward more performance-based compensation for executives and key management.

Implementing our business strategy also requires specialized engineering and other talent, as our revenues are highly dependent on technological and product innovations. Competition for such experienced technical personnel in our industry and where we are located is intense, and we cannot assure that we can continue to recruit and retain such personnel. For example, there is substantial competition in China for experienced engineers and technical personnel where most of our operations are located and for machine learning and software engineers in California and India where we primarily conduct research and development for our software and intelligent audio products, which may make it difficult for us to recruit and retain key employees. If we are unable to attract and retain such qualified employees, our business and our ability to execute our business strategies may be materially impaired.

We have invested and continue to make strategic investments and acquisitions that, if not successful, could have a material adverse effect on our business and financial results.

We engage in strategic transactions and make strategic investments including investments in emerging technology companies and intellectual property which are focused on growth by positioning the Company for expansion into new markets, territories or technologies, exploiting new or growing customer or market opportunities, and developing new technologies and products. Such acquisitions and strategic investments naturally entail significant risks and uncertainties, some of which are beyond our control. We may not, for example, be able to retain key employees, customers, or suppliers of acquired companies, derive value from acquired technology or assets and we may experience delays in achieving cost synergies or higher than expected costs in implementing them. In addition, due to our inexperience with certain adjacent or complimentary technologies and doing business in certain geographic regions that may be served by acquired businesses, we may underestimate the costs or overestimate the benefits that we expect to realize from such acquisitions or investments, and we may not achieve them. We cannot, therefore, provide assurance that each of our acquisitions or strategic investments will be accretive or generate anticipated financial returns. If, for any of these or for unforeseen reasons, our strategic acquisitions or investments fail to meet our expectations or forecasts, our business and results of operations may be materially adversely affected.

Our effective tax rate may fluctuate which will impact our future financial results.

Our effective tax rate is highly dependent upon the geographic composition of our worldwide earnings as we are subject to income taxes in both the U.S. and various foreign jurisdictions. Tax regulations governing each region, changes to those regulations, differing statutory tax rates, changes in the valuation of deferred tax assets, tax law, or rate changes could adversely affect our effective tax rate, and ultimately actual taxes payable.

The estimated effects of applicable tax laws, including current interpretation of the Tax Cuts and Jobs Act ("Tax Reform Act"), have been incorporated into our financial results. The U.S. Treasury Department, Internal Revenue Service ("IRS"), and other standard-setting bodies could interpret or issue future legislation or guidance which impact how provisions of the Tax Reform Act will be applied or otherwise administered that is different from our interpretation, which could have a material adverse impact on our effective tax rate as well as our future financial results and tax payments.

Further, our tax returns are subject to periodic reviews or audits by domestic and international authorities, and these audits may result in adjustments to our provision for taxes or allocations of income or deductions that result in tax assessments different from amounts that we have estimated. We regularly assess the likelihood of an adverse outcome resulting from these audits to determine the adequacy of our provision for taxes. There can be no assurance as to the outcome of these audits or that our tax provisions will not change materially or be adequate to satisfy any associated tax liability. If our effective tax rates were to increase or if our tax liabilities exceed our estimates and provisions for such taxes, our financial results could be adversely affected.

Our effective tax rate is favorably impacted by tax holidays granted to us by certain foreign jurisdictions, which lowers the tax rates we are subject to for a period of time as compared to the countries' statutory tax rates. These tax holidays are subject to the satisfaction of certain conditions, including exceeding certain annual thresholds of operating expenses and gross sales. If we fail to satisfy such conditions, our effective tax rate may be materially adversely impacted. For additional detail, see Note 13. Income Taxes to our Consolidated Financial Statements under Item 8, "Financial Statements and Supplementary Data." Moreover, tax rates and laws in the countries where we operate may change, or tax reforms may be enacted domestically or in foreign jurisdictions which adversely affect our liquidity, cash flows, and future reported financial results or our ability to continue to structure and conduct our business as is done currently.

Our products are complex and could contain defects, which could result in material costs to us and harm our business, results of operations, and financial condition.

Our products are complex and could contain defects, which could result in material costs to us. Product development in the markets we serve is becoming more focused on audio signal processing for improved audio performance and to enable intelligent and more sophisticated audio solutions. The increasing complexity of our products increases the risk that we or our customers or end users could discover latent defects or subtle faults after significant volumes of product have been shipped. This could result in material costs and other adverse consequences to us including, but not limited to: loss of customers, reduced margins, damage to our reputation, a material product recall, replacement costs for product warranty and support, payments to our customers related to recall claims as a result of various industry or business practices, a delay in recognition or loss of revenues, loss of market share, or failure to achieve market acceptance, and a diversion of the attention of our engineering personnel from our product development efforts. In addition, any defects or other problems with our products could result in financial losses or other damages to our customers who could seek damages from us for their losses. A product liability or warranty claim brought against us, even if unsuccessful, would likely be time consuming and costly to defend. In particular, the sale of systems and components that are incorporated into mobile handsets for the global mobile phone industry involves a high degree of risk that such claims may be made. Due to the complex nature of our products, quality and reliability issues may be identified after significant volumes of a product have been shipped to a large customer. A warranty or product liability claim against us in excess of our available insurance coverage and established reserves, or a determination that we have liability or an obligation to cover the costs of a customer product recall, could have a material adverse effect on our business, results of operations, and financial condition.

In addition, our products are typically sold to customers at prices that are significantly lower than the cost of the customer's products in which they are incorporated. Given that a defect in one of our products could give rise to failures in the products that incorporate them, we may face claims for damages that are disproportionate to the revenues we receive from the products involved and because we are self-insured for matters relating to product quality a significant claim could have a material adverse effect on our financial condition. Moreover, to the extent a defect in one of our products is caused by a defective component supplied to us by a third party, we may, nonetheless, be liable to the customer and be unsuccessful in seeking indemnification from that third party.

Our goodwill, other intangible assets, or long-lived assets may become impaired, which could result in a significant charge to earnings.

We hold significant amounts of goodwill, other intangible assets, and long-lived assets, and the balances of these assets could increase in the future if we acquire other businesses. At December 31, 2020, the balance of our goodwill, other intangible assets, and long-lived assets was $1.2 billion and the total market value of the Company's outstanding shares was $1.7 billion. Under generally accepted accounting principles in the United States ("U.S. GAAP"), we review our goodwill, other intangible assets, and long-lived assets for impairment when events or changes in circumstances indicate the carrying value of such goodwill, other intangible assets, or long-lived assets may not be recoverable. In addition, we test goodwill and other indefinite-lived intangible assets for impairment annually. Factors that may be considered a change in circumstances, indicating that the carrying value of our goodwill, other intangible assets, or long-lived assets may not be recoverable, include, but are not limited to, a sustained decline in stock price and market capitalization, significant negative variances between actual and expected financial results, reduced future cash flow estimates, adverse changes in legal factors, failure to realize anticipated synergies from acquisitions, and slower growth rates in our industry. We may be required to record a significant charge to earnings in our financial statements during the period in which any impairment of our goodwill, other intangible assets, or long-lived assets is determined to exist, negatively impacting our results of operations. If our market capitalization was to fall below the book value of our total stockholders' equity for a sustained period, we may conclude that the fair value of certain of our intangible or long-lived assets is materially impaired. In this case, we would be required under U.S. GAAP to record a non-cash charge to our earnings which could have a material adverse effect on our business, results of operations, and financial condition.

We are subject to potentially material liability for breaches of confidentiality agreements with certain of our top customers.

We have entered into non-disclosure agreements with several of our top customers which require us not to disclose and to protect certain information regarding, among other things, aspects of those customers' businesses plans, products, and technology. These confidentiality agreements, in some cases, impose strict liability on us in the event of any breach of these agreements by us or our employees or agents and, should such a breach occur, any resulting damage award or settlement could have a material adverse effect on our operating results and financial condition.

Risks Related to Our Industry

Global markets for our products are highly competitive and subject to rapid technological change. If we are unable to develop new products and compete effectively in these markets, our financial condition and operating results could be materially adversely affected.

We compete in highly competitive, technology-based, industries that are highly dynamic as new technologies are developed and introduced. Our competitors may introduce products that are as or more technologically advanced than our products or launch new products faster than we can, which may result in a loss of market share or revenue by us. If we are unable to anticipate or match our competitors' development or launch of new products, identify customer needs and preferences on a timely basis, or successfully launch or ramp production of our new products, our business and operating results may be materially adversely affected.

We operate in the highly competitive mobile handset industry, which requires us to invest significant capital in developing, qualifying, and ramping production of new products without any assurance of product sales. If our new products are not designed into a customer's product or qualified by a customer our operating results could be negatively impacted.

A significant portion of our consolidated revenues are derived from acoustic components and audio solutions that are required to go through extensive customer qualification processes before being selected by customers for inclusion in their end products. In order to meet the product launch schedules of our top customers, we may invest capital and devote substantial resources, including design, engineering, sales, marketing, and programming efforts, based on non-binding forecasts provided by these customers, without any assurance that our products will be designed into a customer's product or qualified by the customer. In such cases, if our product is not designed into or qualified by the customer, we may not recover or realize any return on the capital that we invested and our operating results may be materially adversely affected.

In addition, the time required and costs incurred by us to ramp-up production for new products can be significant. Certain non-recurring costs and expenditures for tooling and other equipment may not be reusable in manufacturing products for other customers or different products for the same customer. Product ramps typically involve greater volumes of scrap and risks to execution such as higher costs due to inefficiencies and delays in production, all of which can have a material adverse effect on our operating results.

Risks Related to Operating a Global Business

Our foreign operations and supply chain are each subject to various risks that could materially adversely impact our results of operations and financial condition.

Many of our manufacturing operations, research and development operations, vendors, and suppliers are located outside the United States and if we are unable to successfully manage the risks associated with our global operations, our results of operations and financial condition could be negatively impacted. These risks include:

- labor unrest and strikes, particularly in Asia, where the majority of our manufacturing operations are located;
- earthquakes, floods, and other natural disasters, pandemics (such as the coronavirus), or catastrophic events, particularly in Asia, where the majority of our manufacturing operations and suppliers are located;
- acts of terrorism or armed conflicts;
- political or economic instability;
- government embargoes, trade restrictions, and import and export controls; and
- transportation delays and interruptions.

Global economic conditions and changes in U.S. and international trade policy could materially adversely impact our business, results of operations, and financial position.

In the past, the Company's business and operating results have been adversely affected by these global economic conditions and remain vulnerable to future adverse impacts. Any prolonged economic deceleration in China may have a material adverse effect on our sales to customers in China, our operating results, and our financial condition.

We face uncertainty with respect to U.S. trade policy, due to the change in the U.S. presidential administration. The prior administration had taken certain actions and demonstrated its intent to alter its approach to international trade policy using many tactics at its disposal including the renegotiation, termination or threatened termination, or renegotiation of certain existing bilateral or multi-lateral trade agreements and treaties with, the imposition of tariffs on a wide range of products and other goods manufactured in, China, countries in Europe, and other countries and the imposition of sanctions on countries and companies that it had concluded were directly or indirectly avoiding United States' trade sanctions or acting contrary to U.S. national security. Given that the majority of our largest manufacturing facilities are located in China and Southeast Asia, trade policy changes in the United States, China, or other countries, such as the tariffs and sanctions would present particular risks for us that could adversely impact our results of operations and financial condition. We cannot predict future foreign trade policy in the United States or other countries, the terms of any new or renegotiated trade agreements or treaties, or tariffs or the impact of such matters on our business. A trade war involving the United States is likely to negatively impact world trade and the world economy in various ways and, consequently, have a material adverse effect on our results of operations and financial condition. To the extent that tariffs, trade restrictions, or sanctions imposed by the United States or other countries increase the price of, affect customer demand for, affect our ability to supply our products, or create adverse tax consequences, in the United States or other countries, our business and our operating results may be adversely affected. As a result, changes in international trade policy, changes in trade agreements, the imposition of tariffs or sanctions by the United States or other countries could materially adversely affect our results of operations and our financial condition.

Changes to export restrictions and economic sanction laws may adversely affect our operating results.

As a global company headquartered in the U.S., we are subject to U.S. laws and regulations, including import, export, and economic sanction laws. These laws may include prohibitions on the sale or supply of certain products to embargoed or sanctioned countries, regions, governments, persons, and entities, may require an export license prior to the export of the controlled item, or may otherwise limit and restrict the export of certain products and technologies. Many of our customers and suppliers are foreign companies or have significant foreign operations. The imposition of new or additional economic and trade sanctions against our major customers or suppliers could result in our inability to sell to, and generate revenue from such customers or purchase materials from such suppliers. Although these restrictions and laws have not significantly restricted our operations in the past, there is a risk that they could do so in the future.

For example, on May 16, 2019, the U.S. Department of Commerce published a final rule in the Federal Register that amended the Export Administration Regulations by adding Huawei Technologies Co., Ltd. ("Huawei") and 68 of its affiliates to the "Entity List" for actions contrary to the national security or foreign policy interests of the U.S. This rule imposed new export licensing requirements on exports, re-exports, and in-country transfers of all U.S.-regulated products, software, and technology to the designated Huawei entities. To date, this action has not had a material impact on our results of operations. However, if new or different restrictions are placed on sales of our products to our existing or potential customers, this could adversely affect our business and results of operations in the future.

As a result of restrictive export laws, our customers may also develop their own solutions to replace our products or seek to obtain a greater supply of similar or substitute products from our competitors that are not subject to these restrictions, which could materially and adversely affect our business and results of operations.

In addition, our association with customers that are or become subject to U.S. regulatory scrutiny or export restrictions could subject us to actual or perceived reputational harm among current or prospective investors, suppliers or customers, customers of our customers, other parties doing business with us, or the general public. Any such reputational harm could result in the loss of investors, suppliers, or customers, which could harm our business, financial condition, operating results, or prospects.

Fluctuations in commodity prices and foreign currency rates could have a material adverse effect on our operating results and financial condition.

We use a wide variety of raw materials in our manufacturing operation and are exposed to market risks associated with changes in commodity prices. Changes in commodity prices (from tariffs or otherwise) cannot always be predicted, hedged, or offset with price increases to eliminate earnings volatility. As a result, significant changes in commodity prices, particularly for various precious metals, could have a substantial adverse effect on our financial condition and results of operations.

In addition, we conduct a significant amount of business outside the United States and adverse movements in currency exchange rates, particularly the Malaysian ringgit, the Chinese renminbi (yuan), and the Philippine peso, in any period or periods, could have a material adverse effect on our business and our operating results due to a number of factors, including, among others:

- our products are manufactured and sold outside the United States which increases our net exposure to changes in foreign exchange rates;
- our products, which are typically sold in U.S. dollars, may become less price-competitive outside the United States as a result of unfavorable foreign exchange rates;
- certain of our revenues that are derived from customer sales denominated in foreign currencies could decrease;
- our foreign suppliers may raise their prices if they are impacted by currency fluctuations, resulting in higher than expected costs and lower margins;
- the cost of materials, products, services, and other expenses outside the United States could be materially impacted by a weakening of the U.S. dollar; and
- a sustained weakening of the U.S. dollar for an extended period could have a material adverse impact on our operating results and financial position.

While we have entered and may in the future enter into derivative financial instruments in an effort to hedge our foreign currency exposure, we remain exposed to the economic risks of foreign currency fluctuations. See the "Risk Management" section of Item 7 for additional discussion of commodity price and foreign currency risks.

Risks Related to Intellectual Property and Cybersecurity

Our revenues and operating results could be materially adversely affected if we are unable to protect or obtain patent and other intellectual property rights or if intellectual property litigation is successful against us.

We employ various measures to maintain, protect, and defend our intellectual property, including enforcing our intellectual property rights in various jurisdictions and forums throughout the world. However, policing unauthorized use of our products, technologies, and proprietary information is difficult and time consuming and these measures may not prevent our intellectual property from being challenged, invalidated, copied, disclosed, stolen, or circumvented. If we fail to protect our proprietary rights, our competitors might gain access to our technology, which could adversely affect our ability to compete successfully in our markets and harm our operating results. We also may not be successful in litigation or other actions to enforce our intellectual property rights, particularly in countries where intellectual property rights are not highly developed or protected, particularly in Asia, where the majority of our manufacturing operations are located. Litigation, if necessary, may result in retaliatory legal proceedings alleging infringement by us of intellectual property owned by others. We have had and may in the future have difficulty in certain circumstances in protecting or enforcing our intellectual property rights, including collecting royalties for use of certain patents included in our patent portfolio in certain foreign jurisdictions due to, among other things: policies of foreign governments; challenges to our licensing practices under such jurisdictions' competition laws; failure of foreign courts to recognize and enforce judgments of contract breach and damages issued by courts in the United States; and/or challenges pending before foreign patent authorities as to the validity of our patents and those owned by competitors and other parties.

Our competitors or other third parties may also assert infringement or invalidity claims against us in the future. If one of our products is found to infringe on a third party's rights, we may have liability for damages arising out of past infringement and may need to seek a license to use such intellectual property going forward. If a license is not available or if we are unable to obtain a license on terms acceptable to us, we would either have to change our product so that it does not infringe or cease selling the product. Any of these events may have a material adverse effect on our business, operating results, and financial condition.

The expense of protecting, defending, and enforcing our intellectual property, or defending claims that our products, technology, or manufacturing processes infringe the intellectual property rights of others, can vary significantly period to period and, in any given period, could have a material adverse effect on our operating results.

Our business and operations could suffer in the event of security breaches, cybersecurity incident, other unauthorized disclosures, or network disruptions.

While we have taken and continue to actively take measures to protect the various proprietary information, algorithms, source code, and confidential data relating to both our and our customers' business and products that is stored on our computer networks, servers, and peripheral devices, as well as on servers owned or managed by third party vendors whom we leverage, such data and information remains vulnerable to cyber attacks, cyber breaches, theft, or other unauthorized access. These attacks are increasing in their frequency, sophistication, and intensity and are costly to protect against. In addition, many of the techniques used to obtain unauthorized access, including viruses, worms, and other malicious software programs, are difficult to anticipate until launched against a target and we may be unable to implement adequate preventative measures. If successful, such unauthorized access could result in loss of valuable intellectual property, disclosure of confidential customer or commercial data, disclosure of government classified information, or system disruptions and subject us to civil liability and fines or penalties, damage our brand and reputation or otherwise harm our business, any of which could be material.

Should any security breach result in the disclosure of certain of our customers' or business partners' confidential information, we may incur liability to such customers or business partners under confidentiality agreements that we are party to with such parties. In addition, delayed sales, lower margins, or lost customers resulting from security breaches or network disruptions could materially reduce our revenues, materially increase our expenses, damage our reputation, and have a material adverse effect on our stock price.

There is also a danger of industrial espionage, unauthorized disclosures, theft of information or assets (including source code), or damage to assets by people who have gained unauthorized access to the Company's facilities, systems, or information. Such breaches, misuse, or other disruptions could lead to unauthorized disclosure of confidential or proprietary information or improper usage or sale of the Company's products or intellectual property without compensation and theft, manipulation, and destruction of private and proprietary data, which could result in defective products, production downtimes, lost revenue, or damage to our reputation, and have a material adverse effect on our stock price.

Additionally, any disruption, termination, or substandard provision of our communication networks and IT systems, whether as a result of computer or telecommunication issues (including operational failures, computer viruses, or security breaches), localized conditions (such as power outage, fire, or explosion) or events or circumstances of broader geographic impact (such as earthquake, storm, flood, other natural disaster, epidemic, strike, act of war, civil unrest, or terrorist act), could materially affect our business by disrupting normal operations.

Global privacy legislation, enforcement, and policy activity are rapidly expanding and creating a complex data privacy environment. We are subject to many data privacy, data protection, and data breach notification laws and regulations in the United States and around the world. While we have taken measures to assess the requirements of, and to comply with data privacy legislation, there is the potential for fines and penalties, litigation, and reputational harm in the event of a data breach.

Risks Related to Our Indebtedness

Our credit agreement requires us to comply with certain financial covenants and our failure to comply could have a material adverse effect on our business, financial condition, and results of operations.

The credit agreement governing our revolving credit facility contains covenants requiring us to, among other things, maintain a minimum ratio of consolidated EBITDA to consolidated interest expense and a maximum ratio of consolidated total indebtedness to consolidated EBITDA. In the past, we have obtained amendments from the lenders under the credit agreement which have allowed us to comply with the financial covenants, but there can be no assurance that in the future the lenders will agree to such amendments, and our inability to comply with the covenants could result in an event of default which, if not cured or waived, could have a material adverse effect on our business, financial condition, and operating results.

We are subject to counterparty risk with respect to the convertible note hedge transactions.

As discussed in Note 12. Borrowings to our audited Consolidated Financial Statements under Item 8, "Financial Statements and Supplementary Data", we issued convertible senior notes (the "Notes") and concurrently entered into convertible note hedge transactions and separate warrants. The option counterparties are financial institutions, and we are subject to the risk that one or more of the option counterparties may default under the convertible note hedge transactions. Our exposure to the credit risk of the option counterparties will not be secured by any collateral. If any of the option counterparties become subject to insolvency proceedings, we will become an unsecured creditor in those proceedings with a claim equal to our exposure at that time under our transactions with such counterparties. Our exposure will depend on many factors but, generally, the increase in our exposure will be correlated to the increase in the market price and in the volatility of our common stock. In addition, upon a default by the option counterparties, we may suffer adverse tax consequences and more dilution than we currently anticipate with respect to our common stock. We can provide no assurances as to the financial stability or viability of the option counterparties.

There are risks associated with our indebtedness, which could have a material adverse effect on our financial condition.

Our outstanding indebtedness and any additional indebtedness we incur may have negative consequences, including:

- requiring us to use cash to pay the principal of and interest on our indebtedness, thereby reducing the amount of cash flow available for other purposes;
- limiting our ability to obtain additional financing for working capital, capital expenditures, acquisitions, stock repurchases, dividends, or other general corporate and other purposes;
- limiting our flexibility in planning for, or reacting to, changes in our business and our industry; and
- increasing our vulnerability to interest rate fluctuations to the extent a portion of our debt has variable interest rates.

Our ability to make payments of principal and interest on our indebtedness depends upon our future performance, which is subject to general economic conditions, industry cycles, and financial, business, and other factors, many of which are beyond our control. If we are unable to generate sufficient cash flow from operations in the future to service our debt, we may be required to, among other things: refinance or restructure all or a portion of our indebtedness; reduce or delay planned capital or operating expenditures; or sell selected assets. Such measures might not be sufficient to enable us to service our debt. In addition, any such financing, refinancing, or sale of assets might not be available on economically favorable terms or at all, and if prevailing interest rates at the time of any such financing and/or refinancing are higher than our current rates, interest expense related to such financing and/or refinancing would increase. Furthermore, our variable rate indebtedness may use LIBOR as a benchmark for establishing the rate. LIBOR is the subject of recent national, international, and other regulatory guidance and proposals for reform. These reforms and other pressures may cause LIBOR to disappear entirely or to perform differently than in the past. The consequences of these developments cannot be entirely predicted, but could include an increase in the cost of our variable rate indebtedness. If there are adverse changes in the ratings assigned to our debt securities by credit rating agencies, our borrowing costs, our ability to access debt in the future, and/or the terms of the financing could be adversely affected.

Transactions relating to our Convertible Notes may dilute the ownership interest of our stockholders, or may otherwise depress the price of our common stock.

The conversion of some or all of our outstanding Notes would dilute the ownership interests of existing stockholders to the extent we deliver shares upon conversion of any such Notes. If the Notes become convertible under the terms of the indenture, and if holders subsequently elect to convert their notes, we could be required to deliver to them a significant number of shares of our common stock. Any sales in the public market of the common stock issuable upon such conversion could adversely affect prevailing market prices of our common stock. In addition, the existence of the Notes may encourage short selling by market participants because the conversion of such notes could be used to satisfy short positions. Additionally, anticipated conversion of such notes into shares of our common stock could depress the price of our common stock. For additional detail, see Note 12. Borrowings to our Consolidated Financial Statements under Item 8, “Financial Statements and Supplementary Data.”

Risks Related to Our Corporate Governance and Common Stock

Our business could be negatively affected as a result of the actions of activist or hostile stockholders.

Our business could be negatively affected as a result of stockholder activism, which could cause us to incur significant expense, hinder execution of our business strategy, and impact the trading value of our securities. In the past, the Company has been the subject of shareholder activism, and we are subject to the risks associated with any future such activism. Stockholder activism, including potential proxy contests, requires significant time and attention by management and the Board of Directors, potentially interfering with our ability to execute our strategic plan. Additionally, such stockholder activism could give rise to perceived uncertainties as to our future direction, adversely affect our relationships with key executives and business partners, and make it more difficult to attract and retain qualified personnel. Also, we may be required to incur significant legal fees and other expenses related to activist stockholder matters. Any of these impacts could materially and adversely affect our business and operating results. Further, the market price of our common stock could be subject to significant fluctuation or otherwise be adversely affected by stockholder activism.

Certain provisions in our certificate of incorporation, by-laws, and Delaware law may prevent or delay an acquisition of the Company, which could decrease the trading price of our common stock.

Each of our certificate of incorporation, our by-laws, and Delaware law, as currently in effect, contain provisions that are intended to deter coercive takeover practices and inadequate takeover bids by making such practices or bids unacceptably expensive to the bidder and to encourage prospective acquirers to negotiate with our Board of Directors rather than to attempt a hostile takeover. These provisions include, among others:

- the inability of our stockholders to call a special meeting or act by written consent;
- rules regarding how stockholders may present proposals or nominate directors for election at stockholder meetings;
- the right of our Board of Directors to issue preferred stock without stockholder approval;
- the classification of our Board of Directors and a provision that stockholders may only remove directors for cause, in each case until our 2021 annual meeting of stockholders; and
- the ability of our directors, without a stockholder vote, to fill vacancies on our Board of Directors (including those resulting from an enlargement of the Board of Directors).

In addition, current Delaware law includes provisions which limit the ability of persons that, without prior board approval, acquire more than 15% of the outstanding voting stock of a Delaware corporation from engaging in any business combination with that corporation, including by merger, consolidation, or purchases of additional shares, for a three-year period following the acquisition by such persons of more than 15% of the corporation's outstanding voting stock.

In light of present circumstances, we believe these provisions taken as a whole protect our stockholders from coercive or otherwise unfair takeover tactics by requiring potential acquirers to negotiate with our Board of Directors and by providing our Board of Directors with more time to assess any acquisition proposal. These provisions are not intended to make us immune from takeovers or prevent changes in the composition of our Board of Directors. However, these provisions could delay or prevent an acquisition that our Board of Directors determines is not in the best interests of the Company and all of our stockholders.

Our stock price has been and may continue to be volatile and may fluctuate significantly which may adversely impact investor confidence and increase the likelihood of securities class action litigation.

Our common stock price has experienced substantial volatility in the past and may remain volatile in the future. During 2020, our closing stock price ranged from a high of $22.05 per share to a low of $11.52 per share. Volatility in our stock price can be driven by many factors including divergence between our actual or anticipated financial results and published expectations of analysts or the expectations of the market, market conditions in our industry, announcements that we, our competitors, our vendors, or our customers may make regarding their operating results, technological innovations, and the gain or loss of customers, or key opportunities. Our common stock is also included in certain market indices, and any change in the composition of these indices to exclude our company may adversely affect our stock price. Increased volatility in the financial markets and/or overall economic conditions may reduce the amounts that we realize in the future on our cash equivalents and/or marketable securities and may reduce our earnings as a result of any impairment charges that we record to reduce recorded values of marketable securities to their fair values.

Further, securities class action litigation is often brought against a public company following periods of volatility in the market price of its securities. Due to changes in our stock price, we may be the target of securities litigation in the future. Securities litigation could result in substantial uninsured costs and divert management’s attention and our resources.

ITEM 1B. UNRESOLVED STAFF COMMENTS

None.

ITEM 2. PROPERTIES

Our corporate headquarters is located in Itasca, Illinois. Our material properties used in connection with manufacturing, sales, research and development, and corporate administrative operations, and the segments served at that facility, are as follows:

Location	Principal Function(s)	Owned or Leased	Segment	Square Footage (in thousands)
Suzhou, China	Manufacturing and administrative	Leased	Audio, PD	495
Cebu, the Philippines	Manufacturing and administrative	Owned	Audio	215
Penang, Malaysia	Manufacturing and administrative	Owned	Audio	187
Cazenovia, New York	Manufacturing, research and development, sales, and administrative	Owned	PD	133
Itasca, Illinois	Corporate headquarters, research and development, sales, and administrative	Owned	Audio	95

We are currently pursuing the sublease of our vacated leased facility in Mountain View, California. We believe that the owned and leased facilities we utilize are well-maintained and suitable for our operations.

ITEM 3. LEGAL PROCEEDINGS

For a discussion of contingencies related to legal proceedings, see Note 15. Commitments and Contingent Liabilities to our Consolidated Financial Statements under Item 8, "Financial Statements and Supplementary Data."

Except as otherwise noted above, there have been no material developments in legal proceedings.

ITEM 4. MINE SAFETY DISCLOSURES

Not applicable.

INFORMATION ABOUT OUR EXECUTIVE OFFICERS

The following sets forth information regarding our executive officers, as of February 10, 2021.

