

UNITED STATES  
SECURITIES AND EXCHANGE COMMISSION

Washington, D.C. 20549

FORM 10-K

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

For the fiscal year ended January 31, 2019

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: 001-07982

**RAVEN INDUSTRIES, INC.**

(Exact name of registrant as specified in its charter)



**South Dakota**

(State or other jurisdiction of incorporation or organization)

**205 E. 6th Street, P.O. Box 5107, Sioux Falls, SD**

(Address of principal executive offices)

**46-0246171**

(IRS Employer Identification No.)

**57117-5107**

(Zip Code)

Registrant's telephone number including area code (605) 336-2750

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

**Title of each class:**

**Name of each exchange on which registered**

Common Stock, \$1 par value

The NASDAQ Stock Market

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

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

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

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

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

Indicate by check mark if disclosure of delinquent filers pursuant to Item 405 of Regulation S-K (§229.405 of this chapter) is not contained herein, and will not be contained, to the best of registrant's knowledge, in definitive proxy or information statements incorporated by reference in Part III of this Form 10-K or any amendment to this Form 10-K.

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

Large accelerated filer	<input checked="" type="checkbox"/>	Accelerated filer	<input type="checkbox"/>
Non-accelerated filer	<input type="checkbox"/>	Smaller reporting company	<input type="checkbox"/>
		Emerging growth company	<input type="checkbox"/>

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

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

The aggregate market value of the registrant's common stock held by non-affiliates at July 31, 2018 was approximately \$1,379,477,313. The aggregate market value was computed by reference to the closing price as reported on the NASDAQ Global Select Market, \$38.80, on July 31, 2018, which was as of the last business day of the registrant's most recently completed second fiscal quarter. The number of shares outstanding on March 19, 2019 was 36,960,588.

**DOCUMENTS INCORPORATED BY REFERENCE**

The definitive proxy statement relating to the registrant's Annual Meeting of Shareholders, to be held May 21, 2019 is incorporated by reference into Part III to the extent described therein.

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# PART I

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## ITEM 1. BUSINESS

Raven Industries, Inc. (the Company or Raven) was incorporated in February 1956 under the laws of the State of South Dakota and began operations later that same year. The Company is a diversified technology company providing a variety of products to customers within the industrial, agricultural, geomembrane, construction, commercial lighter-than-air and aerospace/defense markets. The Company markets its products around the world and has its principal operations in the United States of America. Raven began operations as a manufacturer of high-altitude research balloons before diversifying into product lines that extended from technologies and production methods of this original balloon business. The Company employs 1,304 people and is headquartered at 205 E. 6th Street, Sioux Falls, SD 57104 - telephone (605) 336-2750. The Company's Internet address is <http://www.ravenind.com> and its common stock trades on the NASDAQ Global Select Market under the ticker symbol RAVN. The Company has adopted a Code of Conduct applicable to all officers, directors and employees, which is available on its website. Information on the Company's website is not part of this filing.

The Company makes its annual report on Form 10-K, quarterly reports on Form 10-Q, current reports on Form 8-K and all amendments to those reports available, free of charge, in the "Investor Relations" section of the Company's Internet website as soon as reasonably practicable after the Company electronically files these materials with, or furnishes these materials to, the Securities and Exchange Commission (SEC). Information on or connected to the Company's website is neither part of, nor incorporated by reference into, this Form 10-K or any other report filed with or furnished to the SEC.

You may also find these materials on the SEC Internet site at [www.sec.gov](http://www.sec.gov). This site contains reports, proxy statements and other information regarding issuers that file electronically with the SEC.

This Annual Report on Form 10-K (Form 10-K) contains forward-looking statements that are subject to risks and uncertainties. All statements other than statements of historical fact included in this Form 10-K are forward-looking statements. Forward-looking statements give the Company's current expectations and projections relating to its financial condition, results of operations, plans, objectives, future performance, and business. All forward-looking statements are subject to risks and uncertainties that may cause actual results to differ materially from those that the Company expected. Important factors that could cause actual results to differ materially from the Company's expectations and other important information about forward-looking statements are disclosed under Item 1A, "Risk Factors" and Item 7, "Management's Discussion and Analysis of Financial Condition and Results of Operations, Forward-Looking Statements" in this Form 10-K.