Name	Age	Position
Jeffrey S. Niew	54	President & Chief Executive Officer
John S. Anderson	57	Senior Vice President & Chief Financial Officer
Raymond D. Cabrera	54	Senior Vice President, Human Resources & Chief Administrative Officer
Daniel J. Giesecke	53	Senior Vice President & Chief Operating Officer
Robert J. Perna	57	Senior Vice President, General Counsel & Secretary
Air A. Bastarrica, Jr.	41	Vice President, Controller

Jeffrey S. Niew has served as President & Chief Executive Officer since September 2013 and as a member of our Board of Directors since February 2014. From November 2011 until the Separation in February 2014, Mr. Niew served as a Vice President of Dover Corporation and as President and Chief Executive Officer of Dover Communication Technologies. Mr. Niew joined Knowles Electronics LLC ("Knowles Electronics") in May 2000 and became Chief Operating Officer in January 2007, President in January 2008, and President and Chief Executive Officer in February 2010. Prior to joining Knowles Electronics, Mr. Niew was employed by Littelfuse, Inc., from 1995 to 2000, where he held various positions in product management, sales, and engineering in the Electronic Products group and by Hewlett-Packard Company, from 1988 to 1994, where he served in various engineering and product management roles in the Optoelectronics Group in California.

John S. Anderson has served as Senior Vice President & Chief Financial Officer since December 2013. From January 2013 until the Separation in February 2014, Mr. Anderson served as Vice President and Chief Financial Officer of Dover Communication Technologies. Previously, Mr. Anderson served as Vice President and Chief Financial Officer of Dover Energy (August 2010 to January 2013) and Vice President and Chief Financial Officer of Dover Fluid Management (October 2009 to August 2010). Previous experience includes the roles of Corporate Controller and Director Financial Planning & Analysis for Sauer-Danfoss Inc. (October 2004 to October 2009) and Director of Finance and Controller for Borg Warner Turbo Systems GmbH (August 2002 to October 2004).

Raymond D. Cabrera has served as Senior Vice President, Human Resources & Chief Administrative Officer since February 2014. From November 2011 until the Separation in February 2014, Mr. Cabrera served as Vice President, Human Resources of Dover Communication Technologies. Previously, Mr. Cabrera served in the following capacities at Knowles: as Vice President, Human Resources and Chief Administrative Officer (January 2004 to November 2011), Vice President, Human Resources (March 2000 to January 2004), and Director, Human Resources (June 1997 to March 2000) of Knowles Electronics.

Daniel J. Giesecke has served as Senior Vice President & Chief Operating Officer since February 2014. From January 2012 until the Separation in February 2014, Mr. Giesecke served as Vice President, Global Operations of Dover Communication Technologies. Previously, Mr. Giesecke served as Vice President, Advanced Manufacturing Engineering, Knowles Electronics (February 2009 to January 2012), Senior Director, Advanced Manufacturing Engineering, Knowles Electronics (January 2008 to February 2009), Director of Engineering Operations, Knowles Electronics (November 2003 to January 2008), and various operations, supply chain, and engineering positions since he joined Knowles Electronics in 1995.

Robert J. Perna has served as Senior Vice President, General Counsel & Secretary since May 2019. Prior to joining Knowles, Mr. Perna served as Senior Vice President and Chief Legal Officer of The AZEK Company, a manufacturer of commercial and residential building products (November 2018 to April 2019) and as Senior Vice President, General Counsel and Secretary of Rockwell Collins, Inc., a leading producer of cabin interior, communications and aviation systems for the aerospace and defense industry (January 2014 to November 2018). In addition, he served as Vice President, General Counsel and Secretary at A. M. Castle & Co., a specialty metals and plastics distributor and value-added processor (November 2008 to January 2014) and held various in-house legal positions at CNH Global, Navistar International and GE Capital Rail Services.

Air A. Bastarrica, Jr. has served as Vice President, Controller since July 2018. Mr. Bastarrica has been with the Company since 2012 and has held numerous financial leadership roles including Director, Finance-Performance Audio (MCE and HHT) (September 2016 to June 2018), Director, Finance-Hearing Health Technologies (July 2015 to August 2016), and Manager, Corporate Financial Planning and Analysis (December 2012 to June 2015). Previously, Mr. Bastarrica held several financial positions at Navistar Inc. (April 2000 to November 2012) in Brazil and the United States.

PART II

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

Market Information

Our common stock is listed on the New York Stock Exchange ("NYSE") under the ticker symbol “KN”.

Dividends

Since our common stock began trading on the NYSE, we have not paid cash dividends and we do not anticipate paying a cash dividend on our common stock in the immediate future. Any determination to pay dividends in the future will be at the discretion of our Board of Directors and will depend on many factors, such as our financial condition, earnings, capital requirements, debt service obligations, industry practice, legal requirements, regulatory constraints, and other factors that the Board of Directors deems relevant. Our ability to pay dividends will depend on our ongoing ability to generate cash from operations and access to the capital markets.

Holders

The number of holders of record of our common stock as of February 8, 2021 was approximately 867.

Recent Sales of Unregistered Securities

None.

Issuer Purchases of Equity Securities

On February 24, 2020, the Company announced that its Board of Directors had authorized a share repurchase program of up to $100 million of the Company's common stock. The timing and amount of any shares repurchased will be determined by the Company based on its evaluation of market conditions and other factors, and will be made in accordance with applicable securities laws in either the open market or in privately negotiated transactions. The Company is not obligated to purchase any shares under the program, and the program may be suspended or discontinued at any time. The actual timing, number, and share price of shares repurchased will depend on a number of factors, including the market price of the Company’s common stock, general market and economic conditions, and applicable legal requirements. Any shares repurchased will be held as treasury stock. In connection with the COVID-19 pandemic, the Company temporarily suspended share repurchases, but resumed the share repurchase program in the fourth quarter of 2020.

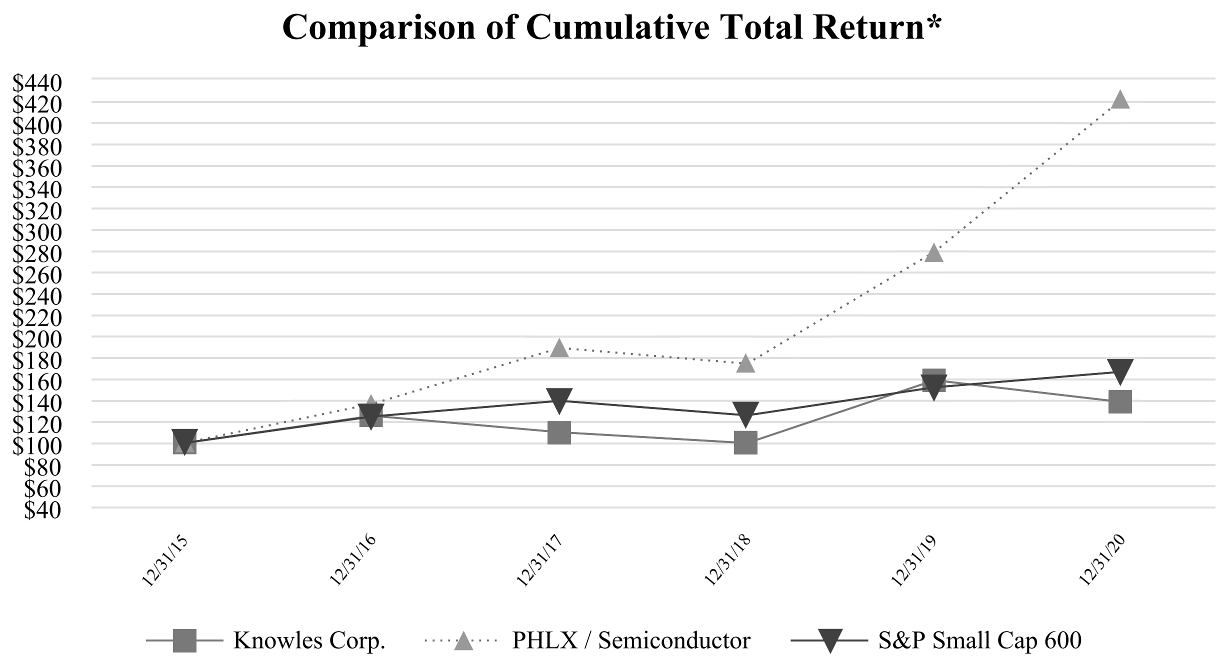
Below is a summary of share repurchases for the three months ended December 31, 2020:

(in millions, except share and per share amounts)

Period	Total Number of Shares Purchased	Average Price Paid per Share	Total Number of Shares Purchased as Part of Publicly Announced Program	Approximate Dollar Value of Shares That May Yet Be Purchased Under The Program
November 2020	82,254	$ 14.95	82,254	$ 83.8

Performance Graph

This performance graph does not constitute soliciting material, is not deemed filed with the SEC, and is not incorporated by reference in any of our filings under the Securities Act or the Exchange Act, whether made before or after the date of this Annual Report on Form 10-K and irrespective of any general incorporation language in any such filing, except to the extent we specifically incorporate this performance graph by reference therein.



Data Source: NYSE

*Total return assumes reinvestment of dividends.

The graph assumes $100 invested on December 31, 2015 in Knowles Corporation common stock, the PHLX / Semiconductor Sector Index, and the S&P Small Cap 600 Index.

ITEM 6. SELECTED FINANCIAL DATA

The following table presents selected financial data on a continuing operations basis as derived from our audited Consolidated Financial Statements. The selected financial data should be read in conjunction with "Management's Discussion and Analysis of Financial Condition and Results of Operations" included under Item 7 and the Consolidated Financial Statements and accompanying notes included under Item 8, "Financial Statements and Supplementary Data."

Statement of Earnings Data (1) *(in millions, except share and per share amounts)*	Years Ended December 31, 2020	2019	2018	2017	2016
Revenues	$ 764.3	$ 854.8	$ 826.9	$ 744.2	$ 755.7
Gross profit	271.2	328.0	322.6	286.0	295.7
Interest expense, net (2)	16.4	14.5	16.0	20.6	20.4
Provision for (benefit from) income taxes	8.4	16.6	(4.5)	12.9	8.3
Earnings from continuing operations	$ 2.9	$ 49.7	$ 65.6	$ 6.5	$ 19.8
Basic earnings per share from continuing operations	$ 0.03	$ 0.55	$ 0.73	$ 0.07	$ 0.22
Diluted earnings per share from continuing operations	$ 0.03	$ 0.53	$ 0.72	$ 0.07	$ 0.22
Basic shares outstanding	91,701,004	91,156,124	90,050,051	89,329,794	88,667,098
Diluted shares outstanding	92,883,138	93,439,023	91,194,747	90,490,007	89,182,967

Balance Sheet Data *(in millions)*	As of December 31, 2020	2019	2018	2017	2016
Total assets	$ 1,654.9	$ 1,654.6	$ 1,547.9	$ 1,549.8	$ 1,515.0
Total third party debt and finance lease obligations (2)(3)	$ 173.2	$ 166.1	$ 170.6	$ 207.4	$ 313.8

Other Data (1) *(in millions)*	Years Ended December 31, 2020	2019	2018	2017	2016
EBIT (4)	$ 27.7	$ 80.8	$ 77.1	$ 40.0	$ 48.5
Depreciation and amortization	$ 60.6	$ 54.4	$ 52.4	$ 53.8	$ 69.0
Capital expenditures	$ 31.9	$ 41.2	$ 80.1	$ 49.5	$ 32.2

(1) On July 7, 2016, the Company completed the sale of its Speaker and Receiver Product Line. On November 28, 2017, the Company completed the sale of its Timing Device Business. All amounts presented are on a continuing operations basis. For additional information, refer to Note 2. Disposed and Discontinued Operations to our Consolidated Financial Statements under Item 8, "Financial Statements and Supplementary Data."

(2) On January 27, 2014, we entered into a $200.0 million five-year senior secured revolving credit facility with a group of lenders, as well as a $300.0 million five-year senior secured term loan facility pursuant to a Credit Agreement (the "Original Credit Agreement"). On December 31, 2014, we amended the Original Credit Agreement to increase the amount of the revolving credit facility to $350.0 million. On February 9, 2016, the Company entered into a third amendment to its Original Credit Agreement in connection with the Company's decision to sell the Speaker and Receiver Product Line, which included a permanent reduction of the aggregate revolving commitment from $350.0 million to $300.0 million. On October 11, 2017, the Company entered into a Revolving Credit Facility Agreement (the "Prior Credit Facility"), which consisted of a $400.0 million senior secured revolving credit facility. On September 4, 2020, the Company entered into a new Credit Agreement (the "New Credit Agreement"). The New Credit Agreement is being used for working capital and other general corporate purposes of the Company, including refinancing of indebtedness under the Company's Prior Credit Facility. The New Credit Agreement contains a senior secured revolving credit facility providing for borrowings in an aggregate principal amount of up to $400.0 million. See Item 7. "Management's Discussion and Analysis of Financial Condition and Results of Operations —Borrowings" section for additional information related to our debt.

(3) Also includes current portion of long-term debt and finance lease obligations.

[4] We use the term “EBIT” throughout this Annual Report on Form 10-K, defined as earnings from continuing operations plus (i) interest expense, net and (ii) income taxes. EBIT is not presented in accordance with accounting principles generally accepted in the United States of America ("GAAP" or "U.S. GAAP") and may not be comparable to similarly titled measures used by other companies. We use EBIT as a supplement to our GAAP results of operations in evaluating certain aspects of our business, and our Board of Directors and executive management team focus on EBIT as a key measure of our performance for business planning purposes. This measure assists us in comparing performance between various reporting periods on a consistent basis, as this measure removes from operating results the impact of items that, in our opinion, do not reflect our core operating performance. We believe that our presentation of EBIT is useful because it provides investors and securities analysts with the same information that we use internally for purposes of assessing our core operating performance. For a reconciliation of EBIT to earnings from continuing operations, the most directly related GAAP measure, please see the Statement of Earnings Data table above. The Company does not consider EBIT to be a substitute for the information provided by GAAP financial results.

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

The discussion and analysis presented below refer to and should be read in conjunction with our audited Consolidated Financial Statements and related notes under Item 8. "Financial Statements and Supplementary Data." The following discussion contains forward-looking statements. The matters discussed in these forward-looking statements are subject to risks, uncertainties, and other factors that could cause actual results to differ materially from those made, projected, or implied in the forward-looking statements. Factors that could cause or contribute to these differences include those discussed below and elsewhere in this Form 10-K, particularly in “Risk Factors” and “Cautionary Statement Concerning Forward-Looking Statements.”

Management’s discussion and analysis, which we refer to as “MD&A,” of our results of operations, financial condition, and cash flows should be read together with the audited Consolidated Financial Statements and accompanying notes included under Item 8. "Financial Statements and Supplementary Data," to provide an understanding of our financial condition, changes in financial condition, and results of our operations. We believe the assumptions underlying the Consolidated Financial Statements are reasonable. However, the Consolidated Financial Statements included herein may not necessarily reflect our results of operations, financial position, and cash flows in the future.

As discussed in Note 2. Disposed and Discontinued Operations to our audited Consolidated Financial Statements under Item 8, "Financial Statements and Supplementary Data", we completed the sale of our high-end oscillators business ("Timing Device Business") in the fourth quarter of 2017 and the sale of our speaker and receiver product line ("Speaker and Receiver Product Line") in the third quarter of 2016. Accordingly, the results of operations and related assets and liabilities for the Timing Device Business and the Speaker and Receiver Product Line have been reclassified as discontinued operations for all periods presented. Unless otherwise indicated, discussion within this MD&A and elsewhere within this Annual Report on Form 10-K refers to results from continuing operations.

Our Business

We are a market leader and global provider of advanced micro-acoustic, audio processing, and precision device solutions, serving the mobile consumer electronics, communications, medtech, defense, electric vehicle, and industrial markets. We use our leading position in micro-electro-mechanical systems ("MEMS") microphones and strong capabilities in audio processing technologies to optimize audio systems and improve the user experience in mobile, ear, and Internet of Things ("IoT") applications. We are also a leader in acoustic components, high-end capacitors, and mmWave radio frequency ("RF") solutions for a diverse set of markets. Our focus on the customer, combined with unique technology, proprietary manufacturing techniques, rigorous testing, and global scale, enables us to deliver innovative solutions that optimize the user experience. References to "Knowles," the "Company," "we," "our," or "us" refer to Knowles Corporation and its consolidated subsidiaries, unless the context otherwise requires.

Our Business Segments

We are organized into two reportable segments based on how management analyzes performance, allocates capital, and makes strategic and operational decisions. These segments were determined in accordance with Accounting Standards Codification ("ASC") 280 - Segment Reporting and are comprised of (i) Audio and (ii) Precision Devices ("PD"). The segments are aligned around similar product applications serving our key end markets, to enhance focus on end market growth strategies.

- Audio Segment
  Our Audio group designs and manufactures innovative audio products, including microphones, balanced armature speakers, and audio processors used in applications that serve the mobile, ear, and IoT markets. Locations include the sales, support, and engineering facilities in North America, Europe, and Asia, as well as manufacturing facilities in Asia.

- PD Segment
  Our PD group specializes in the design and delivery of high performance capacitor products and mmWave RF solutions for technically demanding applications. Our high performance capacitor products are used in applications such as power supplies and medical implants, which sell to a diverse set of customers for mission critical applications across the communications, medtech, defense, electric vehicle, and industrial markets. Our mmWave RF solutions primarily solve high frequency filtering challenges for our military customers, who use them in their satellite communication and radar systems, as well as our telecommunications infrastructure customers deploying mmWave 5G base stations. Locations include the sales, support, engineering, and manufacturing facilities in North America, Europe, and Asia.

We sell our products directly to original equipment manufacturers ("OEMs") and to their contract manufacturers and suppliers and to a lesser extent through distributors worldwide.

COVID-19 Impact

During 2020, COVID-19, the most recently discovered coronavirus, spread throughout areas of the world where we operate. In March 2020, the World Health Organization declared COVID-19 a pandemic and recommended containment and mitigation measures worldwide. This has resulted in global business disruption, which has impacted our business operations, results of operations, customer demand, and the productivity of our facilities, particularly in China, Malaysia, and the Philippines.

We took various steps to minimize the negative impact of the COVID-19 pandemic on our business and to protect the health and safety of our employees. Such steps included, but were not limited to, significantly reducing employee travel; having office workers work remotely; suspending our share repurchase program; suspending annual wage increases; temporarily reducing salaries of employees, including the CEO and executive team; and reducing the cash compensation of our board of directors. Most restrictions have been lifted at our facilities and the majority of our office workers have now returned to working on-site. In locations where public health protocols have accommodated returning to work at our facilities, we have implemented additional safety measures, including increased frequency in cleaning and disinfecting as well as hygiene and social distancing practices. During the third quarter of 2020, as our end markets began to show signs of recovery and we generated better than expected operating cash flow, we reinstated employee salaries including executive management salaries. We also restored the cash compensation for our board of directors and resumed the share repurchase program in the fourth quarter of 2020.

The situation related to COVID-19 continues to be complex and rapidly evolving. We cannot reasonably estimate the duration of the pandemic or fully ascertain its impact to our future results. During the year ended December 31, 2020, we considered and determined that the only impact on our long-lived assets (including goodwill and intangible assets, property, plant, and equipment, and lease right-of-use assets) was the impairment charges discussed in Note 4. Impairments to our Consolidated Financial Statements under Item 8, “Financial Statements and Supplementary Data.” We concluded that it is not more likely than not that any of our other long-lived assets have carrying values exceeding their respective fair values. Our analysis considered, among other factors; the nature of our products and services as well as our position within our industry and our expectation that we will continue generating positive operating cash flows over the long-term. In addition, we have not experienced and do not anticipate a material impact to the realizability of current assets, such as accounts receivable or inventories.

As the COVID-19 pandemic evolves, we will continue to actively monitor developments and business conditions and may take further actions that alter business operations as may be required by applicable authorities or that we determine are in the best interests of our employees, customers, suppliers, stockholders, and communities. It is not clear what potential effects any such alterations or modifications may have on our business, including the effects on our financial results.

Recent Developments

On December 20, 2019, we acquired substantially all of the assets of the MEMS Microphone Application-specific integrated circuit Design Business (“ASIC Design Business”) from ams AG for $57.9 million. The acquired business, which does not generate revenues, includes intellectual property and an assembled workforce. The acquisition’s operations are included in the Audio segment. For additional information, refer to Note 3. Acquisitions to our Consolidated Financial Statements under Item 8, “Financial Statements and Supplementary Data.”

On January 3, 2019, we acquired substantially all of the assets of DITF Interconnect Technology, Inc. ("DITF") for $11.1 million. The acquired business provides thin film components to the defense, telecommunication, industrial, and medtech markets. This acquisition's operations are included in the PD segment. For additional information, refer to Note 3. Acquisitions to our Consolidated Financial Statements under Item 8, "Financial Statements and Supplementary Data."

For discussion related to the results of operations and changes in financial condition for the year ended December 31, 2019 compared to the year ended December 31, 2018, refer to Part II, Item 7. Management's Discussion and Analysis of Financial Condition and Results of Operations in our Annual Report on Form 10-K for the year ended December 31, 2019, which was filed with the SEC on February 12, 2020 and is incorporated by reference herein.

Non-GAAP Financial Measures

In addition to the GAAP financial measures included in this item, we have presented certain non-GAAP financial measures. We use non-GAAP measures as supplements to our GAAP results of operations in evaluating certain aspects of our business, and our executive management team and Board of Directors focus on non-GAAP items as key measures of our performance for business planning purposes. These measures assist us in comparing our performance between various reporting periods on a consistent basis, as these measures remove from operating results the impact of items that, in our opinion, do not reflect our core operating performance. We believe that our presentation of non-GAAP financial measures is useful because it provides investors and securities analysts with the same information that we use internally for purposes of assessing our core operating performance. The Company does not consider these non-GAAP financial measures to be a substitute for the information provided by GAAP financial results. For a reconciliation of these non-GAAP financial measures to the most directly comparable GAAP financial measures, see the reconciliation included herein.

Results of Operations for the Year Ended December 31, 2020 compared with the Year Ended December 31, 2019

	Years Ended December 31,		
(in millions, except per share amounts)	**2020**	**2019**	**2018**
Revenues	$ 764.3	$ 854.8	$ 826.9
Gross profit	$ 271.2	$ 328.0	$ 322.6
Non-GAAP gross profit	$ 275.4	$ 333.6	$ 327.0
Earnings from continuing operations before interest and income taxes	$ 27.7	$ 80.8	$ 77.1
Adjusted earnings from continuing operations before interest and income taxes	$ 79.3	$ 126.9	$ 117.2
Provision for (benefit from) income taxes	$ 8.4	$ 16.6	$ (4.5)
Non-GAAP provision for income taxes	$ 7.1	$ 17.6	$ 13.0
Earnings from continuing operations	$ 2.9	$ 49.7	$ 65.6
Non-GAAP net earnings from continuing operations	$ 63.2	$ 101.6	$ 94.5
Earnings per share from continuing operations - diluted	$ 0.03	$ 0.53	$ 0.72
Non-GAAP diluted earnings per share from continuing operations	$ 0.67	$ 1.07	$ 1.01

Revenues

Revenues for the year ended December 31, 2020 were $764.3 million, compared with $854.8 million for the year ended December 31, 2019, a decrease of $90.5 million or 10.6%. Audio revenues decreased $91.6 million primarily due to lower shipping volumes related to the COVID-19 pandemic during the first half of 2020, which caused lower demand for hearing health products and MEMS microphones ("MEMS") in the ear and IoT markets. Audio revenues were also impacted by lower average pricing on mature products, partially offset by increased demand for MEMS in the computing markets, driven by work-from-home and remote-learning trends. PD revenues had an increase of $1.1 million primarily due to higher demand from the electric vehicle, industrial, and defense markets, partially offset by decreases in the medtech market as hospitals have reduced elective procedures as a result of the COVID-19 pandemic.

Cost of Goods Sold

Cost of goods sold ("COGS") for the year ended December 31, 2020 was $490.8 million, compared with $525.1 million for the year ended December 31, 2019, a decrease of $34.3 million or 6.5%. This decrease was primarily the result of product cost reductions and lower shipping volumes in Audio, partially offset by reduced plant productivity as a result of the disruptions related to the COVID-19 pandemic that we experienced within our manufacturing operations.

Restructuring Charges

We undertake restructuring programs from time to time to better align our operations with current market conditions. Such activities include facility consolidations, headcount reductions, and other measures to further optimize operations. We may have restructuring charges in the future as we continuously evaluate our operational footprint. Details regarding restructuring programs undertaken during the reporting period are as follows:

During the year ended December 31, 2020, we restructured our Intelligent Audio product line, which is included in our Audio segment. This resulted in a reduction in workforce and the refocusing of certain research and development activities. As a result, we recorded restructuring charges of $1.5 million within Gross Profit, primarily for fixed asset write-off costs directly associated with the product line. In addition, we recorded restructuring charges of $6.8 million within Operating expenses, primarily for rationalizing the research and development workforce and contract termination costs associated with the product line.

In addition, during the year ended December 31, 2020, we recorded restructuring charges of $0.8 million within Gross profit, primarily for actions to rationalize the remainder of the Audio segment workforce, as a direct result of the lower demand we experienced from the COVID-19 pandemic for our remaining Audio products. We also recorded restructuring charges of $3.2 million within Operating expenses, primarily for actions associated with rationalizing the remaining Audio workforce.

During the year ended December 31, 2019, we recorded total restructuring charges of $6.0 million. We recorded $1.7 million within Gross profit, primarily for actions associated with transferring certain operations of capacitors manufacturing to other existing facilities in order to further optimize operations in the PD segment. We also recorded restructuring charges of $4.3 million within Operating expenses, primarily for actions associated with rationalizing the Audio segment workforce.

Gross Profit and Non-GAAP Gross Profit

Gross profit for the year ended December 31, 2020 was $271.2 million, compared with $328.0 million for the year ended December 31, 2019, a decrease of $56.8 million or 17.3%. Gross profit margin (gross profit as a percentage of revenues) for the year ended December 31, 2020 was 35.5%, compared with 38.4% for the year ended December 31, 2019. The decreases were primarily due to lower average pricing on mature products and lower shipping volumes in the Audio segment. In addition, we experienced disruptions due to the COVID-19 pandemic within our manufacturing operations, which negatively impacted plant productivity. Gross profit and margins benefited from product cost reductions.

Non-GAAP gross profit for the year ended December 31, 2020 was $275.4 million, compared with $333.6 million for the year ended December 31, 2019, a decrease of $58.2 million or 17.4%. Non-GAAP gross profit margin (non-GAAP gross profit as a percentage of revenues) for the year ended December 31, 2020 was 36.0%, as compared with 39.0% for the year ended December 31, 2019. The decreases were primarily due to lower average pricing on mature products and lower shipping volumes in the Audio segment. In addition, we experienced disruptions due to the COVID-19 pandemic within our manufacturing operations, which negatively impacted plant productivity, partially offset by the benefits of product cost reductions.

Research and Development Expenses

Research and development expenses for the years ended December 31, 2020 and 2019 were $92.9 million and $96.8 million, respectively, a decrease of $3.9 million or 4.0%. Research and development expenses as a percentage of revenues for the years ended December 31, 2020 and 2019 were 12.2% and 11.3%, respectively. The decrease in expenses was primarily driven by operating cost reductions in our Audio segment as a result of headcount reductions to optimize the workforce, partially offset by increased expense related to our acquisition of the ASIC Design Business. The increase in expenses as a percentage of revenues was due to the decrease in our revenues.

Selling and Administrative Expenses

Selling and administrative expenses for the year ended December 31, 2020 were $131.5 million, compared with $145.7 million for the year ended December 31, 2019, a decrease of $14.2 million or 9.7%. Selling and administrative expenses as a percentage of revenues for the year ended December 31, 2020 were 17.2%, compared with 17.0% for the year ended December 31, 2019. The decrease in expenses was primarily driven by operating cost reduction efforts, which were implemented to minimize the negative impact of the COVID-19 pandemic. The cost reduction efforts included, but were not limited to, temporarily reducing salaries of employees, suspending annual wage increases, and significantly reducing employee travel. In addition, we incurred lower stock-based compensation as certain performance targets will not be met due to the impacts of the COVID-19 pandemic, partially offset by higher legal expenses related to protecting our intellectual property. The increase in expenses as a percentage of revenues was due to the decrease in our revenues.

Impairment Charges

Impairment charges for the year ended December 31, 2020 were $7.6 million and relate to facilities in our Intelligent Audio product line. For additional information related to these impairment charges, refer to Note 4. Impairments to our Consolidated Financial Statements under Item 8, "Financial Statements and Supplementary Data."

Interest Expense, net

Interest expense, net for the year ended December 31, 2020 was $16.4 million, compared with $14.5 million for the year ended December 31, 2019, an increase of $1.9 million or 13.1%. The increase in interest expense is primarily due to higher average outstanding borrowings. For additional information on borrowings and interest expense, refer to Note 12. Borrowings to our Consolidated Financial Statements under Item 8, "Financial Statements and Supplementary Data."

Other expense, net

Other expense for the year ended December 31, 2020 was $1.5 million, compared with expense of $0.4 million for the year ended December 31, 2019, a change of $1.1 million. The change is primarily due to the net unfavorable impacts from foreign currency exchange rate changes in 2020.

Provision for Income Taxes and Non-GAAP Provision for Income Taxes

The effective tax rate ("ETR") for the year ended December 31, 2020 was a 74.3% provision, compared with a 25.0% provision for the year ended December 31, 2019. The change in the ETR was primarily due to the mix of earnings and losses by taxing jurisdictions.

The ETR for the years ended December 31, 2020 and 2019 was favorably impacted by two tax holidays granted to us by Malaysia. For additional information on these tax holidays, see Note 13. Income Taxes to our Consolidated Financial Statements under Item 8, “Financial Statements and Supplementary Data."

The non-GAAP ETR for the year ended December 31, 2020 was a 10.1% provision, compared with a 14.8% provision for the year ended December 31, 2019. The decrease in the non-GAAP ETR was due to the mix of earnings and losses by taxing jurisdictions and a one-time tax benefit related to new regulations released in 2020 applicable to the filing of the 2019 U.S. tax return.

The ETR and non-GAAP ETR deviate from the statutory U.S. federal income tax rate, mainly due to the taxing jurisdictions where we generate taxable income or loss, the favorable impact of our significant tax holidays in Malaysia, and judgments as to the realizability of our deferred tax assets. A significant portion of our pre-tax income is subject to a lower tax rate as a result of our Malaysian tax holidays, subject to our annual satisfaction of certain conditions we expect to continue to satisfy. Unless extended or renegotiated, our existing significant tax holiday in Malaysia will expire on December 31, 2021. The U.S. operations were in a cumulative loss position as of December 31, 2020 and 2019. Based on this, and other relevant information, the Company concluded that tax losses and deferred tax assets would not be benefited in the U.S.

Earnings from Continuing Operations

Earnings from continuing operations for the year ended December 31, 2020 was $2.9 million, compared with $49.7 million for the year ended December 31, 2019, a decrease of $46.8 million. As described above, the decrease is primarily due to lower gross profit and an increase in impairment and operating restructuring charges, partially offset by the reductions in all other operating expenses and income tax expense.

Earnings and Adjusted Earnings from Continuing Operations Before Interest and Income Taxes

Earnings before interest and income taxes ("EBIT") from continuing operations for the year ended December 31, 2020 was $27.7 million, compared with $80.8 million for the year ended December 31, 2019, a decrease of $53.1 million or 65.7%. EBIT margin (EBIT from continuing operations as a percentage of revenues) for the year ended December 31, 2020 was 3.6%, as compared with 9.5% for the year ended December 31, 2019. The decreases in EBIT and EBIT margin were primarily due to lower gross profit and an increase in impairment and operating restructuring charges, partially offset by the reductions in all other operating expenses.

Adjusted earnings before interest and income taxes ("Adjusted EBIT") from continuing operations for the year ended December 31, 2020 was $79.3 million, compared with $126.9 million for the year ended December 31, 2019, a decrease of $47.6 million or 37.5%. Adjusted EBIT margin (adjusted EBIT from continuing operations as a percentage of revenues) for the year ended December 31, 2020 was 10.4%, as compared with 14.8% for the year ended December 31, 2019. The decreases in Adjusted EBIT and Adjusted EBIT margin were primarily due to lower non-GAAP gross profit, partially offset by a decrease in non-GAAP operating expenses.

Earnings (Loss) from Discontinued Operations, net

Earnings from discontinued operations was $3.7 million for the year ended December 31, 2020, compared with a loss of $0.6 million for the year ended December 31, 2019. We recorded a tax benefit for a refund received during the first quarter of 2020 related to the Timing Device Business.

Diluted Earnings per Share from Continuing Operations and Non-GAAP Diluted Earnings per Share from Continuing Operations

Diluted earnings per share from continuing operations was $0.03 for the year ended December 31, 2020, compared with $0.53 for the year ended December 31, 2019. As described above, the decrease is primarily due to lower gross profit and an increase in both impairment and restructuring charges, partially offset by the reductions in all other operating expenses and income tax expense.

Non-GAAP diluted earnings per share from continuing operations for the year ended December 31, 2020 was $0.67, compared with $1.07 for the year ended December 31, 2019. As described above, the decrease is primarily due to lower non-GAAP gross profit, partially offset by the reductions in non-GAAP operating expenses and non-GAAP income tax expense.

Reconciliation of GAAP Financial Measures to Non-GAAP Financial Measures (1)

(in millions, except share and per share amounts)	Years Ended December 31, 2020	2019	2018
Gross profit	$ 271.2	$ 328.0	$ 322.6
Stock-based compensation expense	1.7	1.6	1.6
Restructuring charges	2.3	1.7	0.4
Production transfer costs (2)	0.2	2.3	2.2
Other (3)	—	—	0.2
Non-GAAP gross profit	$ 275.4	$ 333.6	$ 327.0
Earnings from continuing operations	$ 2.9	$ 49.7	$ 65.6
Interest expense, net	16.4	14.5	16.0
Provision for (benefit from) income taxes	8.4	16.6	(4.5)
Earnings from continuing operations before interest and income taxes	27.7	80.8	77.1
Stock-based compensation expense	17.3	25.2	27.0
Intangibles amortization expense	13.0	7.0	6.5
Impairment charges	7.6	—	—
Restructuring charges	12.3	6.0	2.1
Production transfer costs (2)	0.2	2.3	2.6
Other (3)	1.2	5.6	1.9
Adjusted earnings from continuing operations before interest and income taxes	$ 79.3	$ 126.9	$ 117.2
Interest expense, net	$ 16.4	$ 14.5	$ 16.0
Interest expense, net non-GAAP reconciling adjustments (4)	7.4	6.8	6.3
Non-GAAP interest expense	$ 9.0	$ 7.7	$ 9.7
Provision for (benefit from) income taxes	$ 8.4	$ 16.6	$ (4.5)
Income tax effects of non-GAAP reconciling adjustments (5)	(1.3)	1.0	17.5
Non-GAAP provision for income taxes	$ 7.1	$ 17.6	$ 13.0
Earnings from continuing operations	$ 2.9	$ 49.7	$ 65.6
Non-GAAP reconciling adjustments (6)	51.6	46.1	40.1
Interest expense, net non-GAAP reconciling adjustments (4)	7.4	6.8	6.3
Income tax effects of non-GAAP reconciling adjustments (5)	(1.3)	1.0	17.5
Non-GAAP net earnings from continuing operations	$ 63.2	$ 101.6	$ 94.5
Diluted earnings per share from continuing operations	$ 0.03	$ 0.53	$ 0.72
Earnings per share non-GAAP reconciling adjustment	0.64	0.54	0.29
Non-GAAP diluted earnings per share from continuing operations	$ 0.67	$ 1.07	$ 1.01
Diluted average shares outstanding	92,883,138	93,439,023	91,194,747
Non-GAAP adjustment (7)	1,477,156	1,449,627	2,046,989
Non-GAAP diluted average shares outstanding (7)	94,360,294	94,888,650	93,241,736

[1] In addition to the GAAP financial measures included herein, Knowles has presented certain non-GAAP financial measures that exclude certain amounts that are included in the most directly comparable GAAP measures. Knowles believes that non-GAAP measures are useful as supplements to its GAAP results of operations to evaluate certain aspects of its operations and financial performance, and its management team primarily focuses on non-GAAP items in evaluating Knowles' performance for business planning purposes. Knowles also believes that these measures assist it with comparing its performance between various reporting periods on a consistent basis, as these measures remove from operating results the impact of items that, in Knowles' opinion, do not reflect its core operating performance. Knowles believes that its presentation of non-GAAP financial measures is useful because it provides investors and securities analysts with the same information that Knowles uses internally for purposes of assessing its core operating performance.

[2] Production transfer costs represent duplicate costs incurred to migrate manufacturing to facilities primarily in Asia. These amounts are included in the corresponding Gross profit and Earnings from continuing operations before interest and income taxes for each period presented.

[3] In 2020, Other expenses represent the ongoing net lease cost (income) related to facilities not used in operations and expenses related to shareholder activism. In 2019, Other expenses of $4.4 million represent expenses related to shareholder activism and the remaining Other expenses relate to the acquisition of the ASIC Design Business by the Audio segment and the acquisition of DITF by the PD segment. In 2018, Other expenses in Gross profit and Operating expenses represent expenses related to acquisitions and the remaining Other expenses represent an adjustment to pre-spin-off pension obligations.

[4] Under GAAP, certain convertible debt instruments that may be settled in cash (or other assets) upon conversion are required to be separately accounted for as liability (debt) and equity (conversion option) components of the instrument in a manner that reflects the issuer’s nonconvertible debt borrowing rate. Accordingly, for GAAP purposes we are required to recognize imputed interest expense on the Company’s $172.5 million of convertible senior notes due 2021 that were issued in a private placement in May 2016. The imputed interest rate is 8.12% for the convertible notes due 2021, while the actual coupon interest rate of the notes was 3.25%. The difference between the imputed interest expense and the coupon interest expense is excluded from management’s assessment of the Company’s operating performance because management believes that this non-cash expense is not indicative of its core, ongoing operating performance.

[5] Income tax effects of non-GAAP reconciling adjustments are calculated using the applicable tax rates in the jurisdictions of the underlying adjustments.

[6] The non-GAAP reconciling adjustments are those adjustments made to reconcile Earnings from continuing operations before interest and income taxes to Adjusted earnings from continuing operations before interest and income taxes.

[7] The number of shares used in the diluted per share calculations on a non-GAAP basis excludes the impact of stock-based compensation expense expected to be incurred in future periods and not yet recognized in the financial statements, which would otherwise be assumed to be used to repurchase shares under the GAAP treasury stock method. In addition, the Company entered into convertible note hedge transactions to offset any potential dilution from the convertible notes. Although the anti-dilutive impact of the convertible note hedges is not reflected under GAAP, the Company includes the anti-dilutive impact of the convertible note hedges in non-GAAP diluted average shares outstanding, if applicable.

<u>Segment Results of Operations for the Year Ended December 31, 2020 Compared with the Year Ended December 31, 2019</u>

Audio

	Years Ended December 31,								
(in millions)		2020	Percent of Revenues		2019	Percent of Revenues		2018	Percent of Revenues
Revenues	$	591.2		$	682.8		$	682.2	
Earnings from continuing operations before interest and income taxes	$	44.9	7.6%	$	107.3	15.7%	$	105.7	15.5%
Stock-based compensation expense		10.6			13.1			13.4	
Intangibles amortization expense		10.6			4.7			4.7	
Impairment charges		7.6			—			—	
Restructuring charges		10.5			4.8			1.4	
Production transfer costs (1)		—			—			1.0	
Other (2)		0.8			0.4			—	
Adjusted earnings from continuing operations before interest and income taxes	$	85.0	14.4%	$	130.3	19.1%	$	126.2	18.5%

(1) Production transfer costs represent duplicate costs incurred to migrate manufacturing to existing facilities in Asia.

(2) In 2020, Other represents the ongoing net lease cost (income) related to facilities not used in operations. In 2019, Other represents expenses related to the acquisition of the ASIC Design Business.

Revenues

Audio revenues were $591.2 million for the year ended December 31, 2020, compared with $682.8 million for the year ended December 31, 2019, a decrease of $91.6 million or 13.4%. Revenues decreased primarily due to lower shipping volumes related to the COVID-19 pandemic during the first half of 2020, which caused lower demand for hearing health products and MEMS in the ear and IoT markets. Audio revenues were also impacted by lower average pricing on mature products, partially offset by increased demand for MEMS in the computing markets, driven by work-from-home and remote-learning trends.

Earnings and Adjusted Earnings from Continuing Operations Before Interest and Income Taxes

Audio EBIT from continuing operations was $44.9 million for the year ended December 31, 2020, compared with $107.3 million for the year ended December 31, 2019, a decrease of $62.4 million or 58.2%. EBIT margin for the year ended December 31, 2020 was 7.6%, compared to 15.7% for the year ended December 31, 2019. The decreases were primarily due to lower average pricing on mature products and lower shipping volumes for hearing health products. Audio also experienced disruptions due to the COVID-19 pandemic within our manufacturing operations, which negatively impacted plant productivity. In addition, we were also impacted by higher legal expenses related to protecting our intellectual property, impairment charges, and increased restructuring charges, which were partially offset by benefits from reductions in both product and operating costs.

Audio Adjusted EBIT was $85.0 million for the year ended December 31, 2020, compared with $130.3 million for the year ended December 31, 2019, a decrease of $45.3 million or 34.8%. Adjusted EBIT margin for the year ended December 31, 2020 was 14.4%, compared with 19.1% for the year ended December 31, 2019. The decreases were primarily due to lower average pricing on mature products and lower shipping volumes for hearing health products. Audio also experienced disruptions due to the COVID-19 pandemic within our manufacturing operations, which negatively impacted plant productivity. In addition, we were also impacted by higher legal expenses related to protecting our intellectual property, which were partially offset by benefits from reductions in both product and operating costs.

Precision Devices

(in millions)	2020	Percent of Revenues	2019	Percent of Revenues	2018	Percent of Revenues
	Years Ended December 31,					
Revenues	$ 173.1		$ 172.0		$ 144.7	
Earnings from continuing operations before interest and income taxes	$ 31.7	18.3%	$ 30.4	17.7%	$ 27.5	19.0%
Stock-based compensation expense	0.8		1.4		0.8	
Intangibles amortization expense	2.4		2.3		1.8	
Restructuring charges	0.1		0.8		0.5	
Production transfer costs [1]	0.2		2.3		1.6	
Other [2]	—		0.5		1.7	
Adjusted earnings from continuing operations before interest and income taxes	$ 35.2	20.3%	$ 37.7	21.9%	$ 33.9	23.4%

[1] Production transfer costs represent duplicate costs incurred to migrate manufacturing to existing facilities.

[2] In 2019, Other represents expenses related to the acquisition of DITF. In 2018, Other represents expenses related to the acquisition of Compex Corporation and an adjustment to pre-spin-off pension obligations.

Revenues

PD revenues were $173.1 million for the year ended December 31, 2020, compared with $172.0 million for the year ended December 31, 2019, an increase of $1.1 million or 0.6%. Revenues increased primarily due to higher demand from the electric vehicle, industrial, and defense markets, partially offset by decreases in the medtech market as hospitals have reduced elective procedures as a result of the COVID-19 pandemic.

Earnings and Adjusted Earnings from Continuing Operations Before Interest and Income Taxes

PD EBIT from continuing operations was $31.7 million for the year ended December 31, 2020, compared with $30.4 million for the year ended December 31, 2019, an increase of $1.3 million or 4.3%. EBIT margin for the year ended December 31, 2020 was 18.3%, compared with 17.7% for the year ended December 31, 2019. The increases were primarily driven by benefits of productivity initiatives, lower production transfer costs, and reduced restructuring charges, partially offset by factory overhead increases to support manufacturing capacity, higher raw material costs, and manufacturing disruptions related to the COVID-19 pandemic.

PD Adjusted EBIT was $35.2 million for the year ended December 31, 2020, compared with $37.7 million for the year ended December 31, 2019, a decrease of $2.5 million or 6.6%. Adjusted EBIT margin for the year ended December 31, 2020 was 20.3%, compared with 21.9% for the year ended December 31, 2019. The decreases were primarily driven by factory overhead increases to support manufacturing capacity, higher raw material costs, and manufacturing disruptions related to the COVID-19 pandemic, partially offset by the benefits of product cost reductions.

Financial Condition

Historically, we have generated and expect to continue to generate positive cash flow from operations. Our ability to fund our operations and capital needs will depend on our ongoing ability to generate cash from operations and access to capital markets. We believe that our future cash flow from operations and access to capital markets will provide adequate resources to fund our working capital needs, capital expenditures, strategic investments, and share repurchases. We have secured a revolving line of credit in the United States from a syndicate of commercial banks to provide additional liquidity. Furthermore, if we were to require additional cash above and beyond our cash on the balance sheet, the free cash flow generated by the business, and availability under our revolving credit facility, we would most likely seek to raise long-term financing through the U.S. debt or bank markets.

In May 2016, we sold the Notes and concurrently entered into convertible note hedge transactions and separate warrants. The Notes will mature in November 2021, unless earlier repurchased by us or converted pursuant to their terms. The Notes are unsecured, senior obligations and interest is payable semiannually in arrears. The Notes will be convertible into cash, shares of our common stock, or a combination thereof, at our election. We have primarily used the net proceeds to reduce borrowings outstanding. For additional information, refer to Note 12. Borrowings to our Consolidated Financial Statements under Item 8, "Financial Statements and Supplementary Data."

On January 3, 2019, the Company acquired substantially all of the assets of DITF for $11.1 million. The acquired business provides thin film components to the defense, telecommunication, industrial, and medtech markets. This acquisition's operations are included in the PD segment. For additional information, refer to Note 3. Acquisitions to our Consolidated Financial Statements under Item 8, “Financial Statements and Supplementary Data.”

On December 20, 2019, the Company acquired substantially all of the assets of the ASIC Design Business for $57.9 million. The acquired business, which does not generate revenues, includes intellectual property and an assembled workforce. The acquisition’s operations are included in the Audio segment. For additional information, refer to Note 3. Acquisitions to our Consolidated Financial Statements under Item 8, “Financial Statements and Supplementary Data.”

On February 24, 2020, we announced that our Board of Directors had authorized a share repurchase program of up to $100 million of our common stock. The timing and amount of any shares repurchased will be determined by us based on our evaluation of market conditions and other factors, and will be made in accordance with applicable securities laws in either the open market or in privately negotiated transactions. We are not obligated to purchase any shares under the program, and the program may be suspended or discontinued at any time. The actual timing, number, and share price of shares repurchased will depend on a number of factors, including the market price of our common stock, general market and economic conditions, and applicable legal requirements. Any shares repurchased will be held as treasury stock. During the year ended December 31, 2020, we repurchased 1,078,363 shares of common stock for a total of $16.2 million.

On September 4, 2020, we entered into a new Credit Agreement (the "New Credit Agreement"). For additional information, refer to Note 12. Borrowings to our Consolidated Financial Statements under Item 8, "Financial Statements and Supplementary Data."

Our ability to make payments on and to refinance our indebtedness, as well as any debt that we may incur in the future, will depend on our ability in the future to generate cash from operations and financings. Due to the global nature of our operations, a significant portion of our cash is generated and typically held outside the United States. Our cash and cash equivalents totaled $147.8 million and $78.4 million at December 31, 2020 and 2019, respectively. Of these amounts, cash held by our non-U.S. operations totaled $101.4 million and $74.6 million as of December 31, 2020 and 2019, respectively.

To the extent we repatriate these funds to the U.S., we may be required to pay U.S. state income taxes and applicable foreign withholding taxes on those amounts during the period when such repatriation occurs. Management will continue to reassess our need to repatriate the earnings of our foreign subsidiaries.

Cash Flow Summary

Cash flows from operating, investing, and financing activities as reflected in our Consolidated Statements of Cash Flows are presented on a consolidated basis (including discontinued operations). Cash flows are summarized in the following table:

	Years Ended December 31,		
(in millions)	2020	2019	2018
Net cash flows provided by (used in):			
Operating activities	$ 128.1	$ 123.9	$ 98.5
Investing activities	(35.1)	(110.5)	(88.0)
Financing activities	(23.9)	(8.5)	(48.6)
Effect of exchange rate changes on cash and cash equivalents	0.3	—	(0.1)
Net increase (decrease) in cash and cash equivalents	$ 69.4	$ 4.9	$ (38.2)

Operating Activities

Cash provided by operating activities in 2020 increased $4.2 million compared to 2019, primarily due to reductions in receivables and inventory, partially offset by the lower earnings and higher non-cash charges during the year ended December 31, 2020 and the reduction in accounts payable. The change in receivables was driven by the timing of cash collections while lower earnings was primarily driven by lower revenues in the current year. The change in inventory was a result of control initiatives put in place during 2020, while the change in accounts payable is a result of our timing of payments and reduced operating spending.

Investing Activities

Capital expenditures, primarily to support capacity expansion, innovation, and cost savings, were $31.9 million and $41.2 million for the years ended December 31, 2020 and 2019, respectively. The cash used in investing activities during 2020 was driven by capital expenditures to support our manufacturing capacity expansion. The cash used in investing activities during 2019 was driven by capital expenditures and the acquisitions of the ASIC Design Business and DITF.

Financing Activities

Cash used in financing activities during 2020 is primarily related to the $16.2 million of repurchases of common stock and the $6.1 million payment of taxes related to net share settlement of equity awards. Cash used in financing activities during 2019 is primarily related to the net payments under our revolving credit facility of $9.0 million and the $6.4 million payment of taxes related to net share settlement of equity awards, partially offset by the net proceeds of $9.8 million from exercise of stock-based awards.

Liquidity and Capital Resources

Free Cash Flow

In addition to measuring our cash flow generation and usage based upon the operating, investing, and financing classifications included in the Consolidated Statements of Cash Flows, we also measure free cash flow and free cash flow as a percentage of revenues. Free cash flow is calculated as cash flow provided by operating activities less capital expenditures. Our management believes these measures are useful in measuring our cash generated from operations that is available to repay debt, fund acquisitions, and repurchase Knowles' common stock. Free cash flow and free cash flow as a percentage of revenues are not presented in accordance with GAAP and may not be comparable to similarly titled measures used by other companies in our industry. As such, free cash flow and free cash flow as a percentage of revenues should not be considered in isolation from, or as an alternative to, any other liquidity measures determined in accordance with GAAP.

Our businesses tend to have stronger revenues in the third and fourth quarters of each fiscal year. This is particularly true of those businesses that serve the consumer electronics market. Our businesses tend to have short product cycles due to the highly technical nature of the industries they serve, which can result in new OEM product launches that can impact quarterly revenues, earnings, and cash flow.

The following table reconciles our free cash flow to cash flow provided by operating activities:

(in millions)	Years Ended December 31,		
Free Cash Flow	**2020**	**2019**	**2018**
Cash flow provided by operating activities	$ 128.1	$ 123.9	$ 98.5
Less: Capital expenditures	(31.9)	(41.2)	(80.1)
Free cash flow	$ 96.2	$ 82.7	$ 18.4
Free cash flow as a percentage of revenues	12.6 %	9.7 %	2.2 %

In 2020, we generated free cash flow of $96.2 million, representing 12.6% of revenues, compared to free cash flow in 2019 of $82.7 million, representing 9.7% of revenues. The increase in free cash flow in 2020 compared to 2019 was primarily due to decreased capital expenditures.

In 2021, we expect capital expenditures to be in the range of 5.0% to 7.0% of revenues.

Contingent Obligations

We are involved in various legal proceedings, claims, and investigations arising in the normal course of business. Legal contingencies are discussed in Note 15. Commitments and Contingent Liabilities to our Consolidated Financial Statements under Item 8, "Financial Statements and Supplementary Data."

Contractual Obligations and Off-Balance Sheet Arrangements

A summary of our contractual obligations and commitments as of December 31, 2020 and the years when these obligations are expected to be due is as follows:

		Payments Due by Period			
(in millions)	**Total**	**Less than 1 Year**	**1-3 Years**	**3-5 Years**	**More than 5 Years**
Debt [(1)]	$ 172.5	$ 172.5	$ —	$ —	$ —
Operating leases [(2)]	30.9	11.2	15.3	3.5	0.9
Purchase obligations [(3)]	75.3	75.3	—	—	—
Finance leases [(2)]	9.0	2.6	5.0	1.4	—
Post-retirement benefits [(4)]	1.5	1.5	—	—	—
Total obligations	$ 289.2	$ 263.1	$ 20.3	$ 4.9	$ 0.9

(1) Relates to the maturity of indebtedness under our New Credit Facility and our Notes due in November 2021. Does not give effect to any early repayment of or future amounts which may be drawn under the New Credit Facility.

(2) Represents commitments related to operating and finance leases. See Note 8. Leases to our Consolidated Financial Statements under Item 8, "Financial Statements and Supplementary Data." We also have an operating lease for a facility in Santa Clara, California that has not yet commenced with total fixed lease payments of approximately $5 million, which are not included in the table above.

(3) Represents off-balance sheet commitments for purchase obligations related to open purchase orders with our vendors.

(4) Amounts represent estimated contributions under our subsidiary's non-U.S. defined benefit pension plans. See Note 16. Employee Benefit Plans to our Consolidated Financial Statements under Item 8, "Financial Statements and Supplementary Data."

Borrowings

In May 2016, we issued $172.5 million aggregate principal amount of 3.25% convertible senior notes due November 1, 2021, unless earlier repurchased by us or converted pursuant to their terms. Interest is payable semiannually in arrears on May 1 and November 1 of each year, commencing on November 1, 2016. The Notes are governed by an indenture (the "Indenture") between us, as issuer, and U.S. Bank National Association as trustee. Upon conversion, we will pay or deliver cash, shares of our common stock or a combination of cash and shares of common stock, at our election. The initial conversion rate is 54.2741 shares of common stock per $1,000 principal amount of Notes. The initial conversion price is $18.4250 per share of common stock. The conversion rate will be subject to adjustment upon the occurrence of certain specified events but will not be adjusted for accrued and unpaid interest. In addition, upon the occurrence of a make-whole fundamental change (as defined in the Indenture), we may be required, in certain circumstances, to increase the conversion rate by a number of additional shares for a holder that elects to convert the Notes in connection with such make-whole fundamental change.

On September 4, 2020, the Company entered into the New Credit Agreement, which provides for a senior secured revolving credit facility (the "New Credit Facility") with borrowings in an aggregate principal amount at any time outstanding not to exceed $400.0 million. Up to $100.0 million of the New Credit Facility will be available in Euro, Pounds Sterling, and other currencies requested by the Company and agreed to by each Lender and up to $50.0 million of the New Credit Facility will be made available in the form of letters of credit denominated in currencies approved by the issuing banks.

The New Credit Agreement serves as refinancing of indebtedness and terminates the Company's Revolving Credit Facility Agreement dated as of October 11, 2017 ("Prior Credit Facility"). The Prior Credit Facility consisted of a $400.0 million senior secured revolving credit facility.

At any time during the term of the New Credit Facility, the Company will be permitted to increase the commitments under the New Credit Facility or to establish one or more incremental term loan facilities under the New Credit Facility in an aggregate principal amount not to exceed $200.0 million for all such incremental facilities.

Commitments under the New Credit Facility will terminate, and loans outstanding thereunder will mature, on January 2, 2024; provided, that if all the Notes have not been repaid, refinanced, and/or converted to common stock of the Company by August 2, 2021 (the "Springing Maturity Test Date"), then the commitments under the New Credit Facility will terminate, and the loans outstanding thereunder will mature, on such earlier date unless, from and after the Springing Maturity Test Date and for so long as the Notes have not been repaid, refinanced, and/or converted to common stock of the Company, the Company does not maintain liquidity (as defined in the New Credit Agreement) for any period of three consecutive business days of $150.0 million or more.

The New Credit Agreement includes requirements, to be tested quarterly, that the Company maintains (i) a minimum ratio of Consolidated EBITDA to consolidated interest expense of 3.25 to 1.0, (the "Interest Coverage Ratio"), (ii) a maximum ratio of Consolidated total indebtedness to Consolidated EBITDA of 3.75 to 1.0 (the "Total Leverage Ratio"), and (iii) a maximum ratio of senior secured indebtedness to Consolidated EBITDA of 3.25 to 1.0 (the "Senior Secured Leverage Ratio"). For these ratios, Consolidated EBITDA and consolidated interest expense are calculated using the most recent four consecutive fiscal quarters in a manner defined in the New Credit Agreement. At December 31, 2020, the Company was in compliance with these covenants and it expects to remain in compliance with all of its debt covenants over the next twelve months.

The interest rates under the New Credit Facility will be, at the Borrowers' option (1) LIBOR (or, in the case of borrowings under the New Credit Facility denominated in Euro, EURIBOR) plus the rates per annum determined from time to time based on the total leverage ratio of the Company as of the end of and for the most recent period of four fiscal quarters for which financial statements have been delivered (the "Applicable Margin"); or (2) in the case of borrowings denominated in U.S. dollars, alternate base rate ("ABR") (as defined in the New Credit Agreement) plus the Applicable Margin. The Applicable Margin for LIBOR could range from 1.50% to 2.50% while the Applicable Margin for ABR could range from 0.50% to 1.50%.

The interest rate under the New Credit Facility is variable based on LIBOR at the time of the borrowing and the Applicable Margin. In addition, a commitment fee accrues on the average daily unused portion of the New Credit Facility at a rate of 0.225% to 0.375%.

Risk Management

We are exposed to certain market risks which exist as part of our ongoing business operations, including changes in currency exchange rates, the dependence on key customers, price volatility for certain commodities, and changes in interest rates. We do not engage in speculative or leveraged transactions and do not hold or issue financial instruments for trading purposes.

Foreign Currency Exposure

We conduct business through our subsidiaries in many different countries and fluctuations in currency exchange rates could have a significant impact on the reported results of operations, which are presented in U.S. dollars. A significant and growing portion of our products are manufactured in lower-cost locations and sold in various countries. Cross-border transactions, both with external parties and intercompany relationships, could result in increased foreign exchange exposures. A weakening of foreign currencies relative to the U.S. dollar would adversely affect the U.S. dollar value of the Company’s foreign currency-denominated sales, but would be beneficial to the cost of materials, products, and services purchased overseas. A strengthening of foreign currencies relative to the U.S. dollar would positively affect the U.S. dollar value of the Company’s foreign currency-denominated sales, but would have a negative effect on the cost of materials, products, and services purchased overseas. Our foreign currency exposure is primarily driven by changes in the Chinese renminbi (yuan), the Malaysian ringgit, and the Philippine peso. Based on our current sales and manufacturing activity, a sustained 10% weakening of the U.S. dollar for a period of one year would reduce our operating results by approximately $17.2 million pre-tax. See Note 11. Hedging Transactions and Derivative Instruments to our Consolidated Financial Statements under Item 8, "Financial Statements and Supplementary Data" for information on the Company's hedges of foreign currency exchange rate risk.