### BUSINESS SEGMENTS

The Company has three unique operating units, or divisions, that are also its reportable segments: Applied Technology Division (Applied Technology), Engineered Films Division (Engineered Films), and Aerostar Division (Aerostar). Product lines have been generally grouped in these segments based on technology, manufacturing processes, and end-use application; however, a business segment may serve more than one of the product markets identified above. The Company measures the profitability and performance of its segments primarily based on their operating income excluding general and administrative expenses. Other income or expense and income taxes are not allocated to individual operating segments, and assets not identifiable to an individual segment are included as corporate assets. Segment information is reported consistent with the Company's management reporting structure.

#### *Applied Technology*

Applied Technology designs, manufactures, sells, and services innovative precision agriculture products and information management tools, which are collectively referred to as precision agriculture equipment, that help farmers reduce costs, more precisely control inputs, and improve farm yields for the global agriculture market. The Applied Technology product families include application controls, GPS-guidance steering systems, field computers, automatic boom controls, information management tools, and injection systems. Applied Technology's services include high-speed in-field Internet connectivity and cloud-based data management. The Company's investment in the continued build-out of the Slingshot® platform has also positioned Applied Technology as an information platform that improves decision-making and achieves business efficiencies for its agriculture retail partners. Applied Technology acquired the assets of AgSync, Inc. (AgSync), an agriculture logistics software company, in January 2019. This acquisition enhances the division's Slingshot® platform by delivering a logistics solution for ag retailers, custom applicators and enterprise farms.

Applied Technology sells its precision agriculture equipment to both original equipment manufacturers (OEMs) and through aftermarket distribution partners within agricultural markets both domestically and internationally. The Company's competitive

advantage in this segment is designing and selling easy to use, reliable, and innovative value-added products that are supported by an industry-leading service and support team.

#### ***Engineered Films***

Engineered Films produces high-performance plastic films and sheeting for geomembrane, agricultural, construction, and industrial applications and also offers design-build and installation services of these plastic films and sheeting. Plastic film and sheeting can be purchased separately or together with installation services.

Engineered Films sells both direct to end-customers and through independent third-party distributors. The majority of products sold into the construction and agriculture markets is through distributors, while sales into the geomembrane and industrial markets are more direct in nature. The Company extrudes a significant portion of the film converted for its commercial products and believes it is one of the largest sheeting converters in the United States in the markets it serves. Engineered Films' ability to extrude and convert films, along with offering installation services for its geomembrane products, allows it to provide a more customized solution to customers. A number of film manufacturers compete with the Company on both price and product availability.

#### ***Aerostar***

Aerostar serves the aerospace/defense and commercial lighter-than-air markets. Aerostar's core products include high-altitude stratospheric balloons and radar systems. These products can be integrated with additional third-party sensors to provide research, communications, and situational awareness capabilities to governmental and commercial customers. Aerostar's growth strategy emphasizes the design and manufacture of proprietary products in these markets. Aerostar also pursues product and support services contracts with agencies and instrumentalities of the U.S. government as well as sales of advanced radar systems in international markets.

Aerostar sells to government agencies as both a prime contractor and subcontractor, and to commercial users primarily as a sub-contractor. Further, sales to government agencies often involve large contracts subject to frequent delays because of budget uncertainties, and protracted negotiation processes. The timing and size of contract wins can create volatility in Aerostar's results.

### **OUTLOOK**

The Company achieved strong financial results, including record sales in fiscal 2019, while investing strategically for long-term growth. Each division accomplished this in ways that are unique to their specific market position and strategy.

During fiscal 2019, Applied Technology continued its growth in sales and achieved a significant year-over-year increase in operating profit. In the fourth quarter of fiscal 2019, the division closed on the acquisition of AgSync. The Company believes the division is well positioned to execute on its long-term strategy during fiscal 2020 leveraging this acquisition and the continual investment in research and development to provide a consistent cadence of new product innovation delivered to the market. Additionally, Applied Technology is diligently entering year two of driving international growth through its Latin American headquarters in Brazil.

Engineered Films achieved a strong financial performance in fiscal 2019 despite the anticipated decline in hurricane recovery film sales compared to the prior fiscal year. The division began the commissioning process for Line 15 at the end of fiscal 2019 and is expected to leverage the additional capacity and capabilities it brings to serve the growing demand within the industrial and geomembrane markets starting in the first quarter of fiscal 2020. Leveraging its past investments in production capacity and acquisitions, Engineered Films is positioned to execute and capitalize on the opportunities within each of the markets it serves in fiscal 2020.