Dependence on Key Customers; Concentration of Credit

The loss of any key customer and our inability to replace revenues provided by a key customer may have a material adverse effect on our business and financial condition. For the years ended December 31, 2020, 2019, and 2018, Apple Inc. accounted for approximately 23%, 22%, and 19% of our total revenues, respectively. No other customer accounted for more than 10% of total revenues during these periods. If a key customer fails to meet payment obligations, our operating results and financial condition could be adversely affected.

Commodity Pricing

We use a wide variety of raw materials, primarily metals, and semi-processed or finished components, which are generally available from a number of sources. While the required raw materials are generally available, commodity pricing for various precious metals, such as palladium, gold, brass, stainless steel, and copper, fluctuates. As a result, our operating results are exposed to such fluctuations. Although some cost increases may be recovered through increased prices to customers if commodity prices trend upward, we also attempt to control such costs through fixed-price contracts with suppliers and various other programs through our global supply chain activities.

Interest Rates

Borrowings under our New Credit Facility are at variable interest rates. We did not have variable rate borrowings outstanding as of December 31, 2020.

Critical Accounting Policies

Our Consolidated Financial Statements are based on the application of GAAP. GAAP requires the use of estimates, assumptions, judgments, and subjective interpretations of accounting principles that have an impact on the assets, liabilities, revenues, and expense amounts we report. These estimates can also affect supplemental information contained in our public disclosures, including information regarding contingencies, risk, and our financial condition. The significant accounting policies used in the preparation of our Consolidated Financial Statements are discussed in Note 1. Summary of Significant Accounting Policies to the Consolidated Financial Statements under Item 8, "Financial Statements and Supplementary Data." The accounting assumptions and estimates discussed in the section below are those that we consider most critical to an understanding of our financial statements because they inherently involve significant judgments and estimates. We believe our use of estimates and underlying accounting assumptions conforms to GAAP and is consistently applied. We review valuations based on estimates for reasonableness on a consistent basis.

Revenue Recognition: Revenue is recognized when control of the promised goods or services is transferred to the customer in an amount that reflects the consideration we expect to be entitled to in exchange for those goods or services. The majority of our revenue is generated through the manufacture and sale of a broad range of specialized products and components. For product and component sales, each good sold to a customer typically represents a distinct performance obligation. Our performance obligation to provide goods to a customer is typically satisfied at a point in time upon completion of the shipping process as indicated by the terms of the contract, at which point control is transferred to the customer and revenue is recognized. We have no significant arrangements with multiple performance obligations. Remaining performance obligations consist of the aggregate amount of the total transaction price that is unsatisfied or partially satisfied. As of December 31, 2020 and 2019, our total remaining performance obligations were immaterial. We recognize sales-based royalty revenue under third-party license agreements as the related sales are made by licensees.

The terms of a contract or historical business practice can give rise to variable consideration, including customer discounts, rebates, and returns. We estimate variable consideration using either the expected value or most likely amount method. We include amounts in the transaction price to the extent it is probable that a significant reversal of revenue will not occur in a subsequent reporting period. Our estimates of variable consideration are based on all reasonably available information (historical, current, and forecasted). Rebates are recognized over the contract period based on expected revenue levels. Sales discounts and rebates totaled $4.2 million, $4.7 million, and $8.1 million for the years ended December 31, 2020, 2019, and 2018, respectively. Returns and allowances totaled $5.4 million, $6.6 million, and $7.7 million for the years ended December 31, 2020, 2019, and 2018, respectively.

Inventories: Inventories are stated at the lower of cost or net realizable value, determined on the first-in, first-out ("FIFO") basis. The value of inventory may decline as a result of surplus inventory, price reductions, or technological obsolescence. It is the Company’s policy to carry reserves against the carrying value of inventory when items have no future demand (obsolete inventory) and additionally, where inventory items on hand have demand, yet have insufficient forecasted activity to consume the entire stock within a reasonable period. It is the Company’s policy to carry reserves against the carrying value of such at-risk inventory items after considering the nature of the risk and any mitigating factors.

Goodwill and Indefinite-Lived Intangible Assets: Goodwill represents the excess of purchase consideration over the fair value of the net assets of businesses acquired. Goodwill and certain other intangible assets deemed to have indefinite lives (primarily trademarks) are not amortized. Instead, goodwill and indefinite-lived intangible assets are tested for impairment at least annually, or more frequently if there are events or circumstances indicating the carrying value of individual reporting units or assets may exceed their respective fair values on a more likely than not basis. The Company performs its annual impairment assessment in the fourth quarter of each year on October 1. Recoverability of goodwill is measured at the reporting unit level. The Company has three reporting units. The goodwill balances associated with the Mobile Consumer Electronics ("MCE"), Hearing Health Technologies ("HHT"), and Capacitors reporting units were $741.0 million, $137.8 million, and $31.2 million, respectively, as of December 31, 2020.

The impairment assessment compares the fair value of each reporting unit to its carrying value. Impairment is measured as the amount by which the carrying value of a reporting unit exceeds its fair value. Fair value is estimated using a discounted cash flow model that includes the Company’s market participant assumptions, forecasted future cash flows based on historical performance and future estimated results, determinations of appropriate discount rates, and other assumptions which are considered reasonable and inherent in the discounted cash flow analysis. Significant assumptions used in the assessment include forecasted revenue and terminal growth rates, profit margins, income taxes, and the Company's weighted average cost of capital. These assumptions require significant judgment and actual results may differ from estimated amounts. The fair value of all of the Company’s reporting units exceeded the carrying values by at least 25%, resulting in no goodwill impairment charges. Potential circumstances that could have a negative effect on the fair value of our reporting units include, but are not limited to, lower than forecasted growth rates or profit margins and changes in the weighted average cost of capital. A reduction in the estimated fair value of the reporting units could trigger an impairment in the future. The Company cannot predict the occurrence of certain events or changes in circumstances that might adversely affect the carrying value of goodwill and intangible assets.

In testing its indefinite-lived trademarks for impairment, the Company uses a relief from royalty method to calculate and compare the fair value of the intangible asset to its carrying value. This method estimates the fair value of trademarks by calculating the present value of royalty income that could hypothetically be earned by licensing the trademark to a third party. Any excess of carrying value over the estimated fair value is recognized as an impairment loss. No impairment of indefinite-lived intangibles was indicated for the years ended December 31, 2020, 2019, or 2018.

See Note 7. Goodwill and Other Intangible Assets to our Consolidated Financial Statements under Item 8, "Financial Statements and Supplementary Data" for additional information on goodwill and indefinite-lived intangible assets.

Other Intangible and Long-Lived Assets: Other intangible assets with determinable lives consist primarily of customer relationships, developed technology, patents, and trademarks and are amortized over their estimated useful lives, typically ranging from 5 to 10 years. We rely on patents and proprietary technology, and seek patent protection for products and production methods. We capitalize external legal costs incurred in the defense of our patents when we believe that a significant, discernible increase in value will result from the defense and a successful outcome of the legal action is probable. These costs are amortized over the remaining estimated useful life of the patent, which is typically 7 to 10 years. We assess future economic benefit and/or the successful outcome of legal action related to patent defense, which involves considerable management judgment and a different outcome could result in material write-offs of the carrying value of these assets. No legal costs were capitalized related to the defense of our patents during the years ended December 31, 2020, 2019, and 2018.

Long-lived assets and intangible assets with determinable lives are reviewed for impairment whenever events or changes in circumstances indicate that the carrying amount of an asset may not be recoverable. If an indicator of impairment exists for any grouping of assets, an estimate of undiscounted future cash flows is produced and compared to its carrying value. If an asset is determined to be impaired, the loss is measured by the excess of the carrying amount of the asset over its fair value as determined by an estimate of discounted future cash flows.

We recorded impairment charges of $7.6 million during the year ended December 31, 2020 related to facilities in our Intelligent Audio product line. There were no impairments recorded during the years ended December 31, 2019 and 2018. See Note 4. Impairments to our Consolidated Financial Statements under Item 8, "Financial Statements and Supplementary Data" for additional details.

Income Taxes and Deferred Tax Balances: We record a provision for income taxes for the anticipated tax consequences of the reported results of operations using the asset and liability method. Under this method, we recognize deferred tax assets and liabilities for the expected future tax consequences of temporary differences between the financial reporting and tax bases of assets and liabilities, as well as for operating loss and tax credit carryforwards. Deferred tax assets and liabilities are measured using the tax rates that are expected to apply to taxable income for the years in which those tax assets and liabilities are expected to be realized or settled. A valuation allowance is recorded to reduce deferred tax assets to the net amount that is more likely than not to be realized.

We establish valuation allowances for our deferred tax assets if, based on all available positive and negative evidence, it is more likely than not that some portion or all of the deferred tax assets will not be realized. In making such assessments, significant weight is given to evidence that can be objectively verified. The assessment of the need for a valuation allowance requires considerable judgment on the part of management with respect to the benefits that could be realized from future taxable income, as well as other positive and negative factors.

We have evaluated our deferred tax assets for each of the reporting periods, including an assessment of cumulative income over the prior three-year period. Since we are in a cumulative loss position in the U.S., there is significant negative evidence that impairs the ability to rely on projections of future income. Due to a lack of significant positive evidence and cumulative losses in the respective prior three-year periods, a valuation allowance was required for the 2020, 2019, and 2018 periods. It is reasonably possible that we may have a material adjustment to the valuation allowance for our U.S subsidiary in 2021.

We recognize tax benefits from uncertain tax positions only if we believe that it is more likely than not that the tax position will be sustained on examination by the taxing authorities based on the technical merits of the position. Adjustments are made to these reserves when facts and circumstances change, such as the closing of a tax audit or the refinement of an estimate. To the extent that the final tax outcome of these matters is different than the amounts recorded, such differences will affect the provision for income taxes in the period in which such determination is made and could have a material impact on our financial condition and operating results. The provision for income taxes includes the effects of any reserves that are believed to be appropriate, as well as the related net interest and penalties. The effective tax rates on a continuing operations basis for 2020, 2019, and 2018 were a 74.3% provision, 25.0% provision, and 7.4% benefit, respectively.

On December 22, 2017, the Tax Reform Act was enacted which significantly changed U.S. tax law. Since enactment of the Tax Reform Act, the IRS and U.S. Treasury Department have issued and are expected to issue further interpretive guidance that impacts taxpayers. We will continue to evaluate such guidance as it is issued and will recognize any resulting impact in the period the related regulations are enacted.

Stock-Based Compensation: The principal awards issued under the stock-based compensation plans include stock options, restricted stock units ("RSUs"), and performance share units ("PSUs"). The cost for such awards is measured at the grant date based on the fair value of the award. The value of the portion of the award that is expected to ultimately vest is generally recognized as expense on a straight-line basis, generally over the explicit service period and is included in Cost of goods sold, Research and development expenses, and Selling and administrative expenses in the Consolidated Statements of Earnings, depending on the functional area of the underlying employees. The cost related to PSUs is recognized based on the expected attainment of performance targets. Changes in estimates that impact the number of shares expected to vest are recognized prospectively through cumulative adjustments.

We use the Black-Scholes valuation model to estimate the fair value of stock options granted to employees. The fair value of each RSU granted is equal to the share price at the date of the grant. The fair value of each PSU is determined using a binomial model simulation. At the time of grant, we estimates forfeitures, based on historical experience, in order to estimate the portion of the award that will ultimately vest. See Note 14. Equity Incentive Program to our Consolidated Financial Statements under Item 8, "Financial Statements and Supplementary Data" for additional information related to our stock-based compensation.

ITEM 7A. QUANTITATIVE AND QUALITATIVE DISCLOSURES ABOUT MARKET RISK

The information required by this section is incorporated by reference to the section "Risk Management," included in Item 7 of this Annual Report on Form 10-K.

ITEM 8. FINANCIAL STATEMENTS AND SUPPLEMENTARY DATA

INDEX TO CONSOLIDATED FINANCIAL STATEMENTS AND FINANCIAL STATEMENT SCHEDULE

Report of Independent Registered Public Accounting Firm

To the Board of Directors and Stockholders of Knowles Corporation

Opinions on the Financial Statements and Internal Control over Financial Reporting

We have audited the accompanying consolidated balance sheets of Knowles Corporation and its subsidiaries (the "Company") as of December 31, 2020 and 2019, and the related consolidated statements of earnings, comprehensive earnings, stockholders' equity and cash flows for each of the three years in the period ended December 31, 2020, including the related notes and schedule of valuation and qualifying accounts for each of the three years in the period ended December 31, 2020 appearing under Item 8 (collectively referred to as the "consolidated financial statements"). We also have audited the Company's internal control over financial reporting as of December 31, 2020, based on criteria established in *Internal Control - Integrated Framework* (2013) issued by the Committee of Sponsoring Organizations of the Treadway Commission (COSO).

In our opinion, the consolidated financial statements referred to above present fairly, in all material respects, the financial position of the Company as of December 31, 2020 and 2019, and the results of its operations and its cash flows for each of the three years in the period ended December 31, 2020 in conformity with accounting principles generally accepted in the United States of America. Also in our opinion, the Company maintained, in all material respects, effective internal control over financial reporting as of December 31, 2020, based on criteria established in *Internal Control - Integrated Framework* (2013) issued by the COSO.

Basis for Opinions

The Company's management is responsible for these consolidated financial statements, for maintaining effective internal control over financial reporting, and for its assessment of the effectiveness of internal control over financial reporting, included in Management's Report on Internal Control Over Financial Reporting appearing under Item 9A. Our responsibility is to express opinions on the Company's consolidated financial statements and on the Company's internal control over financial reporting based on our audits. We are a public accounting firm registered with the Public Company Accounting Oversight Board (United States) (PCAOB) and are required to be independent with respect to the Company in accordance with the U.S. federal securities laws and the applicable rules and regulations of the Securities and Exchange Commission and the PCAOB.

We conducted our audits in accordance with the standards of the PCAOB. Those standards require that we plan and perform the audits to obtain reasonable assurance about whether the consolidated financial statements are free of material misstatement, whether due to error or fraud, and whether effective internal control over financial reporting was maintained in all material respects.

Our audits of the consolidated financial statements included performing procedures to assess the risks of material misstatement of the consolidated financial statements, whether due to error or fraud, and performing procedures that respond to those risks. Such procedures included examining, on a test basis, evidence regarding the amounts and disclosures in the consolidated financial statements. Our audits also included evaluating the accounting principles used and significant estimates made by management, as well as evaluating the overall presentation of the consolidated financial statements. Our audit of internal control over financial reporting included obtaining an understanding of internal control over financial reporting, assessing the risk that a material weakness exists, and testing and evaluating the design and operating effectiveness of internal control based on the assessed risk. Our audits also included performing such other procedures as we considered necessary in the circumstances. We believe that our audits provide a reasonable basis for our opinions.

Definition and Limitations of Internal Control over Financial Reporting

A company's internal control over financial reporting is a process designed to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with generally accepted accounting principles. A company's internal control over financial reporting includes those policies and procedures that (i) pertain to the maintenance of records that, in reasonable detail, accurately and fairly reflect the transactions and dispositions of the assets of the company; (ii) provide reasonable assurance that transactions are recorded as necessary to permit preparation of financial statements in accordance with generally accepted accounting principles, and that receipts and expenditures of the company are being made only in accordance with authorizations of management and directors of the company; and (iii) provide reasonable assurance regarding prevention or timely detection of unauthorized acquisition, use, or disposition of the company's assets that could have a material effect on the financial statements.

Because of its inherent limitations, internal control over financial reporting may not prevent or detect misstatements. Also, projections of any evaluation of effectiveness to future periods are subject to the risk that controls may become inadequate because of changes in conditions, or that the degree of compliance with the policies or procedures may deteriorate.

Critical Audit Matters

The critical audit matter communicated below is a matter arising from the current period audit of the consolidated financial statements that was communicated or required to be communicated to the audit committee and that (i) relates to accounts or disclosures that are material to the consolidated financial statements and (ii) involved our especially challenging, subjective, or complex judgments. The communication of critical audit matters does not alter in any way our opinion on the consolidated financial statements, taken as a whole, and we are not, by communicating the critical audit matter below, providing a separate opinion on the critical audit matter or on the accounts or disclosures to which it relates.

Goodwill Impairment Assessment - Mobile Consumer Electronics ("MCE") Reporting Unit

As described in Notes 1 and 7 to the consolidated financial statements, the Company's consolidated goodwill balance was $910 million as of December 31, 2020, of which the goodwill associated with the MCE reporting unit was $741 million. Management performs its annual impairment assessment in the fourth quarter of each year on October 1, or more frequently if there are events or circumstances indicating the carrying value of individual reporting units may exceed their respective fair values on a more likely than not basis. Fair value is estimated using a discounted cash flow model. Assumptions used in the assessment include forecasted revenue and terminal growth rates, profit margins, income taxes, and the Company's weighted average cost of capital.

The principal considerations for our determination that performing procedures relating to the goodwill impairment assessment of the MCE reporting unit is a critical audit matter are the significant judgments by management when developing the fair value measurement of the reporting unit, which in turn led to a high degree of auditor judgment, subjectivity, and effort in performing procedures and in evaluating management's fair value estimate and significant assumptions, related to the forecasted revenue growth rates and profit margins.

Addressing the matter involved performing procedures and evaluating audit evidence in connection with forming our overall opinion on the consolidated financial statements. These procedures included testing the effectiveness of controls relating to management's goodwill impairment assessment, including controls over the valuation of the MCE reporting unit. These procedures also included, among others (i) testing management's process for developing the fair value estimate, (ii) evaluating the appropriateness of the discounted cash flow model, (iii) testing the completeness, accuracy and relevance of underlying data used in the fair value estimate, and (iv) evaluating the significant assumptions used by management related to the forecasted revenue growth rates and profit margins. Evaluating management's assumptions related to the forecasted revenue growth rates and profit margins involved evaluating whether the assumptions used by management were reasonable considering (i) the current and past performance of the MCE reporting unit, (ii) consistency with external market and industry data, and (iii) whether these assumptions were consistent with evidence obtained in other areas of the audit.

/s/ PricewaterhouseCoopers LLP
Chicago, Illinois
February 10, 2021

We have served as the Company's auditor since 2013.

KNOWLES CORPORATION
CONSOLIDATED STATEMENTS OF EARNINGS
(in millions, except share and per share amounts)

	Years Ended December 31,		
	2020	**2019**	**2018**
Revenues	$ 764.3	$ 854.8	$ 826.9
Cost of goods sold	490.8	525.1	503.9
Restructuring charges - cost of goods sold	2.3	1.7	0.4
Gross profit	271.2	328.0	322.6
Research and development expenses	92.9	96.8	100.6
Selling and administrative expenses	131.5	145.7	142.5
Impairment charges	7.6	—	—
Restructuring charges	10.0	4.3	1.7
Operating expenses	242.0	246.8	244.8
Operating earnings	29.2	81.2	77.8
Interest expense, net	16.4	14.5	16.0
Other expense, net	1.5	0.4	0.7
Earnings before income taxes and discontinued operations	11.3	66.3	61.1
Provision for (benefit from) income taxes	8.4	16.6	(4.5)
Earnings from continuing operations	2.9	49.7	65.6
Earnings (loss) from discontinued operations, net	3.7	(0.6)	2.1
Net earnings	$ 6.6	$ 49.1	$ 67.7
Earnings per share from continuing operations:			
Basic	$ 0.03	$ 0.55	$ 0.73
Diluted	$ 0.03	$ 0.53	$ 0.72
Earnings (loss) per share from discontinued operations:			
Basic	$ 0.04	$ (0.01)	$ 0.02
Diluted	$ 0.04	$ —	$ 0.02
Net earnings per share:			
Basic	$ 0.07	$ 0.54	$ 0.75
Diluted	$ 0.07	$ 0.53	$ 0.74
Weighted-average common shares outstanding:			
Basic	91,701,004	91,156,124	90,050,051
Diluted	92,883,138	93,439,023	91,194,747

See accompanying Notes to Consolidated Financial Statements

KNOWLES CORPORATION
CONSOLIDATED STATEMENTS OF COMPREHENSIVE EARNINGS
(in millions)

	Years Ended December 31,		
	2020	**2019**	**2018**
Net earnings	$ 6.6	$ 49.1	$ 67.7
Other comprehensive earnings (loss), net of tax			
Foreign currency translation	13.8	1.3	(9.9)
Employee benefit plans:			
Actuarial losses and prior service costs arising during period	(4.0)	(3.7)	(0.7)
Amortization or settlement of actuarial losses and prior service costs	0.6	0.5	0.5
Net change in employee benefit plans	(3.4)	(3.2)	(0.2)
Changes in fair value of cash flow hedges:			
Unrealized net gains (losses) arising during period	2.0	0.2	(2.0)
Net (gains) losses reclassified into earnings	(0.9)	0.7	1.1
Total cash flow hedges	1.1	0.9	(0.9)
Other comprehensive earnings (loss), net of tax	11.5	(1.0)	(11.0)
Comprehensive earnings	$ 18.1	$ 48.1	$ 56.7

See accompanying Notes to Consolidated Financial Statements

KNOWLES CORPORATION
CONSOLIDATED BALANCE SHEETS
(in millions, except share and per share amounts)

	December 31, 2020	December 31, 2019
Current assets:		
Cash and cash equivalents	$ 147.8	$ 78.4
Receivables, net of allowances of $1.6 and $0.8	131.4	159.6
Inventories, net	130.1	141.8
Prepaid and other current assets	10.3	8.6
Total current assets	419.6	388.4
Property, plant, and equipment, net	191.5	206.5
Goodwill	910.0	909.9
Intangible assets, net	78.7	91.7
Operating lease right-of-use assets	23.3	33.6
Other assets and deferred charges	31.8	24.5
Total assets	$ 1,654.9	$ 1,654.6
Current liabilities:		
Current maturities of long-term debt	$ 165.1	$ —
Accounts payable	70.3	87.7
Accrued compensation and employee benefits	30.4	32.1
Operating lease liabilities	10.2	9.3
Other accrued expenses	18.6	16.5
Federal and other taxes on income	2.7	5.9
Total current liabilities	297.3	151.5
Long-term debt	—	156.8
Deferred income taxes	2.0	2.2
Long-term operating lease liabilities	18.7	25.1
Other liabilities	32.8	29.9
Liabilities of discontinued operations	0.6	0.6
Commitments and contingencies (Note 15)		
Stockholders' equity:		
Preferred stock - $0.01 par value; 10,000,000 shares authorized; none issued	—	—
Common stock - $0.01 par value; 400,000,000 shares authorized; 92,689,912 and 91,611,549 shares issued and outstanding at December 31, 2020, respectively, and 91,701,745 shares issued and outstanding at December 31, 2019	0.9	0.9
Treasury stock - at cost; 1,078,363 shares at December 31, 2020	(16.2)	—
Additional paid-in capital	1,587.8	1,574.7
Accumulated deficit	(168.5)	(175.1)
Accumulated other comprehensive loss	(100.5)	(112.0)
Total stockholders' equity	1,303.5	1,288.5
Total liabilities and stockholders' equity	$ 1,654.9	$ 1,654.6

See accompanying Notes to Consolidated Financial Statements

KNOWLES CORPORATION
CONSOLIDATED STATEMENTS OF STOCKHOLDERS' EQUITY
(in millions)

	Common Stock	Treasury Stock	Additional Paid-In Capital	Accumulated Deficit	Accumulated Other Comprehensive Loss	Total Stockholders' Equity
Balance at January 1, 2018	$ 0.9	$ —	$ 1,523.1	$ (291.9)	$ (100.0)	$ 1,132.1
Net earnings	—	—	—	67.7	—	67.7
Other comprehensive loss, net of tax	—	—	—	—	(11.0)	(11.0)
Stock-based compensation expense	—	—	27.0	—	—	27.0
Common stock issued for exercise of stock options	—	—	0.5	—	—	0.5
Tax on restricted stock unit vesting	—	—	(4.7)	—	—	(4.7)
Balance at December 31, 2018	$ 0.9	$ —	$ 1,545.9	$ (224.2)	$ (111.0)	$ 1,211.6
Net earnings	—	—	—	49.1	—	49.1
Other comprehensive loss, net of tax	—	—	—	—	(1.0)	(1.0)
Stock-based compensation expense	—	—	25.2	—	—	25.2
Common stock issued for exercise of stock options and other	—	—	10.0	—	—	10.0
Tax on restricted stock unit vesting	—	—	(6.4)	—	—	(6.4)
Balance at December 31, 2019	$ 0.9	$ —	$ 1,574.7	$ (175.1)	$ (112.0)	$ 1,288.5
Net earnings	—	—	—	6.6	—	6.6
Other comprehensive earnings, net of tax	—	—	—	—	11.5	11.5
Repurchase of common stock	—	(16.2)	—	—	—	(16.2)
Stock-based compensation expense	—	—	17.3	—	—	17.3
Common stock issued for exercise of stock options and other	—	—	1.9	—	—	1.9
Tax on restricted and performance stock unit vesting	—	—	(6.1)	—	—	(6.1)
Balance at December 31, 2020	$ 0.9	$ (16.2)	$ 1,587.8	$ (168.5)	$ (100.5)	$ 1,303.5

See accompanying Notes to Consolidated Financial Statements

KNOWLES CORPORATION
CONSOLIDATED STATEMENTS OF CASH FLOWS
(in millions)

	Years Ended December 31,		
	2020	**2019**	**2018**
Operating Activities			
Net earnings	$ 6.6	$ 49.1	$ 67.7
Adjustments to reconcile net earnings to cash from operating activities:			
Depreciation and amortization	60.6	54.4	52.4
Stock-based compensation	17.3	25.2	27.0
Non-cash interest expense and amortization of debt issuance costs	8.9	8.1	7.6
Impairment charges	7.6	—	—
Write-off of fixed assets	1.7	—	—
Loss on disposal of fixed assets	0.3	0.2	0.2
Gain on sale of business	—	—	(1.6)
Deferred income taxes	(2.6)	(0.7)	8.7
Other, net	5.0	1.3	(2.8)
Changes in assets and liabilities (excluding effects of foreign exchange):			
Receivables, net	29.0	(17.8)	(0.3)
Inventories, net	16.7	(0.3)	(15.7)
Prepaid and other current assets	(0.1)	2.7	(1.3)
Accounts payable	(17.5)	12.1	(6.3)
Accrued compensation and employee benefits	(2.1)	(8.1)	7.9
Other accrued expenses	2.6	(0.6)	(8.8)
Accrued taxes	(5.8)	2.7	(5.1)
Other non-current assets and non-current liabilities	(0.1)	(4.4)	(31.1)
Net cash provided by operating activities	128.1	123.9	98.5
Investing Activities			
Additions to property, plant, and equipment	(31.9)	(41.2)	(80.1)
Acquisitions of business (net of cash acquired)	—	(69.3)	(18.0)
Proceeds from the sale of business	—	—	10.0
Purchase of investments	(3.5)	—	—
Proceeds from the sale of property, plant, and equipment	0.3	—	0.1
Net cash used in investing activities	(35.1)	(110.5)	(88.0)
Financing Activities			
Payments under revolving credit facility	(100.0)	(19.0)	(47.7)
Borrowings under revolving credit facility	100.0	10.0	6.0
Repurchase of common stock	(16.2)	—	—
Tax on restricted and performance stock unit vesting	(6.1)	(6.4)	(4.7)
Payments of finance lease obligations	(2.0)	(1.7)	(1.7)
Payments of debt issuance costs	(1.4)	—	—
Payment of consideration owed for acquisitions	—	(1.2)	(1.0)
Net proceeds from exercise of stock-based awards	1.8	9.8	0.5
Net cash used in financing activities	(23.9)	(8.5)	(48.6)
Effect of exchange rate changes on cash and cash equivalents	0.3	—	(0.1)
Net increase (decrease) in cash and cash equivalents	69.4	4.9	(38.2)
Cash and cash equivalents at beginning of period	78.4	73.5	111.7
Cash and cash equivalents at end of period	$ 147.8	$ 78.4	$ 73.5
Supplemental information - cash paid during the year for:			
Income taxes	$ 16.8	$ 12.1	$ 18.0
Interest	$ 8.1	$ 7.5	$ 9.0

See accompanying Notes to Consolidated Financial Statements

1. Summary of Significant Accounting Policies

Background - Knowles Corporation (NYSE:KN) is a market leader and global provider of advanced micro-acoustic, audio processing, and precision device solutions, serving the mobile consumer electronics, communications, medtech, defense, electric vehicle, and industrial markets. The Company uses its leading position in micro-electro-mechanical systems ("MEMS") microphones and strong capabilities in audio processing technologies to optimize audio systems and improve the user experience in mobile, ear, and Internet of Things ("IoT") applications. Knowles is also a leader in acoustic components, high-end capacitors, and mmWave radio frequency ("RF") solutions for a diverse set of markets. The Company's focus on the customer, combined with its unique technology, proprietary manufacturing techniques, rigorous testing, and global scale, enable the Company to deliver innovative solutions that optimize the user experience. References to "Knowles," "the Company," "we," "our," and "us" refer to Knowles Corporation and its consolidated subsidiaries.

On February 24, 2020, the Company announced that its Board of Directors had authorized a share repurchase program of up to $100 million of the Company's common stock. The timing and amount of any shares repurchased will be determined by the Company based on its evaluation of market conditions and other factors, and will be made in accordance with applicable securities laws in either the open market or in privately negotiated transactions. The Company is not obligated to purchase any shares under the program, and the program may be suspended or discontinued at any time. The actual timing, number, and share price of shares repurchased will depend on a number of factors, including the market price of the Company’s common stock, general market and economic conditions, and applicable legal requirements. Any shares repurchased will be held as treasury stock. During the year ended December 31, 2020, the Company repurchased 1,078,363 shares of common stock for a total of $16.2 million. In connection with the COVID-19 pandemic, the Company temporarily suspended share repurchases, but resumed the share repurchase program in the fourth quarter of 2020.

On December 20, 2019, the Company acquired substantially all of the assets of the MEMS Microphone Application-specific integrated circuit Design Business (“ASIC Design Business”). See Note 3. Acquisitions for additional information related to the transaction.

On January 3, 2019, the Company acquired substantially all of the assets of DITF Interconnect Technology, Inc. ("DITF"), a thin film components manufacturer. See Note 3. Acquisitions for additional information related to the transaction.

On January 19, 2018, the Company acquired substantially all of the assets of Compex Corporation ("Compex"), a capacitors manufacturer. See Note 3. Acquisitions for additional information related to the transaction.

On November 28, 2017, the Company completed the sale of its high-end oscillators business ("Timing Device Business"). On July 7, 2016, the Company completed the sale of its speaker and receiver product line (“Speaker and Receiver Product Line”). In accordance with Accounting Standards Codification ("ASC") 205-20, Presentation of Financial Statements - Discontinued Operations, the results of operations and related assets and liabilities for the Timing Device Business and Speaker and Receiver Product Line have been reclassified as discontinued operations for all periods presented. See Note 2. Disposed and Discontinued Operations for additional information related to the transactions.

Financial Statement Presentation - The Consolidated Financial Statements included in this Annual Report on Form 10-K are presented in conformity with U.S. generally accepted accounting principles ("U.S. GAAP").

Use of Estimates - The preparation of financial statements in conformity with U.S. GAAP requires management to make estimates and assumptions that affect the amounts reported in the accompanying financial statements and disclosures. These estimates may be adjusted due to changes in future economic, industry, or customer financial conditions, as well as changes in technology or demand. Estimates are used in accounting for, among other items, inventory reserves, restructuring reserves, warranty reserves, pension and post-retirement plans, stock-based compensation, useful lives for depreciation and amortization of long-lived assets, future cash flows associated with impairment testing for goodwill, indefinite-lived intangible assets and other long-lived assets, deferred tax assets, uncertain income tax positions, changes in tax laws, and contingencies. Management uses historical experience and all available information to make these estimates, including considerations for the impact of the COVID-19 pandemic on the macroeconomic environment. The situation related to the COVID-19 pandemic continues to be complex and rapidly evolving. The Company cannot reasonably estimate the duration of the COVID-19 pandemic or fully ascertain its impact on the Company’s future results and market capitalization, which could adversely impact estimates such as the recoverability of goodwill and long-lived assets and the realizability of deferred tax assets. Actual results may ultimately differ from estimates, although management does not believe such differences would materially affect the financial statements in any individual year. Estimates and assumptions are periodically reviewed and the effects of revisions are reflected in the Consolidated Financial Statements in the period that they are determined.

Cash and Cash Equivalents - Cash and cash equivalents include cash on hand, demand deposits, and temporary cash investments with original maturities less than three months.

Allowance for Doubtful Accounts – The Company maintains allowances for estimated losses as a result of customers' inability to make required payments. Management evaluates the aging of the accounts receivable balances, the financial condition of its customers, historical trends, relevant forecasts, and the time outstanding of specific balances to estimate the amount of accounts receivable that may not be collected in the future and records the appropriate provision.

Inventories – Inventories are stated at the lower of cost or net realizable value, determined on the first-in, first-out ("FIFO") basis. The value of inventory may decline as a result of surplus inventory, price reductions, or technological obsolescence. It is the Company’s policy to carry reserves against the carrying value of inventory when items have no future demand (obsolete inventory) and additionally, where inventory items on hand have demand, yet have insufficient forecasted activity to consume the entire stock within a reasonable period. It is the Company’s policy to carry reserves against the carrying value of such at-risk inventory items after considering the nature of the risk and any mitigating factors.

Property, Plant, and Equipment - Property, plant, and equipment includes the historic cost of land, buildings, equipment, and significant improvements to existing plant and equipment or, in the case of acquisitions, a fair market value appraisal of such assets completed at the time of acquisition. Property, plant, and equipment also includes the cost of purchased software. Expenditures for maintenance, repairs, and minor renewals are expensed as incurred. When property or equipment is sold or otherwise disposed of, the related cost and accumulated depreciation is removed from the respective accounts, and the gain or loss realized on disposition is reflected in earnings. The Company historically depreciates its assets on a straight-line basis over their estimated useful lives as follows: buildings and improvements 5 to 31.5 years; machinery and equipment 1.5 to 7 years; furniture and fixtures 2 to 5 years; vehicles 3 to 5 years; and software 3 to 5 years.

Leases - The Company adopted ASC 842, Leases, on January 1, 2019 under the prospective transition method that did not require comparative period financial statements to be adjusted. Periods prior to January 1, 2019 have been presented in accordance with prior guidance (ASC 840). The Company elected the transition package of practical expedients for leases that commenced before the adoption date, which among other things, allowed the Company to carry forward historical lease classifications. Finance leases were not impacted by the adoption of ASC 842 as finance lease liabilities and right-of-use assets were recognized on the Consolidated Balance Sheets for periods prior to January 1, 2019 under ASC 840. The standard did not materially impact the Consolidated Statements of Earnings or Consolidated Statements of Cash Flows.

The Company determines whether an arrangement is a lease at contract inception. Lease liabilities and right-of-use assets are recognized on the lease commencement date based on the net present value of fixed lease payments over the lease term. The Company includes options to extend or terminate a lease within the lease term when it is reasonably certain the option will be exercised. Leases with an initial term of 12 months or less are not recorded on the Consolidated Balance Sheets. Lease liabilities represent an obligation to make lease payments arising from a lease while right-of-use assets represent a right to use an underlying asset during the lease term. Right-of-use assets include prepaid fixed lease payments and exclude lease incentives. As the Company's leases do not have a readily determinable implicit rate, the Company uses its incremental borrowing rate to determine the present value of fixed lease payments based on information available at the lease commencement date.

Fixed lease expense for operating leases and right-of-use asset amortization for finance leases are generally recognized on a straight-line basis over the lease term. Variable lease payments, such as payments based on an index rate or usage, are expensed as incurred and excluded from lease liabilities and right-of-use assets. The Company combines lease components and nonlease components such as maintenance into a single lease component, which results in the capitalization of all fixed payments within lease liabilities and right-of-use assets.

Derivative Instruments - The Company uses derivative financial instruments to hedge its exposures to various risks, including interest rate and foreign currency exchange rate risk. The Company does not enter into derivative financial instruments for speculative purposes and does not have a material portfolio of derivative financial instruments. Derivative financial instruments used for hedging purposes must be designated and effective as a hedge of the identified risk exposure at inception of the contract. The Company recognizes all derivatives as either assets or liabilities on the Consolidated Balance Sheets and measures those instruments at fair value. For derivatives designated as cash flow hedges, the effective portion of changes in the fair value of the derivatives is recorded as a component of other comprehensive earnings and subsequently recognized in net earnings when the hedged items impact earnings.

Goodwill and Indefinite-Lived Intangible Assets - Goodwill represents the excess of purchase consideration over the fair value of the net assets of businesses acquired. Goodwill and certain other intangible assets deemed to have indefinite lives (primarily trademarks) are not amortized. Instead, goodwill and indefinite-lived intangible assets are tested for impairment at least annually, or more frequently if there are events or circumstances indicating the carrying value of individual reporting units or assets may exceed their respective fair values on a more likely than not basis. The Company performs its annual impairment assessment in the fourth quarter of each year on October 1. Recoverability of goodwill is measured at the reporting unit level. The Company has three reporting units. The goodwill balances associated with the Mobile Consumer Electronics ("MCE"), Hearing Health Technologies ("HHT"), and Capacitors reporting units were $741.0 million, $137.8 million, and $31.2 million, respectively, as of December 31, 2020.

The impairment assessment compares the fair value of each reporting unit to its carrying value. Impairment is measured as the amount by which the carrying value of a reporting unit exceeds its fair value. Fair value is estimated using a discounted cash flow model that includes the Company’s market participant assumptions, forecasted future cash flows based on historical performance and future estimated results, determinations of appropriate discount rates, and other assumptions which are considered reasonable and inherent in the discounted cash flow analysis. Significant assumptions used in the assessment include forecasted revenue and terminal growth rates, profit margins, income taxes, and the Company's weighted average cost of capital. These assumptions require significant judgment and actual results may differ from estimated amounts. The fair value of all of the Company’s reporting units exceeded the carrying values by at least 25%, resulting in no goodwill impairment charges. Potential circumstances that could have a negative effect on the fair value of our reporting units include, but are not limited to, lower than forecasted growth rates or profit margins and changes in the weighted average cost of capital. A reduction in the estimated fair value of the reporting units could trigger an impairment in the future. The Company cannot predict the occurrence of certain events or changes in circumstances that might adversely affect the carrying value of goodwill and intangible assets.

In testing its indefinite-lived trademarks for impairment, the Company uses a relief from royalty method to calculate and compare the fair value of the intangible asset to its carrying value. This method estimates the fair value of trademarks by calculating the present value of royalty income that could hypothetically be earned by licensing the trademark to a third party. Any excess of carrying value over the estimated fair value is recognized as an impairment loss. No impairment of indefinite-lived intangibles was indicated for the years ended December 31, 2020, 2019, or 2018.

See Note 7. Goodwill and Other Intangible Assets for additional information on goodwill and indefinite-lived intangible assets.

Other Intangible and Long-Lived Assets - Other intangible assets with determinable lives consist primarily of customer relationships, developed technology, patents, and trademarks and are amortized over their estimated useful lives, typically ranging from 5 to 10 years. The Company relies on patents and proprietary technology, and seeks patent protection for products and production methods. The Company capitalizes external legal costs incurred in the defense of its patents when it believes that a significant, discernible increase in value will result from the defense and a successful outcome of the legal action is probable. These costs are amortized over the remaining estimated useful life of the patent, which is typically 7 to 10 years. The Company's assessment of future economic benefit and/or the successful outcome of legal action related to patent defense involves considerable management judgment and a different outcome could result in material write-offs of the carrying value of these assets. The Company capitalized no legal costs related to the defense of its patents during the years ended December 31, 2020, 2019, and 2018.

Long-lived assets and intangible assets with determinable lives are reviewed for impairment whenever events or changes in circumstances indicate that the carrying amount of an asset may not be recoverable. If an indicator of impairment exists for any grouping of assets, an estimate of undiscounted future cash flows is produced and compared to its carrying value. If an asset is determined to be impaired, the loss is measured by the excess of the carrying amount of the asset over its fair value as determined by an estimate of discounted future cash flows.

The Company recorded impairment charges of $7.6 million during the year ended December 31, 2020. There were no impairments recorded during the years ended December 31, 2019 and 2018. See Note 4. Impairments for additional details.

Other Assets and Deferred Charges - Other assets and deferred charges at December 31, 2020 includes $2.5 million of investments in mutual funds carried at fair value based on quoted prices for identical assets in active markets. The Company classifies these investments within Level 1 of the fair value hierarchy. Gains and losses related to the investments are recorded within the Consolidated Statements of Earnings as a component of Other expense, net. Other assets and deferred charges also include non-current deferred tax assets as of December 31, 2020 and 2019.

Foreign Currency - Assets and liabilities of non-U.S. subsidiaries, where the functional currency is not the U.S. dollar, are translated into U.S. dollars at year-end exchange rates. Revenue and expense items are translated using weighted-average yearly exchange rates. Foreign currency translation gains and losses are included as a component of Accumulated other comprehensive loss. Assets and liabilities of an entity that are denominated in currencies other than an entity's functional currency are re-measured into the functional currency using end of period exchange rates or historical rates where applicable to certain balances. Gains and losses related to these re-measurements are recorded within the Consolidated Statements of Earnings as a component of Other expense, net.

Revenue Recognition - Revenue is recognized when control of the promised goods or services is transferred to the customer in an amount that reflects the consideration the Company expects to be entitled to in exchange for those goods or services. The majority of the Company's revenue is generated through the manufacture and sale of a broad range of specialized products and components. For product and component sales, each good sold to a customer typically represents a distinct performance obligation. The Company's performance obligation to provide goods to a customer is typically satisfied at a point in time upon completion of the shipping process as indicated by the terms of the contract, at which point control is transferred to the customer and revenue is recognized. The Company has no significant arrangements with multiple performance obligations. Remaining performance obligations consist of the aggregate amount of the total transaction price that is unsatisfied or partially satisfied. As of December 31, 2020 and 2019, our total remaining performance obligations were immaterial. The Company recognizes sales-based royalty revenue under third-party license agreements as the related sales are made by licensees.

The terms of a contract or historical business practice can give rise to variable consideration, including customer discounts, rebates, and returns. The Company estimates variable consideration using either the expected value or most likely amount method. We include amounts in the transaction price to the extent it is probable that a significant reversal of revenue will not occur in a subsequent reporting period. Our estimates of variable consideration are based on all reasonably available information (historical, current, and forecasted). Rebates are recognized over the contract period based on expected revenue levels. Sales discounts and rebates totaled $4.2 million, $4.7 million, and $8.1 million for the years ended December 31, 2020, 2019, and 2018, respectively. Returns and allowances totaled $5.4 million, $6.6 million, and $7.7 million for the years ended December 31, 2020, 2019, and 2018, respectively.

The Company accounts for shipping and handling activities that occur after control of the related good transfers to the customer as fulfillment activities rather than evaluating such activities as performance obligations. As a result, all shipping and handling costs related to contracts with customers are recognized in the Cost of goods sold line on the Consolidated Statements of Earnings. Additionally, the Company applies the practical expedient allowing incremental costs of obtaining a contract to be expensed as incurred if the amortization period of the resulting asset would have been less than one year. These costs primarily consist of sales commissions and the Company has no such significant costs exceeding the one year limit for applying the practical expedient.

Receivables, net from contracts with customers were $123.8 million and $152.8 million as of December 31, 2020 and 2019, respectively. See Note 18. Segment Information for disclosures regarding the disaggregation of revenues.

Stock-Based Compensation – The principal awards issued under the stock-based compensation plans include stock options, restricted stock units ("RSUs"), and performance share units ("PSUs"). The cost for such awards is measured at the grant date based on the fair value of the award. The value of the portion of the award that is expected to ultimately vest is generally recognized as expense on a straight-line basis, generally over the explicit service period and is included in Cost of goods sold, Research and development expenses, and Selling and administrative expenses in the Consolidated Statements of Earnings, depending on the functional area of the underlying employees. The cost related to PSUs is recognized based on the expected attainment of performance targets. Changes in estimates that impact the number of shares expected to vest are recognized prospectively through cumulative adjustments.

The Company uses the Black-Scholes valuation model to estimate the fair value of stock options granted to employees. The fair value of each RSU granted is equal to the share price at the date of the grant. The fair value of each PSU is determined using a binomial model simulation. At the time of grant, the Company estimates forfeitures, based on historical experience, in order to estimate the portion of the award that will ultimately vest. See Note 14. Equity Incentive Program for additional information related to the Company’s stock-based compensation.

Income Taxes - The Company records a provision for income taxes for the anticipated tax consequences of the reported results of operations using the asset and liability method. Under this method, the Company recognizes deferred tax assets and liabilities for the expected future tax consequences of temporary differences between the financial reporting and tax bases of assets and liabilities, as well as for operating loss and tax credit carryforwards. Deferred tax assets and liabilities are measured using the tax rates that are expected to apply to taxable income for the years in which those tax assets and liabilities are expected to be realized or settled. The Company offsets and presents deferred tax liabilities and assets, as well as any related valuation allowance, as a single non-current amount on the Consolidated Balance Sheets on a jurisdictional basis. The Company's policy is to release income tax effects from accumulated other comprehensive loss in the period the underlying item expires.

The Company establishes valuation allowances for its deferred tax assets if, based on all available positive and negative evidence, it is more likely than not that some portion or all of the deferred tax assets will not be realized. In making such assessments, significant weight is given to evidence that can be objectively verified. The assessment of the need for a valuation allowance requires considerable judgment on the part of management with respect to the benefits that could be realized from future taxable income, as well as other positive and negative factors. Management considers the scheduled reversal of deferred tax liabilities, projected future taxable income, and tax-planning strategies in making this assessment.

The Company recognizes tax benefits from uncertain tax positions only if it believes that it is more likely than not that the tax position will be sustained on examination by the taxing authorities based on the technical merits of the position. Adjustments are made to these reserves when facts and circumstances change, such as the closing of a tax audit or the refinement of an estimate. To the extent that the final tax outcome of these matters is different than the amounts recorded, such differences will affect the provision for income taxes in the period in which such determination is made and could have a material impact on the Company's financial condition and operating results. The provision for income taxes includes the effects of any reserves that are believed to be appropriate, as well as the related net interest and penalties.

On December 22, 2017, the U.S. bill commonly referred to as the Tax Cuts and Jobs Act ("Tax Reform Act") was enacted, which significantly changed U.S. tax law. Since enactment of the Tax Reform Act, the Internal Revenue Service and U.S. Treasury Department have issued and are expected to issue further interpretive guidance that impacts taxpayers. The Company will continue to evaluate such guidance as it is issued and will recognize any resulting impact in the period the related regulations are enacted.

Research and Development Costs – Research and development costs, including qualifying engineering costs, are expensed when incurred.

Non-cash Investing Activities - Purchases of property, plant, and equipment included in accounts payable at December 31, 2020, 2019, and 2018 were $2.0 million, $4.7 million, and $7.1 million, respectively. These non-cash amounts are not reflected as outflows to Additions to property, plant, and equipment within investing activities of the Consolidated Statements of Cash Flows for the respective periods.

Recently Issued Accounting Standards

In August 2020, the Financial Accounting Standards Board ("FASB") issued Accounting Standards Update ("ASU") 2020-06 to simplify the accounting for certain financial instruments with characteristics of liabilities and equity. The standard eliminates certain accounting models that separated embedded conversion features from host contracts for convertible instruments, requiring bifurcation only if the convertible feature qualifies as a derivative under ASC 815 or for convertible instruments issued at a substantial premium. In addition, the guidance requires the if-converted method of calculating diluted earnings per share for convertible instruments, which eliminates the use of the treasury stock method for instruments that may be settled in cash or shares. The standard is effective for public business entities for fiscal years beginning after December 15, 2021, including interim periods within those fiscal years. Early adoption is permitted for fiscal years beginning after December 15, 2020. The standard can be adopted on a modified retrospective basis to transactions outstanding as of the adoption date or on a fully retrospective basis to all periods presented. The Company plans to adopt the standard using the modified retrospective method on January 1, 2022. The Company does not expect the standard to impact the Consolidated Financial Statements as all currently outstanding convertible instruments will mature prior to the expected adoption date. See Note 12. Borrowings for detail on the Company's outstanding convertible instruments.

Recently Adopted Accounting Standards

In December 2019, the FASB issued ASU 2019-12 to simplify the accounting for income taxes. This guidance removes certain exceptions to the general principles in ASC 740 and amends existing guidance to improve consistent application. The standard is effective for public business entities for fiscal years beginning after December 15, 2020, and interim periods within those fiscal years. Early adoption is permitted and prospective application of the guidance is required. The Company elected to early adopt the standard in the fourth quarter of 2020, which did not have a material impact on the Consolidated Financial Statements.

2. Disposed and Discontinued Operations

Management and the Board of Directors periodically conduct strategic reviews of the Company's businesses.

On November 28, 2017, the Company completed the sale of its Timing Device Business, part of the PD segment, for $130.0 million, plus purchase price adjustments for a net amount of $135.1 million. The purchase price included $10.0 million held in escrow that was received during the year ended December 31, 2018. On July 7, 2016, the Company completed the sale of its Speaker and Receiver Product Line for $45.0 million in cash, less purchase price adjustments for a net amount received of $40.6 million.

The results of operations and financial positions of the Timing Device Business and Speaker and Receiver Product Line have been reclassified to discontinued operations for all periods presented as these disposals represent strategic shifts that had a major effect on the Company's results of operations.

Summarized results of the Company's discontinued operations are as follows:

	Years Ended December 31,		
(in millions)	2020	2019	2018
Revenues	$ —	$ —	$ —
Cost of goods sold	—	—	—
Gross profit	—	—	—
Operating expenses	—	—	—
Other income, net	—	—	(0.2)
Gain on sale of business [1]	—	—	(1.6)
Earnings from discontinued operations before taxes [2]	—	—	1.8
(Benefit from) provision for income taxes [3]	(3.7)	0.6	(0.3)
Earnings (loss) from discontinued operations, net of tax	$ 3.7	$ (0.6)	$ 2.1

[1] The Company recorded a change in estimated purchase price adjustments related to the Timing Device Business of $1.8 million during the third quarter of 2018.

[2] The Company's policy is to not allocate interest expense to discontinued operations unless it is directly attributable to the operations. The discontinued operations did not have any such interest expense in the periods presented.

[3] The Company recorded a tax benefit for a refund received during the first quarter of 2020 related to the Timing Device Business.

Assets and liabilities of discontinued operations are summarized below:

(in millions)	December 31, 2020	December 31, 2019
Liabilities of discontinued operations:		
Other liabilities [1]	$ 0.6	$ 0.6
Total liabilities	$ 0.6	$ 0.6

[1] The Company recorded an unrecognized tax benefit related to the Speaker and Receiver Product Line during the fourth quarter of 2019.

There was no depreciation, amortization of intangible assets, or capital expenditures related to discontinued operations during the years ended December 31, 2020, 2019, and 2018.

3. Acquisitions

ASIC Design Business

On December 20, 2019, the Company acquired substantially all of the assets of the ASIC Design Business from ams AG for $57.9 million. The acquired business, which does not generate revenues, includes intellectual property and an assembled workforce. The transaction was accounted for under the acquisition method of accounting and the results of operations are included in the Consolidated Financial Statements from the date of acquisition in the Audio segment. Included in the Consolidated Statements of Earnings is a loss before income taxes of $0.1 million from the date of acquisition through December 31, 2019.

The table below represents the final allocation of the purchase price to net assets acquired as of December 20, 2019:

(in millions)		
Property, plant, and equipment	$	0.6
Developed technology		33.3
In-process research and development		3.7
Non-competition agreement		1.6
Goodwill		18.8
Assumed current liabilities		(0.1)
Total purchase price	$	57.9

<u>Intangible Assets</u>

The fair values for developed technology and in-process research and development ("IPR&D") were determined using the multi-period excess earnings method under the income approach. This method reflects the present value of expected future cash flows less charges representing the contribution of other assets to those cash flows. The fair value measurements of intangible assets are based on significant unobservable inputs, and thus represent Level 3 inputs. Significant assumptions used in assessing the fair values of developed technology and IPR&D include expected future cost savings, technology obsolescence rates, discount rates, and expected costs to complete IPR&D. Discount rates of 13.0% and 14.0% were applied to the expected future cash flows to reflect the risk related to developed technology and IPR&D, respectively.

Developed technologies will be amortized over an estimated useful life of 6 years based on the technology cycle and cash flows over the forecast period. IPR&D is initially classified as an indefinite-lived intangible asset and assessed for impairment thereafter. Upon completion of the underlying project, IPR&D is reclassified as a definite-lived intangible asset and amortized over its estimated useful life. The IPR&D project is expected to be complete in 2021.

The excess of the total purchase price over the total fair value of the identifiable assets and liabilities was recorded as goodwill. The goodwill recognized is primarily attributable to synergies and the assembled workforce. All of the goodwill resulting from this acquisition is tax deductible. Goodwill has been allocated to the Audio segment, which is the segment expected to benefit from the acquisition.

The Company believes the fair values assigned to intangible assets are based on reasonable assumptions and estimates that approximate the amounts a market participant would pay for these intangible assets as of the acquisition date. Actual results could differ materially from these estimates.

<u>Unaudited Pro-forma Summary</u>

The following unaudited pro-forma summary presents consolidated financial information as if the ASIC Design Business had been acquired on January 1, 2018. The unaudited pro-forma financial information is based on historical results of operations and financial positions of the Company and the ASIC Design Business. The pro-forma results include estimated amortization of definite-lived intangible assets and exclude cost savings and transaction costs.

The unaudited pro-forma financial information does not necessarily represent the results that would have occurred had the acquisition occurred on January 1, 2018. In addition, the unaudited pro-forma information should not be deemed to be indicative of future results.

	(unaudited)	
	Years Ended December 31,	
(in millions, except share and per share amounts)	2019	2018
Earnings from continuing operations:		
As reported	$ 49.7	$ 65.6
Pro-forma	40.7	56.1
Basic earnings per share from continuing operations:		
As reported	$ 0.55	$ 0.73
Pro-forma	0.45	0.62
Diluted earnings per share from continuing operations:		
As reported	$ 0.53	$ 0.72
Pro-forma	0.44	0.62

Other Acquisitions

On January 3, 2019, the Company acquired substantially all of the assets of DITF for $11.1 million. The acquired business provides thin film components to the defense, telecommunication, industrial, and medtech markets. The transaction was accounted for under the acquisition method of accounting and the results of operations are included in the Consolidated Financial Statements from the date of acquisition in the PD segment. Included in the Consolidated Statements of Earnings are DITF's revenues and earnings before income taxes of $8.9 million and $0.3 million, respectively, from the date of acquisition through December 31, 2019. Pro-forma financial information has not been provided as the acquisition did not have a material impact on the Consolidated Statements of Earnings.

On January 19, 2018, the Company acquired substantially all of the assets of Compex for $16.0 million, plus purchase price adjustments for a net amount of $18.7 million. The asset purchase agreement relating to the acquisition provided for a $0.6 million post-closing working capital adjustment that settled during the second quarter of 2018 as well as a $1.0 million holdback that was paid during the third quarter of 2019. The acquired business provides single layer electronic components to the telecommunication, fiber optics, and defense markets. The transaction was accounted for under the acquisition method of accounting and the results of operations are included in the Consolidated Financial Statements from the date of acquisition in the PD segment. Included in the Consolidated Statements of Earnings are Compex's revenues and earnings before income taxes of $12.6 million and $3.4 million, respectively, from the date of acquisition through December 31, 2018. Pro-forma financial information has not been provided as the acquisition did not have a material impact on the Consolidated Statements of Earnings during the year ended December 31, 2018.

On January 11, 2017, the Company completed an acquisition of certain assets of a capacitors manufacturer for cash consideration of $3.7 million, of which $2.5 million was paid during the year ended December 31, 2017. An additional $1.0 million was paid during the year ended December 31, 2018, with the remaining $0.2 million paid in the first quarter of 2019. The financial results of this acquisition were included in the Consolidated Financial Statements from the date of acquisition within the PD segment.

4. Impairments

The Company evaluates long-lived assets for impairment whenever events or changes in circumstances indicate that the carrying amount of an asset may not be recoverable. The Company vacated its leased facility in Mountain View, California during the third quarter of 2020, resulting in its classification as a separate asset group. This facility was previously used by the Intelligent Audio product line, which is included within the Audio segment. Based on an assessment of market conditions, in particular the impact of the COVID-19 pandemic, the Company determined that the carrying amount of the related operating lease right-of-use asset was not recoverable through undiscounted future cash flows, which included estimated sublease proceeds. The fair value of the operating lease right-of-use asset was determined by an estimate of discounted future cash flows that included estimated sublease proceeds and the determination of an appropriate discount rate based on market participant assumptions. The fair value measurements of operating lease right-of-use assets are based on significant unobservable inputs, and thus represent Level 3 inputs. Based on the excess of the carrying amount of the operating lease right-of-use asset over its fair value, the Company recorded an impairment loss of $5.4 million within Impairment charges in Operating expenses during the year ended December 31, 2020. There were no impairments recorded during the years ended December 31, 2019 and 2018.

Leases not yet Commenced - As of December 31, 2020, the Company has an operating lease for a research and development facility in Santa Clara, California that has not yet commenced with total fixed lease payments of approximately $5 million. The lease is expected to commence in fiscal 2021 with a lease term of approximately five years. The Company plans to sublet a significant portion of the facility due to the restructuring of the Intelligent Audio product line. During the third quarter of 2020, the Company determined a loss was probable and reasonably estimable under ASC 450, Contingencies, based on its plans and the negative impact of the COVID-19 pandemic on market conditions. The estimated loss was determined by comparing the estimated carrying amount of the operating lease right-of-use asset to be recognized for the sublet portion of the facility upon lease commencement to an estimate of discounted future cash flows that included estimated sublease proceeds and the determination of an appropriate discount rate based on market participant assumptions. These measurements are based on significant unobservable inputs, and thus represent Level 3 inputs. The Company recorded an estimated loss of $2.2 million within Impairment charges in Operating expenses during the year ended December 31, 2020. The corresponding estimated liability, which will reduce the operating lease right-of-use asset upon lease commencement, is recorded in Other liabilities on the Consolidated Balance Sheets as of December 31, 2020.

If actual results differ from estimated amounts, additional impairment charges may be recorded in the future.

5. Inventories, net

The following table details the major components of inventories, net:

(in millions)	December 31, 2020	December 31, 2019
Raw materials	$ 89.7	$ 82.8
Work in progress	31.0	30.9
Finished goods	48.4	53.5
Subtotal	169.1	167.2
Less reserves	(39.0)	(25.4)
Total	$ 130.1	$ 141.8

6. Property, Plant, and Equipment, net

The following table details the major components of property, plant, and equipment, net:

(in millions)	December 31, 2020	December 31, 2019
Land	$ 8.0	$ 7.7
Buildings and improvements	111.9	104.5
Machinery, equipment, and other	562.8	533.1
Subtotal	682.7	645.3
Less accumulated depreciation	(491.2)	(438.8)
Total	$ 191.5	$ 206.5

Depreciation expense totaled $47.6 million, $47.4 million, and $45.9 million for the years ended December 31, 2020, 2019, and 2018, respectively.

7. Goodwill and Other Intangible Assets

The changes in the carrying value of goodwill by reportable segment for the years ended December 31, 2020 and 2019 are as follows:

(in millions)	Audio	Precision Devices	Total
Balance at January 1, 2019	$ 859.9	$ 28.0	$ 887.9
Acquisitions	18.8	3.2	22.0
Balance at December 31, 2019	878.7	31.2	909.9
Foreign currency translation	0.1	—	0.1
Balance at December 31, 2020	$ 878.8	$ 31.2	$ 910.0

The gross carrying value and accumulated amortization for each major class of intangible assets are as follows:

	December 31, 2020		December 31, 2019	
(in millions)	Gross Carrying Amount	Accumulated Amortization	Gross Carrying Amount	Accumulated Amortization
Amortized intangible assets:				
Trademarks	$ 1.0	$ 0.4	$ 1.0	$ 0.2
Patents	40.8	36.1	40.8	31.5
Customer relationships	12.0	5.2	12.0	3.6
Developed technology	36.5	6.7	36.5	0.7
Non-competition agreements	1.8	0.7	1.8	0.1
Total	92.1	49.1	92.1	36.1
Unamortized intangible assets:				
Trademarks	32.0		32.0	
IPR&D	3.7		3.7	
Total	35.7		35.7	
Total intangible assets, net	$ 78.7		$ 91.7	

As of December 31, 2020, the weighted average remaining useful lives for the amortizable intangible assets are: trademarks at 4.6 years, patents at 1.0 year, customer relationships at 6.0 years, developed technology at 5.0 years, and non-competition agreements at 2.0 years. The weighted average remaining useful life in total for all amortizable intangible assets was 4.6 years as of December 31, 2020.

Total amortization expense for the years ended December 31, 2020, 2019, and 2018 was $13.0 million, $7.0 million, and $6.5 million, respectively. Amortization expense for the next five years, based on current intangible balances, is estimated to be as follows:

(in millions)	
2021	$ 13.0
2022	7.7
2023	7.1
2024	7.0
2025	6.6

8. Leases

The Company has leases for manufacturing, sales, support, and engineering facilities, certain manufacturing and office equipment, and vehicles. The majority of the leases have remaining terms of 1 to 7 years, some of which include options to extend the leases for up to 6 years, and some of which include options to terminate the leases within 1 year. The lease agreements do not contain any material residual value guarantees or material restrictive covenants. The Company subleases certain facilities to third parties.

The following table details the components of lease cost:

(in millions)	Years Ended December 31,	
	2020	2019
Operating lease cost [1]	$ 9.9	$ 9.8
Finance lease cost:		
Amortization of right-of-use assets	2.1	2.2
Interest on lease liabilities	0.5	0.2
Sublease income	(3.0)	(2.9)
Total lease cost	$ 9.5	$ 9.3

[1] Includes short-term and variable lease costs, which were immaterial.

The components of lease cost other than Interest on lease liabilities are presented within the Cost of goods sold, Research and development expenses, and Selling and administrative expenses lines on the Consolidated Statements of Earnings based on the use of the underlying assets. Interest on lease liabilities is presented within the Interest expense, net line on the Consolidated Statements of Earnings.

The following table presents supplemental balance sheet information related to finance leases:

(in millions)	Balance Sheet Line	December 31, 2020	December 31, 2019
Finance lease right-of-use assets	Property, plant, and equipment, net	$ 10.2	$ 11.7
Current finance lease liabilities	Other accrued expenses	$ 2.6	$ 2.4
Long-term finance lease liabilities	Other liabilities	5.5	6.9
Total finance lease liabilities		$ 8.1	$ 9.3

The following table presents supplemental cash flow information related to leases:

(in millions)	Years Ended December 31,	
	2020	2019
Cash paid for amounts included in the measurement of lease liabilities:		
Operating cash flows from operating leases	$ 9.6	$ 10.4
Operating cash flows from finance leases	0.5	0.6
Financing cash flows from finance leases	2.0	1.7
Right-of-use assets obtained in exchange for lease obligations:		
Operating leases	$ 2.2	$ 2.6
Finance leases	0.1	0.3

The following table details weighted-average remaining lease terms and discount rates:

	December 31, 2020	December 31, 2019
Weighted-average remaining lease term (in years):		
Operating leases	3.7	4.3
Finance leases	4.1	5.1
Weighted-average discount rate:		
Operating leases	4.2 %	4.3 %
Finance leases	5.5 %	5.6 %

The following table details maturities of lease liabilities as of December 31, 2020:

(in millions)	Operating Leases	Finance Leases
2021	$ 11.2	$ 2.6
2022	8.5	2.5
2023	6.8	2.5
2024	2.4	1.4
2025	1.1	—
2026 and thereafter	0.9	—
Total lease payments	30.9	9.0
Less interest	(2.0)	(0.9)
Present value of lease liabilities	$ 28.9	$ 8.1

Year Ended December 31, 2018

Total rental expense for all operating leases was $7.3 million for the year ended December 31, 2018, net of sublease income of $2.3 million. Contingent rentals under the operating leases were not significant.

9. Other Accrued Expenses and Other Liabilities

The following table details the major components of other accrued expenses:

(in millions)	December 31, 2020	December 31, 2019
Accrued taxes other than income taxes	$ 3.7	$ 2.0
Sales volume rebates	3.5	3.3
Current finance lease liabilities	2.6	2.4
Restructuring and exit costs	2.4	1.4
Accrued insurance	1.7	1.9
Warranty	0.4	0.9
Hedging liability	—	0.3
Other	4.3	4.3
Total	$ 18.6	$ 16.5

The following table details the major components of other liabilities:

(in millions)	December 31, 2020	December 31, 2019
Deferred compensation, including defined benefit plans	$ 20.5	$ 17.1
Long-term finance lease liabilities	5.5	6.9
Unrecognized tax benefits	1.5	4.2
Restructuring and exit costs	0.2	—
Other [(1)]	5.1	1.7
Total	$ 32.8	$ 29.9

[(1)] Includes an accrual for the estimated loss of $2.2 million related to the leased facility in Santa Clara, California. See Note 4. Impairments for additional details.

Warranty Accruals

Estimated warranty program claims are provided for at the time of sale. Amounts provided for are based on historical costs and adjusted for new claims. The changes in the carrying amount of product warranties were as follows:

	Years Ended December 31,	
(in millions)	2020	2019
Beginning balance, January 1	$ 0.9	$ 0.5
Provision for warranties	3.8	3.8
Settlements made	(4.3)	(3.4)
Ending balance, December 31	$ 0.4	$ 0.9

10. Restructuring and Related Activities

Restructuring and related activities are designed to better align the Company's operations with current market conditions through targeted facility consolidations, headcount reductions, and other measures to further optimize operations.

During the year ended December 31, 2020, the Company restructured its Intelligent Audio product line, which is included within the Audio segment. These actions resulted in a reduction in workforce and the refocusing of certain research and development activities. The Company recorded restructuring charges of $8.3 million related to these actions, including $5.4 million in severance pay and benefits, $1.7 million in fixed asset write-off costs, and $1.2 million in contract termination costs.

In addition, during the year ended December 31, 2020, the Company recorded restructuring charges of $4.0 million for severance pay and benefits primarily to rationalize the remaining Audio segment workforce as a direct result of the lower demand the Company experienced due to the COVID-19 pandemic.

During the year ended December 31, 2020, the Company recorded total restructuring charges within Gross profit of $2.3 million, primarily for fixed asset write-off costs and severance pay and benefits associated with the restructuring of the Intelligent Audio product line and other actions to rationalize the remaining Audio segment workforce. The Company also recorded total restructuring charges within Operating expenses of $10.0 million, primarily for severance pay and benefits and contract termination costs associated with the restructuring of the Intelligent Audio product line and other actions to rationalize the remaining Audio segment workforce.

During the year ended December 31, 2019, the Company recorded restructuring charges of $1.7 million within Gross profit, primarily for actions associated with transferring certain operations of capacitors manufacturing to other existing facilities in order to further optimize operations in the PD segment, as well as rationalizing the Audio segment workforce. The Company also recorded restructuring charges of $4.3 million within Operating expenses, primarily for actions associated with rationalizing the Audio segment workforce.

During the year ended December 31, 2018, the Company recorded restructuring charges of $0.4 million within Gross profit, primarily for actions associated with transferring certain operations of capacitors manufacturing to other existing facilities in order to further optimize operations in the PD segment. The Company also recorded restructuring charges of $1.7 million within Operating expenses, primarily for actions associated with rationalizing the Audio segment workforce.

The following table details restructuring charges incurred by reportable segment for the periods presented:

	Years Ended December 31,		
(in millions)	**2020**	**2019**	**2018**
Audio	$ 10.5	$ 4.8	$ 1.4
Precision Devices	0.1	0.8	0.5
Corporate	1.7	0.4	0.2
Total	$ 12.3	$ 6.0	$ 2.1

The following table details the Company's severance and other restructuring accrual activity:

(in millions)	**Severance Pay and Benefits**	**Contract Termination and Other Costs**	**Total**
Balance at January 1, 2018	$ 4.7	$ 0.4	$ 5.1
Restructuring charges	2.1	—	2.1
Payments	(5.9)	(0.1)	(6.0)
Other, including foreign currency	(0.1)	—	(0.1)
Balance at December 31, 2018	0.8	0.3	1.1
Restructuring charges	6.0	—	6.0
Payments	(5.4)	—	(5.4)
Other, including foreign currency [(1)]	—	(0.3)	(0.3)
Balance at December 31, 2019	1.4	—	1.4
Restructuring charges	9.4	1.2	10.6
Payments	(8.9)	(0.5)	(9.4)
Balance at December 31, 2020	$ 1.9	$ 0.7	$ 2.6

(1) Contract termination accruals related to leases of $0.3 million were reclassified to the related operating lease right-of-use assets upon adoption of ASC 842 on January 1, 2019.

The severance and restructuring accruals are recorded in the following line items on the Consolidated Balance Sheets:

(in millions)	**December 31, 2020**	**December 31, 2019**
Other accrued expenses	$ 2.4	$ 1.4
Other liabilities	0.2	—
Total	$ 2.6	$ 1.4

11. Hedging Transactions and Derivative Instruments

The Company is affected by changes in certain market conditions. These changes in market conditions may adversely impact the Company's financial performance and are referred to as "market risks." The Company uses derivatives as a risk management tool to mitigate the potential impact of certain market risks, which are primarily foreign currency risk and interest rate risk related to ongoing business operations.

Cash Flow Hedging

The Company uses cash flow hedges to minimize the variability in cash flows of assets, liabilities, or forecasted transactions caused by fluctuations in foreign currency exchange rates or market interest rates. These derivatives, which are designated cash flow hedges, are carried at fair value. The changes in their fair values are recorded to Accumulated Other Comprehensive Income (Loss) ("AOCI") and reclassified in current earnings when the hedge contract matures or becomes ineffective.

To manage its exposure to foreign currency exchange rates, the Company has entered into currency deliverable forward contracts. These derivative instruments allow the Company to hedge portions of its forecasted intercompany sales, which are expected to occur within the next twelve months and are denominated in non-functional currencies. The Company maintains a foreign currency cash flow hedging program primarily to reduce the risk that the net U.S. dollar cash inflows from non-U.S. dollar sales and non-U.S. dollar net cash outflows from procurement activities will be adversely affected by changes in foreign currency exchange rates. At December 31, 2020 and 2019, the notional value of the derivatives related to currency forward contracts, principally the Chinese yuan, Malaysian ringgit, and Philippine peso, was $69.0 million and $61.1 million, respectively. The Company presents the impact of foreign exchange contracts qualifying as cash flow hedges within the Cost of goods sold line on the Consolidated Statements of Earnings, which is the same line used to present the earnings effect of the hedged item.

To manage its exposure to market risk for changes in interest rates, the Company entered into an interest rate swap on November 12, 2014 to convert variable interest rate payments into a fixed rate on a notional amount of $100.0 million of debt for monthly interest payments that began in January 2016. The Company designated the swap as a cash flow hedge with re-measurement gains and losses recorded through AOCI. In December 2017, the Company entered into a partial termination of the interest rate swap and reduced the notional amount to $50.0 million. The interest rate swap ended in July 2018.

Economic (Non-Designated) Hedging

In addition to derivative instruments that are designated and qualify for hedge accounting, the Company also uses certain derivatives as economic hedges of foreign currency risk. Although these derivatives were not designated and/or did not qualify for hedge accounting, they are effectively economic hedges. The changes in fair value of these economic hedges are immediately recognized in earnings.

The Company uses foreign currency economic hedges to offset the earnings impact that fluctuations in foreign currency exchange rates have on certain monetary assets and liabilities denominated in non-functional currencies. The Company does not enter into these hedges for speculative reasons. These derivatives are carried at fair value with changes in fair value immediately recognized in earnings within Other expense, net. In addition, these derivative instruments minimize the impact of exchange rate movements on the Company’s balance sheet, as the gains or losses on these derivatives are intended to offset gains and losses from the reduction of the hedged assets and liabilities. At December 31, 2020 and 2019, the notional value of the derivatives related to economic hedging was $77.1 million and $41.8 million, respectively.

The notional amounts of the derivative financial instruments do not necessarily represent amounts exchanged by the parties and, therefore, are not a direct measure of our exposure to the financial risks described above. The amounts exchanged are calculated by reference to the notional amounts and by other terms of the derivatives, such as interest rates, foreign currency exchange rates, or other financial indices. The Company does not view the fair values of its derivatives in isolation, but rather in relation to the fair values or cash flows of the underlying hedged transactions or other exposures. Virtually all of our derivatives are straightforward over-the-counter instruments with liquid markets.

Fair Value Measurements

All derivatives are carried at fair value on the Company’s Consolidated Balance Sheets. ASC 820, Fair Value Measurement, establishes a fair value hierarchy that requires the Company to maximize the use of observable inputs and minimize the use of unobservable inputs when measuring fair value. A financial instrument’s categorization within the hierarchy is based on the lowest level of input that is significant to the fair value measurement. ASC 820 establishes three levels of inputs that may be used to measure fair value as follows:

Level 1 - Quoted prices (unadjusted) in active markets for identical assets or liabilities.

Level 2 - Observable inputs other than quoted prices included in Level 1, such as quoted prices in active markets for similar assets and liabilities, quoted prices for identical or similar assets or liabilities in markets that are not active, or other inputs that are observable or can be corroborated by observable market data for substantially the full term of assets or liabilities.

Level 3 - Unobservable inputs for which little or no market data exists, therefore requiring an entity to develop its own assumptions.

The Company determines the fair values of its derivatives based on standard valuation models or observable market inputs such as quoted market prices, foreign currency exchange rates, or interest rates; therefore, the Company classifies the derivatives within Level 2 of the valuation hierarchy.

The fair values of derivative instruments held by the Company are as follows (in millions):

			Derivative Assets (Liabilities)	
Hedge Type	**Contract Type**	**Balance Sheet Line**	**December 31, 2020**	**December 31, 2019**
Derivatives designated as hedging instruments				
Cash flow hedges	Foreign exchange contracts	Prepaid and other current assets	$ 2.1	$ 0.9
Cash flow hedges	Foreign exchange contracts	Other accrued expenses	—	(0.2)
Derivatives not designated as hedging instruments				
Economic hedges	Foreign exchange contracts	Prepaid and other current assets	0.4	0.5
Economic hedges	Foreign exchange contracts	Other accrued expenses	—	(0.1)

The pre-tax amount of unrealized gain (loss) recognized in accumulated other comprehensive loss on derivatives designated as hedging instruments is as follows (in millions):

		Years Ended December 31,		
Hedge Type	**Contract Type**	**2020**	**2019**	**2018**
Cash flow hedges	Foreign exchange contracts	$ 2.6	$ 0.2	$ (2.5)
Cash flow hedges	Interest rate contracts	—	—	0.1

The table above excludes tax expense of $0.6 million and a tax benefit of $0.4 million for the years ended December 31, 2020 and 2018, respectively. There was no tax benefit or expense for the year ended December 31, 2019.

The pre-tax impact of derivatives on the Consolidated Statements of Earnings is as follows (in millions):

		Years Ended December 31,					
		2020		2019		2018	
Hedge Type	Contract Type	Cost of goods sold	Other expense, net	Cost of goods sold	Other expense, net	Cost of goods sold	Other expense, net
Total amounts per Consolidated Statements of Earnings		$ 490.8	$ 1.5	$ 525.1	$ 0.4	$ 503.9	$ 0.7
Effect of derivatives designated as hedging instruments							
Amount of (gain) loss reclassified from accumulated other comprehensive loss into earnings:							
Cash flow hedges	Foreign exchange contracts	(1.2)	—	0.9	—	1.4	—
Effect of derivatives not designated as hedging instruments							
Amount of (gain) loss recognized in earnings:							
Economic hedges	Foreign exchange contracts	—	(2.9)	—	(0.9)	—	0.9

12. Borrowings

Borrowings (net of debt issuance costs, debt discount, and amortization) consist of the following:

(in millions)	December 31, 2020	December 31, 2019
3.25% convertible senior notes	$ 165.1	$ 156.8
Revolving credit facility	—	—
Total	165.1	156.8
Less current maturities	165.1	—
Total long-term debt	$ —	$ 156.8

Total debt principal payments over the next five years are as follows:

(in millions)	2021	2022	2023	2024	2025
Debt principal payments	$ 172.5	$ —	$ —	$ —	$ —

3.25% Convertible Senior Notes Due November 1, 2021

In May 2016, the Company issued $172.5 million aggregate principal amount of 3.25% convertible senior notes due November 1, 2021 (the "Notes"), unless earlier repurchased by the Company or converted pursuant to their terms. Interest is payable semiannually in arrears on May 1 and November 1 each year and commenced on November 1, 2016.

The Notes are governed by an Indenture (the "Indenture") between the Company, as issuer, and U.S. Bank National Association as trustee. Upon conversion, the Company will pay or deliver cash, shares of the Company's common stock, or a combination of cash and shares of common stock, at the Company's election. The Company’s current intent is to settle the principal amount of the Notes in cash at maturity. The initial conversion rate is 54.2741 shares of common stock per $1,000 principal amount of Notes. The initial conversion price is $18.4250 per share of common stock. The conversion rate will be subject to adjustment upon the occurrence of certain specified events but will not be adjusted for accrued and unpaid interest. In addition, upon the occurrence of a make-whole fundamental change (as defined in the Indenture), the Company may be required, in certain circumstances, to increase the conversion rate by a number of additional shares for a holder that elects to convert its Notes in connection with such make-whole fundamental change.

Prior to the close of business on the business day immediately preceding August 1, 2021, the Notes will be convertible only under the following circumstances:

- during any calendar quarter and only during such calendar quarters, if the last reported sale price of the Company's common stock for at least 20 trading days (whether or not consecutive) during a period of 30 consecutive trading days ending on the last trading day of the immediately preceding calendar quarter is greater than or equal to 130% of the conversion price on each applicable trading day;
- during the five business day period after any 10 consecutive trading day period (the "measurement period") in which the trading price per $1,000 principal amount of Notes was less than 98% of the product of the last reported sale price of the Company's common stock and the conversion rate on each such trading day; or
- upon the occurrence of specified corporate events.

On or after August 1, 2021 until the close of business on the second scheduled trading day immediately preceding the maturity date, holders may convert all or any portion of their Notes, in multiples of $1,000 principal amount, at the option of the holder regardless of the foregoing circumstances. As of December 31, 2020, no event has occurred that would permit the conversion of the Notes. The Notes are the Company's senior unsecured obligations.

In accounting for the issuance of the Notes, the Company separated the Notes into liability and equity components. The carrying amount of the liability component was calculated by measuring the fair value of a similar liability that does not have an associated convertible feature. The carrying amount of the equity component representing the conversion option was determined by deducting the fair value of the liability component from the face value of the Notes as a whole. The excess of the principal amount of the liability component over its carrying amount is amortized to interest expense over the term of the Notes. The equity component is not remeasured as long as it continues to meet the conditions for equity classification.

In accounting for the transaction costs related to the Notes issuance, the Company allocated the total amount incurred to the liability and equity components based on their relative values. Issuance costs attributable to the liability component, totaling $5.0 million, are being amortized to interest expense over the term of the Notes, and issuance costs attributable to the equity component, totaling $1.3 million, were netted with the equity component in stockholders' equity.

The Notes consist of the following:

(in millions)	December 31, 2020	December 31, 2019
Liability component:		
Principal	$ 172.5	$ 172.5
Less debt issuance costs and debt discount, net of amortization	(7.4)	(15.7)
Total	165.1	156.8
Less current maturities [1]	165.1	—
Long-term portion	$ —	$ 156.8
Equity component [2]	$ 29.9	$ 29.9

[1] There are no required principal payments due until maturity in November 2021.

[2] Recorded in the Consolidated Balance Sheets within additional paid-in capital, inclusive of the $1.3 million of issuance costs in equity.

The total estimated fair value of the Notes at December 31, 2020 was $196.5 million. The fair value was determined based on the closing trading price of the Notes as of the last trading day of 2020.

The following table sets forth total interest expense recognized related to the Notes:

	Years Ended December 31,		
(in millions)	**2020**	**2019**	**2018**
3.25% coupon	$ 5.6	$ 5.6	$ 5.6
Amortization of debt issuance costs	0.9	0.9	0.9
Amortization of debt discount	7.4	6.8	6.3
Total	$ 13.9	$ 13.3	$ 12.8

Note Hedges

To minimize the impact of potential economic dilution upon conversion of the Notes, the Company entered into convertible note hedge transactions (the “Note Hedges”) with respect to its common stock. In the second quarter of 2016, the Company paid an aggregate amount of $44.5 million for the Note Hedges. The Note Hedges will expire upon maturity of the Notes. The Note Hedges are intended to offset the potential dilution upon conversion of the Notes and/or offset any cash payments the Company is required to make in excess of the principal amount upon conversion of the Notes in the event that the market value per share of the Company's common stock, as measured under the Note Hedges, is greater than the strike price of the Note Hedges, which initially corresponds to the initial conversion price of the Notes and is subject to anti-dilution adjustments substantially similar to those applicable to the conversion rate of the Notes. The Note Hedges are separate transactions entered into by the Company, and are not part of the Notes or the Warrants, and have been accounted for as part of additional paid-in capital. Holders of the Notes do not have any rights with respect to the Note Hedges.

Warrants

In addition to the Note Hedges, in the second quarter of 2016, the Company entered into warrant transactions, whereby the Company sold warrants to acquire shares of the Company's common stock at a strike price of $21.1050 per share (the “Warrants”). The Company received aggregate proceeds of $39.1 million from the sale of the Warrants. If the market price per share of the Company's common stock for the reporting period, as measured under the Warrants, exceeds the strike price of the Warrants, the Warrants could have a dilutive effect on the Company's common stock, unless the Company elects, subject to certain conditions, to settle the Warrants in cash. The Warrants are separate transactions entered into by the Company, and are not part of the Notes or the Note Hedges, and have been accounted for as part of additional paid-in capital. Holders of the Notes and Note Hedges do not have any rights with respect to the Warrants.

Revolving Credit Facility

There were no revolving credit facility borrowings outstanding as of December 31, 2020 and 2019.

On September 4, 2020, the Company entered into a new Credit Agreement (the "New Credit Agreement"). The New Credit Agreement provides for a senior secured revolving credit facility (the "New Credit Facility") with borrowings in an aggregate principal amount at any time outstanding not to exceed $400.0 million. Up to $100.0 million of the New Credit Facility will be available in Euro, Pounds Sterling, and other currencies requested by the Company and agreed to by each Lender and up to $50.0 million of the New Credit Facility will be made available in the form of letters of credit denominated in currencies approved by the issuing banks.

The New Credit Agreement serves as refinancing of indebtedness and terminates the Company's Revolving Credit Facility Agreement dated as of October 11, 2017 ("Prior Credit Facility"). The Prior Credit Facility consisted of a $400.0 million senior secured revolving credit facility.

At any time during the term of the New Credit Facility, the Company will be permitted to increase the commitments under the New Credit Facility or to establish one or more incremental term loan facilities under the New Credit Facility in an aggregate principal amount not to exceed $200.0 million for all such incremental facilities.

Commitments under the New Credit Facility will terminate, and loans outstanding thereunder will mature, on January 2, 2024; provided, that if all the Notes have not been repaid, refinanced, and/or converted to common stock of the Company by August 2, 2021 (the "Springing Maturity Test Date"), then the commitments under the New Credit Facility will terminate, and the loans outstanding thereunder will mature, on such earlier date unless, from and after the Springing Maturity Test Date and for so long as the Notes have not been repaid, refinanced, and/or converted to common stock of the Company, the Company does not maintain liquidity (as defined in the New Credit Agreement) for any period of three consecutive business days of $150.0 million or more.

The New Credit Agreement includes requirements, to be tested quarterly, that the Company maintains (i) a minimum ratio of Consolidated EBITDA to consolidated interest expense of 3.25 to 1.0, (the "Interest Coverage Ratio"), (ii) a maximum ratio of Consolidated total indebtedness to Consolidated EBITDA of 3.75 to 1.0 (the "Total Leverage Ratio"), and (iii) a maximum ratio of senior secured indebtedness to Consolidated EBITDA of 3.25 to 1.0 (the "Senior Secured Leverage Ratio"). For these ratios, Consolidated EBITDA and consolidated interest expense are calculated using the most recent four consecutive fiscal quarters in a manner defined in the New Credit Agreement. At December 31, 2020, the Company was in compliance with these covenants and it expects to remain in compliance with all of its debt covenants over the next twelve months.

The interest rates under the New Credit Facility will be, at the Borrowers' option (1) LIBOR (or, in the case of borrowings under the New Credit Facility denominated in Euro, EURIBOR) plus the rates per annum determined from time to time based on the total leverage ratio of the Company as of the end of and for the most recent period of four fiscal quarters for which financial statements have been delivered (the "Applicable Margin"); or (2) in the case of borrowings denominated in U.S. dollars, alternate base rate ("ABR") (as defined in the New Credit Agreement) plus the Applicable Margin. The Applicable Margin for LIBOR could range from 1.50% to 2.50% while the Applicable Margin for ABR could range from 0.50% to 1.50%.

The interest rate under the New Credit Facility is variable based on LIBOR at the time of the borrowing and the Applicable Margin. In addition, a commitment fee accrues on the average daily unused portion of the New Credit Facility at a rate of 0.225% to 0.375%.

The weighted-average interest rate on the Company's borrowings under the New Credit Facility and Prior Credit Facility was 2.20%, 3.98%, and 3.56% for the years ended December 31, 2020, 2019, and 2018, respectively. The weighted-average interest rate on the Company's borrowings under the Prior Credit Facility for the year ended December 31, 2018 includes interest expense related to the monthly interest rate swap settlements that ended in July 2018. The weighted-average commitment fee on the revolving lines of credit was 0.26%, 0.23%, and 0.24% for the years ended December 31, 2020, 2019, and 2018, respectively.

Interest expense and interest income for the years ended December 31, 2020, 2019, and 2018 were as follows:

	Years Ended December 31,		
(in millions)	**2020**	**2019**	**2018**
Interest expense	$ 17.1	$ 15.3	$ 16.6
Interest income	(0.7)	(0.8)	(0.6)
Interest expense, net	$ 16.4	$ 14.5	$ 16.0

See Note 11. Hedging Transactions and Derivative Instruments for information on derivatives used to manage interest rate risk.

13. Income Taxes

The components of earnings before income taxes and discontinued operations were:

	Years Ended December 31,		
(in millions)	**2020**	**2019**	**2018**
Domestic	$ (26.2)	$ (48.3)	$ (34.1)
Foreign	37.5	114.6	95.2
Total earnings before income taxes and discontinued operations	$ 11.3	$ 66.3	$ 61.1

Income tax expense (benefit) for the years ended December 31, 2020, 2019, and 2018 is comprised of the following:

	Years Ended December 31,		
(in millions)	2020	2019	2018
Current:			
U.S. Federal	$ 0.7	$ 0.7	$ (25.0)
State and local	0.2	0.2	0.1
Foreign	10.3	15.9	11.6
Total current tax expense (benefit)	$ 11.2	$ 16.8	$ (13.3)
Deferred:			
U.S. Federal	$ (0.4)	$ 0.1	$ 7.8
State and local	0.2	(0.1)	0.2
Foreign	(2.6)	(0.2)	0.8
Total deferred tax (benefit) expense	(2.8)	(0.2)	8.8
Total income tax expense (benefit)	$ 8.4	$ 16.6	$ (4.5)

The reconciliation of the U.S. Federal income tax rate to the Company's effective income tax rate was as follows:

	Years Ended December 31,		
	2020	2019	2018
U.S. Federal income tax rate	21.0 %	21.0 %	21.0 %
State and local taxes, net of Federal income tax benefit	4.2 %	0.2 %	0.4 %
Foreign operations tax effect	17.3 %	5.0 %	4.0 %
Research and experimentation tax credits	(29.5)%	(5.0)%	(5.0)%
Valuation allowance	85.4 %	15.0 %	22.9 %
Tax contingencies	0.3 %	1.3 %	(4.3)%
Tax holiday	(37.8)%	(24.6)%	(24.3)%
Foreign taxes	2.8 %	2.1 %	0.9 %
Non-deductible and non-taxable interest	1.0 %	(2.9)%	1.4 %
Stock-based compensation	11.3 %	3.0 %	3.1 %
Other, principally non-tax deductible items	1.1 %	0.3 %	3.2 %
Transition tax	— %	— %	(28.9)%
Global low tax and foreign derived intangible income	12.1 %	10.6 %	(1.7)%
Foreign currency adjustments	(6.1)%	— %	— %
Prior period items	(8.8)%	(1.0)%	(0.1)%
Effective income tax rate	74.3 %	25.0 %	(7.4)%

The Company's effective tax rate is favorably impacted by two tax holidays granted to us by Malaysia effective through December 31, 2021. These tax holidays are subject to the Company's satisfaction of certain conditions, including investment or sales thresholds, which the Company expects to maintain. The Malaysian tax holidays reduce the anticipated effective rate on qualified income to approximately 6.0% and 7.2% versus the statutory rate of 24.0%, through 2021. If the Company fails to satisfy such conditions, the Company's effective tax rate may be significantly adversely impacted. The continuing operations benefit of these incentives for the years ended December 31, 2020, 2019, and 2018 is estimated to be $3.8 million, $14.6 million, and $13.3 million, respectively. The continuing operations benefit of the tax holidays on a per share basis for the years ended December 31, 2020, 2019, and 2018 was $0.04, $0.16, and $0.15, respectively.

The components of the Company's deferred tax assets and liabilities included the following:

(in millions)	December 31, 2020	December 31, 2019
Deferred tax assets:		
Accrued compensation, principally post-retirement, and other employee benefits	$ 14.1	$ 14.1
Accrued expenses, principally for state income taxes and warranty	8.6	5.7
Accrued interest	7.7	0.8
Net operating loss and other carryforwards	71.6	67.6
Inventories, principally due to reserves for financial reporting purposes and capitalization for tax purposes	6.5	4.1
Convertible note hedges	1.8	3.9
Plant and equipment, principally due to differences in depreciation	13.0	10.2
Total gross deferred tax assets	123.3	106.4
Valuation allowance	(98.0)	(85.3)
Total deferred tax assets	$ 25.3	$ 21.1
Deferred tax liabilities:		
Intangible assets, principally due to different tax and financial reporting bases	$ (4.3)	$ (3.7)
Debt discount on convertible notes	(1.4)	(2.9)
Unremitted earnings of non-U.S. subsidiaries	(0.9)	—
Other liabilities	(0.8)	(1.0)
Total gross deferred tax liabilities	(7.4)	(7.6)
Net deferred tax asset	$ 17.9	$ 13.5
Classified as follows in the Consolidated Balance Sheets:		
Other assets and deferred charges (non-current deferred tax assets)	$ 19.9	$ 15.7
Deferred income taxes (non-current deferred tax liabilities)	(2.0)	(2.2)
Net deferred tax asset	$ 17.9	$ 13.5

The Company recorded valuation allowances of $98.0 million and $85.3 million at December 31, 2020 and 2019, respectively, against deferred tax assets from continuing operations as the Company believes it is more likely than not that these assets will not be realized. Management believes that it is more likely than not that the Company will realize the benefits of the remaining deferred tax assets. The amount of the deferred tax asset is considered realizable, however, it could be adjusted if estimates of future taxable income during the carryforward period are reduced or increased or if objective negative evidence in the form of cumulative losses is no longer present, requiring that additional weight be given to subjective evidence such as our projections for growth. It is reasonably possible that the Company may have a material adjustment to the valuation allowance for its U.S subsidiary in 2021.

At December 31, 2020, the Company had $24.0 million of Federal net operating losses that are available, of which $10.7 million will expire in the next 5 to 10 years, and of which $13.3 million will expire in the next 10 to 20 years. There are $51.6 million of State net operating losses that are available between 2021 and 2036. There are $14.3 million of non-U.S. net operating loss carryforwards, of which $9.7 million will expire in the next 10 to 20 years and $4.6 million can be carried forward indefinitely.

The Company has $24.7 million of U.S. federal research and development credits that begin to expire in 2021 and $17.6 million of foreign tax credits that begin to expire in 2027. In addition, the Company has $19.7 million of state credits, of which $2.4 million will expire between 2021 and 2035 if unused, and $17.3 million can be carried forward indefinitely.

The Company has not provided for U.S. federal income taxes on the historical undistributed earnings of its international subsidiaries because such earnings are currently reinvested in foreign jurisdictions and will continue to be reinvested indefinitely, with the exception of its Malaysian and Luxembourg subsidiaries. Our Malaysian principal subsidiary is our primary source of foreign earnings and cash. Any future decision to distribute cash from this subsidiary to the U.S. should not result in a material amount of U.S. or foreign taxes as the majority of the Company's $1.0 billion historical undistributed earnings have been previously taxed in the U.S. under the Tax Reform Act.

Unrecognized Tax Benefits

The Company records interest and penalties associated with unrecognized tax benefits as a component of income tax expense. During the years ended December 31, 2020 and 2019, the Company recorded no potential interest benefit or expense. For the year ended December 31, 2018, the Company recorded a potential interest benefit of $0.3 million. There was no accrued interest at December 31, 2020, 2019, and 2018. There was no recorded potential penalty expense during the years ended December 31, 2020 and 2019. During the year ended December 31, 2018, the Company recorded potential penalty expense of $0.1 million. Total accrued penalties at December 31, 2020, 2019, and 2018 of $0.3 million were included in Other liabilities on the Consolidated Balance Sheets.

The Company's tax returns are routinely audited by the tax authorities in the relevant jurisdictions. For tax years before 2017, excluding 2015, the Company is no longer subject to U.S. federal income tax examination. For tax years before 2015, the Company’s Malaysian principal subsidiary is no longer subject to examination. Included in the balance of total unrecognized tax benefits at December 31, 2020 are potential benefits of $1.5 million, which if recognized, would affect the effective rate on earnings from continuing operations. Given the Company's current valuation allowance position, no benefit is expected to result from the reversal of any uncertain tax position associated with the acquired attributes.

Unrecognized tax benefits at January 1, 2018	$	12.5
Additions based on tax positions related to the current year		0.1
Additions for tax positions of prior years		0.3
Reductions for tax positions due to lapsed statutes of limitations		(2.5)
Settlements		(0.3)
Unrecognized tax benefits at December 31, 2018	$	10.1
Additions for tax positions of prior years		2.8
Reductions for tax positions of prior years		(0.1)
Settlements		(0.1)
Unrecognized tax benefits at December 31, 2019	$	12.7
Settlements		(2.6)
Foreign exchange fluctuations		0.1
Unrecognized tax benefits at December 31, 2020	$	10.2

14. Equity Incentive Program

The Company maintains equity compensation plans that provide for the issuance of Knowles stock to directors, executive officers, and other employees. The maximum number of shares available for issuance under the plans is 16.1 million, of which 11.8 million were available for future awards at December 31, 2020.

The following table summarizes the stock-based compensation expense recognized by the Company for the periods presented:

	Years Ended December 31,		
(in millions)	**2020**	**2019**	**2018**
Pre-tax stock-based compensation expense			
Cost of goods sold	$ 1.7	$ 1.5	$ 1.6
Research and development expenses	6.2	7.7	7.8
Selling and administrative expenses	9.4	16.0	17.6
Total pre-tax stock-based compensation expense	17.3	25.2	27.0
Tax benefit	—	—	—
Total stock-based compensation expense, net of tax	$ 17.3	$ 25.2	$ 27.0

Compensation expense for stock-based awards is measured based on the fair value of the awards as of the date the stock-based awards are granted and adjusted to the estimated number of awards that are expected to vest. Forfeitures are estimated based on historical experience at the time of grant and revised in subsequent periods if actual forfeitures differ from those estimates. Compensation costs for stock-based awards are amortized over their service period.

Stock Options and SSARs

The fair value of stock options granted by the Company was estimated on the date of grant using a Black-Scholes option-pricing model based on the assumptions shown in the table below.

	2020			**2019**			**2018**		
Risk-free interest rate	0.11%	to	1.42%	1.55%	to	2.44%		2.59%	
Dividend yield		—%			—%			—%	
Expected life (years)	4.3	to	4.5		4.5			4.5	
Volatility	38.8%	to	40.6%	40.0%	to	42.9%		41.2%	
Fair value at date of grant	$4.78	to	$5.95	$6.22	to	$7.45	$4.83	to	$6.59

Expected volatilities for the years ended December 31, 2020 and 2019 are based on the historical volatility of the Company’s stock. Prior to the year ended December 31, 2019, the determination of expected volatility was based on a blended peer group volatility for companies in similar industries, stage of life, and with similar market capitalization since there was not sufficient historical volatility data for Knowles common stock over the period commensurate with the expected term of its stock options. The risk-free interest rate is based on U.S. government issues with a remaining term equal to the expected life of the stock options. The expected term is the period over which our employees are expected to hold their options. It is based on the simplified method from the SEC’s safe harbor guidelines. The Company does not currently anticipate paying dividends over the expected term.

The exercise price per share for the stock options granted by the Company was equal to the closing price of Knowles' stock on the NYSE on the date of the grant. The period during which options granted by the Company were exercisable was fixed by Knowles' Compensation Committee of the Board of Directors at the time of grant. Generally, stock options vest one-third on each of the first three anniversaries of the grant date and expire 7 years from the grant date.

The following table summarizes the Company's SSAR and stock option activity for the year ended December 31, 2020.

	SSARs				Stock Options			
(in millions, except share and per share amounts)	Number of Shares	Weighted-Average Exercise Price	Aggregate Intrinsic Value	Weighted-Average Remaining Contractual Term (Years)	Number of Shares	Weighted-Average Exercise Price	Aggregate Intrinsic Value	Weighted-Average Remaining Contractual Term (Years)
Outstanding at December 31, 2019	596,537	$ 22.72			5,377,148	$ 17.51		
Granted	—	—			896,875	16.75		
Exercised	—	—			(141,336)	12.73		
Forfeited	—	—			(173,680)	16.49		
Expired	—	—			(193,104)	20.53		
Outstanding at December 31, 2020	596,537	$ 22.72	$ —	1.3	5,765,903	$ 17.44	$ 15.6	3.0
Exercisable at December 31, 2020	596,537	$ 22.72	$ —	1.3	4,245,893	$ 17.86	$ 12.3	2.0

The aggregate intrinsic value in the table above represents the difference between the Company's closing stock price on December 31, 2020 and the exercise price of each SSAR and stock option, multiplied by the number of in-the-money awards.

There was no unrecognized compensation expense related to SSARs at December 31, 2020. Unrecognized compensation expense related to stock options not yet exercisable at December 31, 2020 was $4.7 million. This cost is expected to be recognized over a weighted-average period of 1.5 years.

Other information regarding the exercise of SSARs and stock options is listed below:

	Years Ended December 31,		
(in millions)	2020	2019	2018
SSARs			
Fair value of SSARs that are exercisable	$ 1.5	$ 1.5	$ 1.8
Aggregate intrinsic value of SSARs exercised	—	0.4	0.1
Stock Options			
Cash received by Knowles for exercise of stock options	1.8	9.8	0.5
Aggregate intrinsic value of options exercised	0.4	2.7	0.2

RSUs

The following table summarizes the Company's RSU activity for the year ended December 31, 2020:

	Share units	Weighted-average grant date fair value
Unvested at December 31, 2019	2,261,114	$ 15.99
Granted	1,446,233	16.48
Vested [(1)]	(1,058,356)	16.30
Forfeited	(739,205)	16.22
Unvested at December 31, 2020	1,909,786	$ 16.14

[(1)] The number of RSUs vested includes shares that the Company withheld on behalf of employees to satisfy statutory tax withholding requirements.

RSUs generally vest based on the passage of time. RSUs have a three year vesting schedule and vest one-third on each of the first three anniversaries of the grant date. The fair value of RSUs vested during the year ended December 31, 2020 was $17.3 million. At December 31, 2020, $16.3 million of unrecognized compensation expense related to RSUs is expected to be recognized over a weighted-average period of 1.4 years.

PSUs

The Company grants PSUs to senior management. In each case, the awards will cliff vest three years following the grant date. For the awards granted in February 2018 and 2017, the number of PSUs that may be earned and vest is based on the Company's revenues and stock price performance over a three year performance period. For the awards granted in February 2019, the number of PSUs that may be earned and vest is based on the Company's revenues and total shareholder return relative to the S&P Semiconductor Select Industry Index over a three year performance period. For the awards granted in February 2020, the number of PSUs that may be earned and vest is based on total shareholder return relative to the S&P Semiconductor Select Industry Index over a three year performance period.

PSUs will be settled in shares of the Company's common stock. Depending on the Company's overall performance relative to the applicable performance metrics, the size of the PSU awards are subject to adjustment, up or down, resulting in awards at the end of the performance period that can range from 0% to 225% of the initial grant value. In February 2020, the awards granted in February 2017 were converted from 176,154 PSUs to 88,959 shares of stock based on achievement of performance metrics. The Company will ratably recognize the expense over the applicable service period for each grant of PSUs and adjust the expense as appropriate. The fair value of the PSUs is determined by using a Monte Carlo simulation.

The following table summarizes the Company's PSU activity for the year ended December 31, 2020:

	Share units	Weighted-average grant date fair value
Unvested at December 31, 2019	844,789	$ 15.90
Granted	322,178	16.14
Vested [1]	(184,405)	15.24
Forfeited	(61,589)	17.05
Unvested at December 31, 2020	920,973	$ 16.04

[1] The number of PSUs vested includes shares that the Company withheld on behalf of employees to satisfy statutory tax withholding requirements.

The fair value of PSUs vested during the year ended December 31, 2020 was $2.8 million. At December 31, 2020, $3.0 million of unrecognized compensation expense related to PSUs is expected to be recognized over a weighted-average period of 1.1 years.

15. Commitments and Contingent Liabilities

From time to time, the Company is involved in various legal proceedings and claims arising in the ordinary course of its business. The majority of these claims and proceedings relate to commercial, warranty, employment, and intellectual property matters. Although the ultimate outcome of any legal proceeding or claim cannot be predicted with certainty, based on present information, including management’s assessment of the merits of the particular claim, the Company believes that, apart from the action set forth below, the disposition of these legal proceedings or claims, individually or in the aggregate, after taking into account recorded accruals and the availability and limits of insurance coverage, will not have a material adverse effect on its cash flow, results of operations, or financial condition.

As previously disclosed, the Company is party to a representative action filed in the Superior Court of California, Los Angeles County under the Private Attorneys General Act, *Consuelo Andrade, individually and on behalf of other similarly situated vs. Novacap LLC et al.* (Case No. 20STCV21805). The complaint was filed on June 5, 2020 and, as amended, alleges that the Company incorrectly calculated overtime rate of pay, incorrectly paid overtime, and provided inaccurate wage statements, to certain non-exempt employees at the Company’s Valencia, California manufacturing facility in violation of California law. The action seeks penalties, attorneys' fees, and other relief. The Company intends to defend these claims vigorously. The parties intend to participate in voluntary mediation in February 2021. While the Company is unable to predict the ultimate outcome of this lawsuit, based on its current assessment of the facts underlying the complaint, the Company does not believe this matter will have a material adverse effect on its future financial condition, results of operations, or cash flows.

The Company owns many patents and other intellectual property pertaining to its products, technology, and manufacturing processes. Some of the Company's patents have been and may continue to be infringed upon or challenged by others. In appropriate cases, the Company has taken and will take steps to protect and defend its patents and other intellectual property, including through the use of legal proceedings in various jurisdictions around the world. Such steps have resulted in and may continue to result in retaliatory legal proceedings, including litigation or other legal proceedings in various jurisdictions and forums around the world alleging infringement by the Company of patents owned by others. The costs of investigations and legal proceedings relating to the enforcement and defense of the Company’s intellectual property may be substantial. Additionally, in multi-forum disputes, the Company may incur adverse judgments with regard to certain claims in certain jurisdictions and forums while still contesting other related claims against the same opposing party in other jurisdictions and forums.

Intellectual Property Infringement Claims

The Company may, on a limited customer specific basis, provide contractual indemnities for certain losses that arise out of claims that its products infringe on the intellectual property of others. It is not possible to determine the maximum potential amount under these indemnification agreements due to the unique facts and circumstances involved in each particular agreement. Historically, the Company has not made significant payments under such indemnity arrangements. The Company’s legal accruals associated with these indemnity arrangements were not significant at December 31, 2020 and 2019.

16. Employee Benefit Plans

Knowles sponsors its own defined contribution plan. The Company's expense relating to the defined contribution plan was $6.2 million, $7.2 million, and $6.8 million for the years ended December 31, 2020, 2019, and 2018, respectively.

Knowles sponsors four defined benefit pension plans to certain non-U.S. employees. The two plans in the U.K. and the plan in Taiwan are closed to new participants; however, all active participants in these plans continue to accrue benefits. The plan in the Philippines, which is open to new participants, was not included for the year ended December 31, 2018. These plans are considered direct obligations of the Company and have been recorded within the accompanying Consolidated Financial Statements.

The Company does not have any other post-retirement employee benefit plans other than the plans mentioned above and the non-qualified supplemental retirement plan discussed below.

Non-U.S. Defined Benefit Pension Plans

Obligations and Funded Status

The following tables summarize the balance sheet impact, including the benefit obligations, assets, and funded status associated with the Company's four defined benefit plans for non-U.S. participants at December 31, 2020 and 2019.

	December 31,	
(in millions)	**2020**	**2019**
Change in benefit obligation:		
Benefit obligation at beginning of year	$ 64.1	$ 53.7
Service cost	0.3	0.3
Interest cost	1.2	1.5
Benefits paid	(1.7)	(2.0)
Actuarial loss [1]	8.3	7.7
Settlements and curtailments	(0.2)	—
Currency translation and other	2.5	2.9
Benefit obligation at end of year	74.5	64.1
Change in plan assets:		
Fair value of plan assets at beginning of year	58.2	47.8
Actual return on plan assets	5.8	6.5
Company contributions	1.5	3.4
Benefits paid	(1.7)	(2.0)
Settlements and curtailments	(0.2)	—
Currency translation and other	2.1	2.5
Fair value of plan assets at end of year	65.7	58.2
Funded status	$ (8.8)	$ (5.9)
Amounts recognized in the Consolidated Balance Sheets consist of:		
Other assets and deferred charges	$ —	$ 0.8
Other liabilities	(8.8)	(6.7)
Funded status	$ (8.8)	$ (5.9)
Accumulated other comprehensive loss:		
Net actuarial losses	$ 25.6	$ 21.2
Prior service cost	1.1	1.2
Deferred taxes	(4.8)	(3.8)
Total accumulated other comprehensive loss, net of tax	21.9	18.6
Accumulated benefit obligation	$ 73.3	$ 62.9

[1] The net actuarial losses during the years ended December 31, 2020 and 2019 primarily related to decreases in the discount rates for the U.K. plans.

Pension plans with projected benefit obligations in excess of plan assets consisted of the following at December 31, 2020 and 2019:

	December 31,	
(in millions)	**2020**	**2019**
Projected benefit obligation	$ 74.5	$ 39.6
Fair value of plan assets	65.7	32.9

Pension plans with accumulated benefit obligations in excess of plan assets consisted of the following at December 31, 2020 and 2019:

	December 31,	
(in millions)	**2020**	**2019**
Accumulated benefit obligation	$ 43.0	$ 37.1
Fair value of plan assets	34.8	31.0

Net Periodic Benefit Cost (Income)

Components of the net periodic benefit cost (income) were as follows:

	Years Ended December 31,		
(in millions)	**2020**	**2019**	**2018**
Service cost	$ 0.3	$ 0.3	$ 0.4
Interest cost	1.2	1.5	1.3
Expected return on plan assets	(2.4)	(2.4)	(2.8)
Amortization of prior service cost	0.1	0.1	—
Amortization of recognized actuarial loss	0.5	0.4	0.5
Other (1)	—	0.1	1.3
Total net periodic benefit cost (income)	$ (0.3)	$ —	$ 0.7

(1) The Company recorded an adjustment related to pre-spin-off pension obligations during the year ended December 31, 2018.

The components of net periodic benefit cost (income) other than service cost are presented in the Other expense, net line on the Consolidated Statements of Earnings. The service cost component is presented within the Cost of goods sold, Research and development expenses, and Selling and administrative expenses lines on the Consolidated Statements of Earnings based on the nature of services performed by the related employees.

Assumptions

The Company determines actuarial assumptions on an annual basis. The actuarial assumptions used for the Company's four defined benefit plans for non-U.S. participants will vary depending on the applicable country and as such, the tables below include these assumptions by country, as well as in total.

The assumptions used in determining the benefit obligations were as follows:

	December 31,	
	2020	2019
Discount rate		
Philippines	4.00 %	5.00 %
Taiwan	0.25 %	0.75 %
United Kingdom	1.28 %	2.00 %
Weighted-average	1.27 %	1.97 %
Average wage increase		
Philippines	4.00 %	5.00 %
Taiwan	4.00 %	4.00 %
United Kingdom	4.20 %	4.25 %
Weighted-average	4.18 %	4.24 %

The assumptions used in determining the net periodic benefit cost (income) were as follows:

	Years Ended December 31,		
	2020	2019	2018
Discount rate			
Philippines	5.00 %	8.25 %	—
Taiwan	0.75 %	1.25 %	1.25 %
United Kingdom	2.00 %	2.80 %	2.44 %
Weighted-average	1.97 %	2.78 %	2.40 %
Average wage increase			
Philippines	5.00 %	6.00 %	—
Taiwan	4.00 %	4.25 %	4.00 %
United Kingdom	4.25 %	4.40 %	4.50 %
Weighted-average	4.24 %	4.41 %	4.46 %
Expected return on plan assets			
Taiwan	3.75 %	2.00 %	1.50 %
United Kingdom	4.35 %	4.82 %	5.75 %
Weighted-average	4.33 %	4.72 %	5.64 %

The Company’s discount rate assumption is determined by developing a yield curve based on high quality corporate bonds with maturities matching the plans’ expected benefit payment streams. The plans’ expected cash flows are then discounted by the resulting year-by-year spot rates.

Plan Assets

The primary financial objective of the plans is to secure participant retirement benefits. Accordingly, the key objective in the plans’ financial management is to promote stability and, to the extent appropriate, growth in the funded status. Related and supporting financial objectives are established in conjunction with a review of current and projected plan financial requirements.

As it relates to the funded defined benefit pension plans, the Company's funding policy is consistent with the funding requirements of applicable local non-U.S. laws. The Company is responsible for overseeing the management of the investments of the plans' assets and otherwise ensuring that the plans' investment programs are in compliance with applicable local law, other relevant legislation, and related plan documents. Where relevant, the Company has retained professional investment managers to manage the plans' assets and implement the investment process. The investment managers, in implementing their investment processes, have the authority and responsibility to select appropriate investments in the asset classes specified by the terms of their applicable prospectus or investment manager agreements with the plans.

The assets of the plans are invested to achieve an appropriate return for the plans consistent with a prudent level of risk. The asset return objective is to achieve, as a minimum over time, the passively managed return earned by market index funds, weighted in the proportions outlined by the asset class exposures identified in the plans' strategic allocation. The expected return on assets assumption used for pension expense is developed through analysis of historical market returns, statistical analysis, current market conditions, and the past experience of plan asset investments.

Fair Value Measurements

The fair values of plan assets by asset category within the ASC 820 hierarchy were as follows at December 31, 2020 and 2019:

	December 31, 2020				December 31, 2019			
(in millions)	Level 1	Level 2	Level 3	Total Fair Value	Level 1	Level 2	Level 3	Total Fair Value
Asset category:								
Fixed income investments	$ 3.4	$ 24.9	$ —	$ 28.3	$ 2.4	$ 21.9	$ —	$ 24.3
Common stock funds	—	18.9	—	18.9	—	17.7	—	17.7
Real estate funds	—	5.0	—	5.0	—	4.0	—	4.0
Cash and equivalents	0.3	—	—	0.3	0.4	0.8	—	1.2
Other	7.9	5.3	—	13.2	6.7	4.3	—	11.0
Total	$ 11.6	$ 54.1	$ —	$ 65.7	$ 9.5	$ 48.7	$ —	$ 58.2

See Note 11. Hedging Transactions and Derivative Instruments for additional information on the fair value hierarchy. There were no significant transfers between Level 1 and Level 2 assets during the years ended December 31, 2020 and 2019.

Fixed income investments include government and municipal securities and corporate bonds, which are valued based on yields currently available on comparable securities of issuers with similar credit ratings.

Common stock funds consist of mutual funds and collective trusts. Mutual funds are valued by obtaining quoted prices from nationally recognized securities exchanges. Collective trusts are valued using Net Asset Value (the "NAV") as of the last business day of the year. The NAV is based on the underlying value of the assets owned by the fund minus its liabilities and then divided by the number of shares outstanding. The value of the underlying assets is based on quoted prices in active markets.

The methods described above may produce a fair value calculation that may not be indicative of net realizable value or reflective of future fair values. Furthermore, while the Company believes its valuation methods are appropriate and consistent with other market participants, the use of different methodologies or assumptions to determine the fair value of certain financial instruments could result in a different fair value measurement at the reporting date.

Future Estimates

Benefit Payments

Estimated future benefit payments to retirees, which reflect expected future service, are as follows:

(in millions)	
2021	$ 2.0
2022	1.9
2023	1.8
2024	2.1
2025	2.6
2026-2030	13.6

Contributions

Generally, annual contributions are made at such times and in such amounts as required by law and agreed with the trustees of the non-U.S. defined benefit plans. The Company estimates it will pay $1.5 million during the year ended December 31, 2021 related to contributions to these plans. This amount may vary based on updated funding agreements with the Trustees of these plans.

Non-qualified Supplemental Retirement Plan

Knowles provides to certain management employees, through non-qualified plans, supplemental retirement benefits in excess of qualified plan limits imposed by federal tax law. Effective December 31, 2013, the Company's participants no longer accrue benefits. The net amounts recognized on the balance sheet at December 31, 2020 and 2019 are shown in the table below:

	December 31,	
(in millions)	**2020**	**2019**
Accrued compensation and employee benefits	$ (0.2)	$ (0.5)
Other liabilities	(0.8)	(0.8)
Total accumulated other comprehensive loss, net of tax	0.2	0.1
Net amount recognized	$ (0.8)	$ (1.2)

17. Other Comprehensive Earnings

The amounts recognized in other comprehensive earnings (loss) were as follows:

	Year Ended December 31, 2020		
(in millions)	Pre-tax	Tax	Net of tax
Foreign currency translation	$ 13.8	$ —	$ 13.8
Employee benefit plans	(4.4)	1.0	(3.4)
Changes in fair value of cash flow hedges	1.4	(0.3)	1.1
Total other comprehensive earnings	$ 10.8	$ 0.7	$ 11.5

	Year Ended December 31, 2019		
(in millions)	Pre-tax	Tax	Net of tax
Foreign currency translation	$ 1.3	$ —	$ 1.3
Employee benefit plans	(3.2)	—	(3.2)
Changes in fair value of cash flow hedges	1.1	(0.2)	0.9
Total other comprehensive loss	$ (0.8)	$ (0.2)	$ (1.0)

	Year Ended December 31, 2018		
(in millions)	Pre-tax	Tax	Net of tax
Foreign currency translation	$ (9.9)	$ —	$ (9.9)
Employee benefit plans	(0.4)	0.2	(0.2)
Changes in fair value of cash flow hedges	(1.0)	0.1	(0.9)
Total other comprehensive loss	$ (11.3)	$ 0.3	$ (11.0)

The following table summarizes the changes in balances of each component of accumulated other comprehensive loss, net of tax during the years ended December 31, 2020 and 2019:

(in millions)	Cash flow hedges	Employee benefit plans	Cumulative foreign currency translation adjustments	Total
Balance at December 31, 2018	$ (0.4)	$ (15.5)	$ (95.1)	$ (111.0)
Other comprehensive earnings (loss), net of tax	0.9	(3.2)	1.3	(1.0)
Balance at December 31, 2019	0.5	(18.7)	(93.8)	(112.0)
Other comprehensive earnings (loss), net of tax	1.1	(3.4)	13.8	11.5
Balance at December 31, 2020	$ 1.6	$ (22.1)	$ (80.0)	$ (100.5)

The following table summarizes the amounts reclassified from accumulated other comprehensive loss to earnings:

		Years Ended December 31,		
(in millions)	**Statement of Earnings Line**	**2020**	**2019**	**2018**
Pension and post-retirement benefit plans:				
Amortization or settlement of actuarial losses and prior service costs	Other expense, net	$ 0.7	$ 0.6	$ 0.6
Tax	Provision for (benefit from) income taxes	(0.1)	(0.1)	(0.1)
Net of tax		$ 0.6	$ 0.5	$ 0.5
Cash flow hedges:				
Net (gains) losses reclassified into earnings	Cost of goods sold	$ (1.2)	$ 0.9	$ 1.4
Tax	Provision for (benefit from) income taxes	0.3	(0.2)	(0.3)
Net of tax		$ (0.9)	$ 0.7	$ 1.1

18. Segment Information

The Company organizes its reportable segments based on how management analyzes performance, allocates capital, and makes strategic and operational decisions. These segments were determined in accordance with ASC 280, Segment Reporting. The segments are aligned around similar product applications serving our key end markets, to enhance focus on end market growth strategies. The Company's operating segments engage in business activities from which they earn revenues and incur expenses, have discrete financial information available, and whose financial results are regularly reviewed and used by the chief operating decision maker to evaluate segment performance, allocate resources, and determine management incentive compensation. The Audio segment aggregates two operating segments into one reportable segment based on similar product applications serving our key end markets. The PD segment has one operating segment, which equals its reportable segment. The Company's two reportable segments are as follows:

- Audio Segment
  Our Audio group designs and manufactures innovative audio products, including microphones, balanced armature speakers, and audio processors used in applications that serve the mobile, ear, and IoT markets. Locations include the sales, support, and engineering facilities in North America, Europe, and Asia, as well as manufacturing facilities in Asia.

- PD Segment
  Our PD group specializes in the design and delivery of high performance capacitor products and mmWave RF solutions for technically demanding applications. Our high performance capacitor products are used in applications such as power supplies and medical implants, which sell to a diverse set of customers for mission critical applications across the communications, medtech, defense, electric vehicle, and industrial markets. Our mmWave RF solutions primarily solve high frequency filtering challenges for our military customers, who use them in their satellite communication and radar systems, as well as our telecommunications infrastructure customers deploying mmWave 5G base stations. Locations include the sales, support, engineering, and manufacturing facilities in North America, Europe, and Asia.

Information regarding the Company's reportable segments is as follows:

	Years Ended December 31,		
(in millions)	2020	2019	2018
Revenues:			
Audio	$ 591.2	$ 682.8	$ 682.2
Precision Devices	173.1	172.0	144.7
Total revenues	$ 764.3	$ 854.8	$ 826.9
Earnings from continuing operations before interest and income taxes:			
Audio	$ 44.9	$ 107.3	$ 105.7
Precision Devices	31.7	30.4	27.5
Total segments	76.6	137.7	133.2
Corporate expense / other	48.9	56.9	56.1
Interest expense, net	16.4	14.5	16.0
Earnings before income taxes and discontinued operations	11.3	66.3	61.1
Provision for (benefit from) income taxes	8.4	16.6	(4.5)
Earnings from continuing operations	$ 2.9	$ 49.7	$ 65.6
Depreciation and amortization:			
Audio	$ 47.0	$ 41.3	$ 41.5
Precision Devices	10.5	9.9	7.8
Corporate	3.1	3.2	3.1
Total	$ 60.6	$ 54.4	$ 52.4
Capital expenditures:			
Audio	$ 21.9	$ 24.0	$ 68.2
Precision Devices	9.6	16.5	10.8
Corporate	0.4	0.7	1.1
Total	$ 31.9	$ 41.2	$ 80.1
Research and development:			
Audio	$ 84.6	$ 90.8	$ 94.5
Precision Devices	6.7	5.8	5.8
Corporate	1.6	0.2	0.3
Total	$ 92.9	$ 96.8	$ 100.6

Information regarding assets of the Company's reportable segments:

	Total Assets December 31,	
(in millions)	2020	2019
Audio	$ 1,470.4	$ 1,487.6
Precision Devices	179.2	162.0
Corporate / eliminations	5.3	5.0
Total	$ 1,654.9	$ 1,654.6

The following table details revenues by geographic location. Revenues are attributed to regions based on the location of the Company's direct customer, which in some instances is an intermediary and not necessarily the end user. Long-lived assets are comprised of net property, plant, and equipment and operating lease right-of-use assets. These assets have been classified based on the geographic location of where they reside. The Company's businesses are based primarily in Asia, North America, and Europe.

	Revenues			Long-Lived Assets	
	Years Ended December 31,			December 31,	
(in millions)	**2020**	**2019**	**2018**	**2020**	**2019**
Asia	$ 559.6	$ 614.7	$ 605.4	$ 140.5	$ 157.9
United States	116.7	130.4	126.6	69.8	78.5
Europe	80.0	97.4	85.8	3.3	2.5
Other Americas	3.7	6.3	3.6	1.2	1.2
Other	4.3	6.0	5.5	—	—
Total	$ 764.3	$ 854.8	$ 826.9	$ 214.8	$ 240.1

The Company's customers that accounted for 10% or more of total revenues were as follows:

	Revenues		
	Years Ended December 31,		
	2020	**2019**	**2018**
Apple Inc.	23 %	22 %	19 %

19. Earnings per Share

Basic and diluted earnings per share were computed as follows:

	Years Ended December 31,		
(in millions, except share and per share amounts)	**2020**	**2019**	**2018**
Earnings from continuing operations	$ 2.9	$ 49.7	$ 65.6
Earnings (loss) from discontinued operations, net	3.7	(0.6)	2.1
Net earnings	$ 6.6	$ 49.1	$ 67.7
Basic earnings (loss) per common share:			
Earnings from continuing operations	$ 0.03	$ 0.55	$ 0.73
Earnings (loss) from discontinued operations, net	0.04	(0.01)	0.02
Net earnings	$ 0.07	$ 0.54	$ 0.75
Weighted-average shares outstanding	91,701,004	91,156,124	90,050,051
Diluted earnings (loss) per common share:			
Earnings from continuing operations	$ 0.03	$ 0.53	$ 0.72
Earnings (loss) from discontinued operations, net	0.04	—	0.02
Net earnings	$ 0.07	$ 0.53	$ 0.74
Diluted weighted-average shares outstanding	92,883,138	93,439,023	91,194,747

As the Company intends to settle the principal amount of the Notes in cash, the treasury stock method was used to calculate any potential dilutive effect of the conversion option on diluted earnings per share, if applicable. For the years ended December 31, 2020, 2019, and 2018, the weighted-average number of anti-dilutive potential common shares excluded from the calculation of diluted earnings per share above was 3,924,692, 2,764,092, and 4,346,400, respectively.

20. Quarterly Data (Unaudited)

(in millions, except per share amounts)			Continuing Operations			Net Earnings (Loss)		
Quarter	**Revenues**	**Gross Profit**	**Earnings (Loss)**	**Per Share - Basic**	**Per Share - Diluted**	**Earnings (Loss)**	**Per Share - Basic**	**Per Share - Diluted**
2020								
First	$ 163.1	$ 56.2	$ (12.8)	$ (0.14)	$ (0.14)	$ (9.1)	$ (0.10)	$ (0.10)
Second	152.2	47.8	(19.5)	(0.21)	(0.21)	(19.5)	(0.21)	(0.21)
Third	205.8	75.2	5.6	0.06	0.06	5.6	0.06	0.06
Fourth	243.2	92.0	29.6	0.32	0.32	29.6	0.32	0.32
2019								
First	$ 179.8	$ 68.5	$ (2.7)	$ (0.03)	$ (0.03)	$ (2.7)	$ (0.03)	$ (0.03)
Second	205.2	76.4	5.9	0.06	0.06	5.9	0.06	0.06
Third	235.9	93.5	25.4	0.28	0.27	25.4	0.28	0.27
Fourth	233.9	89.6	21.1	0.23	0.22	20.5	0.22	0.21

SCHEDULE II

VALUATION AND QUALIFYING ACCOUNTS
Years Ended December 31, 2020, 2019, and 2018

Allowance for Doubtful Accounts *(in millions)*	**Balance at Beginning of Year**	**Charged to Cost and Expense** [(1)]	**Accounts Written Off**	**Balance at End of Year**
Year Ended December 31, 2020				
Allowance for Doubtful Accounts	$ 0.8	0.8	—	$ 1.6
Year Ended December 31, 2019				
Allowance for Doubtful Accounts	$ 0.6	0.3	(0.1)	$ 0.8
Year Ended December 31, 2018				
Allowance for Doubtful Accounts	$ 0.7	(0.1)	—	$ 0.6

(1) Net of recoveries on previously reserved or written-off balances.

Deferred Tax Valuation Allowance *(in millions)*	**Balance at Beginning of Year**	**Additions**	**Reductions**	**Balance at End of Year**
Year Ended December 31, 2020				
Deferred Tax Valuation Allowance	$ 85.3	12.7	—	$ 98.0
Year Ended December 31, 2019				
Deferred Tax Valuation Allowance	$ 131.2	—	(45.9)	$ 85.3
Year Ended December 31, 2018				
Deferred Tax Valuation Allowance	$ 99.7	31.5	—	$ 131.2

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

None.

ITEM 9A. CONTROLS AND PROCEDURES

(a) Evaluation of Disclosure Controls and Procedures

We conducted an evaluation, under the supervision and with the participation of management, including the chief executive officer ("CEO") and chief financial officer ("CFO"), of the effectiveness of the Company's disclosure controls and procedures (as defined in Rules 13a-15(e) and 15d-15(e) under the Exchange Act) as of December 31, 2020.

These disclosure controls and procedures are designed to ensure that information required to be disclosed in our reports that are filed or submitted under the Exchange Act is recorded, processed, summarized and reported within the time periods specified in the SEC's rules and forms. Our disclosure controls and procedures include, without limitation, controls and procedures designed to ensure that this information is accumulated and communicated to management, including the principal executive and principal financial officers, or persons performing similar functions, as appropriate, to allow timely decisions regarding required disclosure.

Based on the evaluation, the CEO and CFO have concluded that these disclosure controls and procedures were effective as of December 31, 2020.

(b) Management's Report on Internal Control Over Financial Reporting

Our management is responsible for establishing and maintaining adequate internal control over financial reporting (as defined in Rules 13a-15(f) and 15d-15(f) under the Exchange Act). Under management's supervision, an evaluation of the effectiveness of the Company's internal control over financial reporting was conducted based on the criteria set forth in *Internal Control - Integrated Framework* (2013) issued by the Committee of Sponsoring Organizations of the Treadway Commission ("COSO"). Based on our evaluation under the framework in *Internal Control - Integrated Framework* (2013) issued by the COSO, our management concluded that our internal control over financial reporting was effective as of December 31, 2020.

PricewaterhouseCoopers LLP, the Company's independent registered public accounting firm, has audited the effectiveness of the Company's internal control over financial reporting as of December 31, 2020, as stated in their report which appears herein.

(c) Changes in Internal Control Over Financial Reporting

There has been no change in our internal control over financial reporting that occurred during the fourth quarter of 2020 that has materially affected, or is reasonably likely to materially affect, our internal control over financial reporting.

(d) Inherent Limitations on Effectiveness of Controls

Our management, including the CEO and CFO, do not expect that our disclosure controls or our internal control over financial reporting will prevent or detect all errors and all fraud. A control system, no matter how well designed and operated, can provide only reasonable, not absolute, assurance that the control system's objectives will be met. The design of a control system must reflect the fact that the benefits of controls must be considered relative to their costs. Further, because of the inherent limitations in all control systems, no evaluation of controls can provide absolute assurance that misstatements due to error or fraud will not occur or that all control issues and instances of fraud, if any, will be detected. These inherent limitations include the realities that judgments in decision making can be faulty and that breakdowns can occur because of simple error or mistake. Controls can also be circumvented by the individual acts of some persons, by intentionally falsified documentation, by collusion of two or more individuals within Knowles or third parties, or by management override of the controls. The design of any system of controls is based in part on certain assumptions about the likelihood of future events and there can be no assurance that any design will succeed in achieving its stated goals under all potential future conditions. Projections of any evaluation of controls effectiveness to future periods are subject to risks. Over time, controls may become inadequate because of changes in conditions or deterioration in the degree of compliance with policies or procedures.

ITEM 9B. OTHER INFORMATION

Not applicable.

PART III

ITEM 10. DIRECTORS, EXECUTIVE OFFICERS, AND CORPORATE GOVERNANCE

The information with respect to the directors and the board committees of the Company and other corporate governance matters required to be included pursuant to this Item 10 will be included in the section entitled "Proposal 1 - Election of Directors" of the Proxy Statement for its 2021 Annual Meeting of Stockholders (the "2021 Proxy Statement") that will be filed with the SEC pursuant to Rule 14a-6 under the Exchange Act in accordance with applicable SEC deadlines and is incorporated in this Item 10 by reference.

The information with respect to the executive officers of the Company required to be included pursuant to this Item 10 is included under the caption “Information about our Executive Officers” in Part I of this Form 10-K and is incorporated in this Item 10 by reference.

Item 405 of Regulation S-K calls for disclosure of any known late filing or failure by an insider to file a report required by Section 16(a) of the Exchange Act. To the extent disclosure for delinquent reports is made, it can be found under the caption "Delinquent Section 16(a) Reports" in our 2021 Proxy Statement and is incorporated in this Item 10 by reference.

The Company has adopted a code of ethics that applies to its principal executive officer, principal financial officer, principal accounting officer, and controller. A copy of this code of ethics can be found on our website at www.knowles.com. In the event of any amendment to, or waiver from, the code of ethics affecting our principal executive officer, principal financial officer, principal accounting officer, or controller, we will publicly disclose the amendment or waiver by posting the information on our website or filing a Form 8-K with the SEC.

ITEM 11. EXECUTIVE COMPENSATION

The information with respect to executive compensation and the compensation committee required to be included pursuant to this Item 11 will be included in our 2021 Proxy Statement under the headings "Executive Compensation" and "Directors' Compensation" and is incorporated in this Item 11 by reference.

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

The information regarding security ownership of certain beneficial owners and management that is required to be included pursuant to this Item 12 will be included in our 2021 Proxy Statement under the heading "Security Ownership of Certain Beneficial Owners and Management" and is incorporated into this Item 12 by reference.

Equity Compensation Plans

We currently maintain equity compensation plans that provide for the issuance of Knowles stock to directors, executive officers, and other employees. The following table sets forth information regarding outstanding restricted stock units, SSARs, performance share units, stock options, and shares available for future issuance under these plans as of December 31, 2020:

Plan Category	(a) Number of Securities to be Issued Upon Exercise of Outstanding Options, Warrants, and Rights [(1)]		(b) Weighted-Average Exercise Price of Outstanding Options, Warrants, and Rights	(c) Number of Securities Remaining Available for Future Issuance Under Equity Compensation Plans (Excluding Securities Reflected in Column (a)) [(2)]
Equity compensation plans approved by stockholders	9,193,199	$	17.94	11,846,218
Equity compensation plans not approved by stockholders	—		—	—
Total	9,193,199	$	17.94	11,846,218

(1) Column (a) consists of shares issuable pursuant to outstanding restricted stock units, SSARs, performance share units, and stock option awards under the Company's 2018 Equity and Cash Incentive Plan, 2016 Equity and Cash Incentive Plan, and 2014 Equity and Cash Incentive Plan. No further awards may be made under the 2014 Equity and Cash Incentive Plan or the 2016 Equity and Cash Incentive Plan. Restricted stock units and performance share units are not reflected in the weighted-average exercise price in column (b).

(2) Column (c) consists of shares available for future issuance under the 2018 Equity and Cash Incentive Plan. The 2018 Equity and Cash Incentive Plan provides for stock options and SSAR grants, restricted stock awards, restricted stock unit awards, unrestricted stock awards, performance share awards, cash performance awards, and deferred stock units. Shares subject to stock options and SSARs will reduce the shares available for awards under the 2018 Equity and Cash Incentive Plan by one share for every one share granted. Performance share awards, restricted stock, unrestricted stock, restricted stock units that are settled in shares of common stock, and deferred stock units will reduce the shares available for awards under the 2018 Equity and Cash Incentive Plan by 1.75 shares for every one share awarded. Cash performance awards do not count against the pool of available shares. The number of shares earned when an award is exercised, vested, or is paid out will count against the pool of available shares, including shares withheld to pay taxes or an option's exercise price. Shares subject to an award under the 2018 Equity and Cash Incentive Plan, 2016 Equity and Cash Incentive Plan, and the 2014 Equity and Cash Incentive Plan that are canceled, terminated, forfeited, or that expire will be available for reissuance under the 2018 Equity and Cash Incentive Plan.

ITEM 13. CERTAIN RELATIONSHIPS AND RELATED TRANSACTIONS, AND DIRECTOR INDEPENDENCE

The information required by this Item 13 will be included in our 2021 Proxy Statement under the headings "Corporate Governance" and "Procedures for Approval of Related Person Transactions" and is incorporated in this Item 13 by reference.

ITEM 14. PRINCIPAL ACCOUNTANT FEES AND SERVICES

The information required by this Item 14 will be included in our 2021 Proxy Statement under the caption "Proposal 2 - Ratification of the Appointment of Independent Registered Public Accounting Firm" and is incorporated in this Item 14 by reference.

PART IV

ITEM 15. EXHIBITS AND FINANCIAL STATEMENT SCHEDULES

a) The following documents are filed as part of this report:

(1) Financial Statements:

- The financial statements are set forth under “Item 8. Financial Statements and Supplementary Data” of this Form 10-K.

(2) Financial Statement Schedules:

- The following financial statement schedule is set forth under “Item 8. Financial Statements and Supplementary Data” of this Form 10-K. All other schedules have been omitted because they are not required, are not applicable or the required information is included in the financial statements or the notes thereto.
- Schedule II - Valuation and Qualifying Accounts

(3) Exhibits

		Incorporated by Reference				
Exhibit Number	**Description**	**Form**	**File No.**	**Date of Filing**	**Exhibit Number**	**Filed Herewith**
3.1	Restated Certificate of Incorporation of Knowles Corporation	10-Q	001-36102	7/30/2019	3.1	
3.2	Second Amended and Restated By-laws of Knowles Corporation	10-Q	001-36102	7/30/2019	3.2	
3.3	Third Amended and Restated By-laws of Knowles Corporation	8-K	001-36102	5/19/2020	3.1	
4.1	Indenture between Knowles Corporation and U.S. Bank National Association, as trustee, dated May 4, 2016	8-K	001-36102	5/4/2016	4.1	
4.2	Form of 3.25% Convertible Senior Note due 2021 (included in Exhibit 4.1)	8-K	001-36102	5/4/2016	4.2	
4.3	Description of Securities					X
10.1†	Knowles Corporation Senior Executive Change-in-Control Severance Plan, as amended and restated effective April 27, 2020	8-K	001-36102	5/1/2020	10.4	
10.2†	Knowles Corporation Executive Severance Plan, as amended and restated effective April 27, 2020	8-K	001-36102	5/1/2020	10.3	
10.3†	2014 Equity and Cash Incentive Plan	8-K	001-36102	2/28/2014	10.4	
10.4†	Form of Restricted Stock Unit Award Agreement	8-K	001-36102	3/7/2014	10.1	
10.5†	Form of Award Grant Letter for Restricted Stock Units	10	001-36102	11/15/2013	10.8	
10.6†	Form of Award Grant Letter for Restricted Stock	10	001-36102	11/15/2013	10.9	
10.7†	Form of Award Grant Letter for Stock Settled Appreciation Rights	10	001-36102	11/15/2013	10.10	
10.8†	Form of Stock Option Award Agreement	8-K	001-36102	3/7/2014	10.2	
10.9†	Form of Replacement SSAR Award Agreement	8-K	001-36102	3/7/2014	10.3	
10.10†	Form of Replacement Restricted Stock Unit Award Agreement	8-K	001-36102	3/7/2014	10.4	
10.11†	Nonemployee Director Deferral Program	10-K	001-36102	3/28/2014	10.5.7	
10.12†	Executive Deferred Compensation Plan	8-K	001-36102	2/28/2014	10.6	
10.13†	Executive Officer Annual Incentive Plan	8-K	001-36102	2/28/2014	10.5	
10.14†	First Amendment, dated as of May 4, 2015, to the Knowles Corporation 2014 Equity and Cash Incentive Plan	10-K	001-36102	2/19/2016	10.17	

10.15	Purchase Agreement between Knowles Corporation and J.P. Morgan Securities LLC, as representative of the initial purchasers named therein, dated April 28, 2016	8-K	001-36102	5/4/2016	10.1
10.16	Convertible Note Hedge Confirmation between Knowles Corporation and HSBC Bank USA, National Association, dated April 28, 2016	8-K	001-36102	5/4/2016	10.2
10.17	Warrant Confirmation between Knowles Corporation and HSBC Bank USA, National Association, dated April 28, 2016	8-K	001-36102	5/4/2016	10.3
10.18	Convertible Note Hedge Confirmation between Knowles Corporation and JPMorgan Chase Bank, National Association, London Branch, dated April 28, 2016	8-K	001-36102	5/4/2016	10.4
10.19	Warrant Confirmation between Knowles Corporation and JPMorgan Chase Bank, National Association, London Branch, dated April 28, 2016	8-K	001-36102	5/4/2016	10.5
10.20	Convertible Note Hedge Confirmation between Knowles Corporation and Wells Fargo Bank, National Association, dated April 28, 2016	8-K	001-36102	5/4/2016	10.6
10.21	Warrant Confirmation between Knowles Corporation and Wells Fargo Bank, National Association, dated April 28, 2016	8-K	001-36102	5/4/2016	10.7
10.22	Convertible Note Hedge Confirmation between Knowles Corporation and HSBC Bank USA, National Association, dated May 11, 2016	8-K	001-36102	5/13/2016	10.1
10.23	Warrant Confirmation between Knowles Corporation and HSBC Bank USA, National Association, dated May 11, 2016	8-K	001-36102	5/13/2016	10.2
10.24	Convertible Note Hedge Confirmation between Knowles Corporation and JPMorgan Chase Bank, National Association, London Branch, dated May 11, 2016	8-K	001-36102	5/13/2016	10.3
10.25	Warrant Confirmation between Knowles Corporation and JPMorgan Chase Bank, National Association, London Branch, dated May 11, 2016	8-K	001-36102	5/13/2016	10.4
10.26	Convertible Note Hedge Confirmation between Knowles Corporation and Wells Fargo Bank, National Association, dated May 11, 2016	8-K	001-36102	5/13/2016	10.5
10.27	Warrant Confirmation between Knowles Corporation and Wells Fargo Bank, National Association, dated May 11, 2016	8-K	001-36102	5/13/2016	10.6
10.28†	Knowles Corporation 2016 Equity and Cash Incentive Plan, incorporated herein by reference to Appendix B to the Registrant's Definitive Proxy Statement	DEF 14A	001-36102	3/15/2016	Appendix B
10.29†	Form of Restricted Stock Unit Award Agreement dated May 2, 2016	10-Q	001-36102	8/9/2016	10.15
10.30†	Form of Stock Option Award Agreement dated May 2, 2016	10-Q	001-36102	8/9/2016	10.16
10.31†	Addendum to Stock Option Agreement and Restricted Stock Award Agreement for Non-U.S Employees dated May 2, 2016	10-Q	001-36102	8/9/2016	10.17
10.32†	Amendment Number Two to the Knowles Corporation 2014 Equity and Cash Incentive Plan, dated November 18, 2016	10-K	001-36102	2/21/2017	10.36
10.33†	Amendment Number One to the Knowles Corporation 2016 Equity and Cash Incentive Plan, dated November 18, 2016	10-K	001-36102	2/21/2017	10.37

10.34†	Form of Restricted Stock Unit Award Agreement, dated November 17, 2016	10-K	001-36102	2/21/2017	10.38	
10.35†	Form of Stock Option Award Agreement, dated November 17, 2016	10-K	001-36102	2/21/2017	10.39	
10.36†	Form of Performance Share Unit Award Agreement dated February 16, 2017	10-Q	001-36102	4/28/2017	10.1	
10.37	Credit Agreement dated as of September 4, 2020, among Knowles Corporation, JPMorgan Chase Bank, N.A. and the other lenders thereto	8-K	001-36102	9/8/2020	10.1	
10.38†	Knowles Corporation Nonemployee Director Deferral Program	10-Q	001-36102	10/30/2017	10.2	
10.39†	Knowles Corporation 2018 Equity and Cash Incentive Plan, filed as Appendix B to the Registrant's Definitive Proxy Statement	DEF 14A	001-36102	3/14/2018	Appendix B	
10.40†	Amended and Restated Knowles Corporation 2018 Equity and Cash Incentive Plan	8-K	001-36102	5/1/2020	10.1	
10.41†	Form of Performance Award Agreement	10-Q	001-36102	4/30/2018	10.1	
10.42†	Form of Restricted Stock Unit Award Agreement	10-Q	001-36102	7/30/2018	10.1	
10.43†	Form of Stock Option Award Agreement	10-Q	001-36102	7/30/2018	10.2	
10.44†	Form of Performance Award Agreement	10-Q	001-36102	7/30/2018	10.3	
10.45†	Knowles Corporation Deferred Compensation Plan	8-K	001-36102	11/04/2019	10.1	
10.46†	Form of Non-Employee Director Restricted Stock Unit Award Agreement	8-K	001-36102	5/1/2020	10.2	
21.1	Subsidiaries of Knowles Corporation					X
23.1	Consent of PricewaterhouseCoopers LLP					X
24.1	Power of Attorney (included on the Signature page of this Annual Report on Form 10-K)					X
31.1	Certificate of Principal Executive Officer Required Under Section 302 of the Sarbanes-Oxley Act of 2002					X
31.2	Certificate of Principal Financial Officer Required Under Section 302 of the Sarbanes-Oxley Act of 2002					X
32.1	Joint Certificate of the Principal Executive Officer and Principal Financial Officer Required Under Section 906 of the Sarbanes-Oxley Act of 2002					X
101	The following materials from the Knowles Corporation Annual Report on Form 10-K for the year ended December 31, 2020 formatted in inline XBRL (eXtensible Business Reporting Language): (i) Consolidated Statements of Earnings, (ii) Consolidated Statements of Comprehensive Earnings, (iii) Consolidated Balance Sheets, (iv) Consolidated Statements of Equity, (v) Consolidated Statements of Cash Flows and (vi) Notes to the Consolidated Financial Statements					X
104	Cover Page Interactive Data File (embedded within Inline XBRL documents and included in Exhibit 101)					X

† Indicates the exhibit is a management contract or compensatory plan or arrangement

ITEM 16. FORM 10-K SUMMARY

None.

SIGNATURES

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

KNOWLES CORPORATION

/s/ JEFFREY S. NIEW

Jeffrey S. Niew
President and Chief Executive Officer

Date: February 10, 2021

POWER OF ATTORNEY

Know all persons by these presents, that each person whose signature appears below constitutes and appoints Jeffrey S. Niew, John S. Anderson and Robert J. Perna, and each of them, as such person's true and lawful attorneys-in-fact and agents, with full power of substitution and resubstitution, for such person and in such person's name, place and stead, in any and all capacities, to sign any and all amendments to this report, and to file the same, with all exhibits thereto, and other documents in connection therewith, with the Securities and Exchange Commission, granting unto said attorneys-in-fact and agents, and each of them, full power and authority to do and perform each and every act and thing requisite and necessary to be done in connection therewith, as fully to all intents and purposes as such person might or could do in person, hereby ratifying and confirming all that said attorneys-in-fact and agents, or any of them or their or such person's substitute or substitutes, may lawfully do or cause to be done by virtue thereof.

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

Signature	Title	Date
/s/ JEFFREY S. NIEW Jeffrey S. Niew	Chief Executive Officer, President and Director (Principal Executive Officer)	February 10, 2021
/s/ JOHN S. ANDERSON John S. Anderson	Senior Vice President and Chief Financial Officer (Principal Financial Officer)	February 10, 2021
/s/ AIR A. BASTARRICA, JR. Air A. Bastarrica, Jr.	Vice President, Controller (Principal Accounting Officer)	February 10, 2021
/s/ DONALD MACLEOD Donald Macleod	Chairman, Board of Directors	February 10, 2021
/s/ KEITH L. BARNES Keith L. Barnes	Director	February 10, 2021
/s/ HERMANN EUL Hermann Eul	Director	February 10, 2021
/s/ DIDIER HIRSCH Didier Hirsch	Director	February 10, 2021
/s/ RONALD JANKOV Ronald Jankov	Director	February 10, 2021
/s/ YE JANE LI Ye Jane Li	Director	February 10, 2021
/s/ CHERYL SHAVERS Cheryl Shavers	Director	February 10, 2021
/s/ MICHAEL S. WISHART Michael S. Wishart	Director	February 10, 2021

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STOCKHOLDERS' INFORMATION

Corporate Headquarters

Knowles Corporation
1151 Maplewood Drive
Itasca, IL 60143
Phone: 1.630.250.5100
communications@knowles.com

Independent Registered Public Accounting Firm

PricewaterhouseCoopers LLP
Chicago, IL

Stock Listing

Knowles Corporation is traded on
The New York Stock Exchange
NYSE Symbol: KN

Transfer Agent

Mail correspondence to:
Computershare Trust Company, N.A.
PO Box 505000
Louisville, KY 40233-5000
Online inquiries:
www.computershare.com/investor
Tel: 1.800.331.9508

Investor Contact

Knowles Corporation
Investor Relations
1151 Maplewood Drive
Itasca, IL 60143
Tel: 1.630.250.5100

Corporate Website

Additional information can
be found at knowles.com