Aerostar increased net sales significantly and nearly doubled operating income year-over-year. This growth was achieved while significantly increasing the division's investment in research and development activities to drive future growth. Aerostar achieved significant performance milestones in the advancement of its stratospheric balloon platform and broadened the base of government and commercial customers for its core stratospheric balloon and radar product lines. The division is focused on winning new contracts in order to build on the strong performance achieved in fiscal 2019.

Overall, the Company's investments in manufacturing capacity and technology development along with its strong balance sheet and access to additional funding for strategic acquisitions has positioned Raven Industries for long-term success. The Company's long-term strategic goal is to generate annual earnings growth of 10 percent.

### **MAJOR CUSTOMER INFORMATION**

No customers accounted for 10% or more of consolidated net sales in fiscal years 2019, 2018 or 2017.

## **SEASONAL WORKING CAPITAL REQUIREMENTS**

Some seasonal demand exists in both the Applied Technology and Engineered Films divisions, primarily due to their respective exposure to the agricultural market. However, given the overall diversification of the Company, the seasonal fluctuations in net working capital (accounts receivable, net plus inventories less accounts payable) are not usually significant.

## **FINANCIAL INSTRUMENTS**

The principal financial instruments the Company maintains include cash, cash equivalents, short-term investments, marketable equity securities related to the Company's deferred compensation plan liability, accounts receivable, accounts payable, accrued liabilities, and acquisition-related contingent payments. The Company manages the interest rate, credit, and market risks associated with these accounts through periodic reviews of the carrying value of assets and liabilities and establishment of appropriate allowances in accordance with Company policies. The Company does not use off-balance sheet financing, except to enter into operating leases.

The Company does not enter into derivatives or other financial instruments for trading or speculative purposes. The Company uses derivative financial instruments to manage foreign currency balance sheet risk. The use of these financial instruments has had no material effect on consolidated results of operations, financial condition, or cash flows.

## **RAW MATERIALS**

The Company obtains a wide variety of materials from numerous domestic and international vendors. Principal materials include electronic components for Applied Technology and Aerostar, various polymeric resins for Engineered Films, and fabrics and film for Aerostar. Engineered Films has experienced volatile resin prices over the past three years. Price increases, reflecting increased material costs or tariffs, could not always be passed on to customers due to weak demand and/or a competitive pricing environment. Predicting future material volatility and the related potential impact on the Company is not easily estimated and the Company is unable to do so to the degree required to build reliance on such forecasts.

## **PATENTS**

The Company owns a number of patents and also owns licenses that allow the company to gain access to certain patents of other companies. The Company does not believe that its business, as a whole, is materially dependent on any one patent or related group of patents. The Company focuses its significant research and development (R&D) efforts to develop technology-based offerings. As such, the protection of the Company's intellectual property is an important strategic objective. Along with an aggressive posture toward patenting new technology and protecting trade secrets, the Company has restrictions on the disclosure of its technology to industry and business partners to ensure that its intellectual property is maintained and protected.

## **RESEARCH AND DEVELOPMENT**

The three business segments conduct ongoing R&D efforts to improve their product offerings and develop new products. R&D investment is particularly strong within the Applied Technology Division. Development of new technology and product enhancements within Applied Technology is a competitive differentiator and central to its long-term strategy. Engineered Films also utilizes R&D spending to develop new products and to value engineer and reformulate its current products. These R&D investments deliver high-value film solutions to the markets it serves and also results in lower raw material costs and improved quality for existing product lines. Aerostar's investment in the development of new technology has a particular emphasis on its core stratospheric balloon and radar platforms. The Company's total R&D costs are presented in the Consolidated Statements of Income and Comprehensive Income.

## **ENVIRONMENTAL MATTERS**

The Company believes that, in all material respects, it is in compliance with applicable federal, state and local environmental laws and regulations. Expenditures incurred in the past relating to compliance for operating facilities have not significantly affected the Company's capital expenditures, earnings, or competitive position. The Company is unaware of any potential liabilities as of January 31, 2019, for any environmental matters that would have a material effect on the Company's results of operations, financial position, or cash flows.

**BACKLOG**

The Company's backlog represents open customer orders and funded portions of signed government contracts. As of February 1, 2019, the Company's backlog totaled approximately \$38 million. Backlog amounts as of February 1, 2018 and 2017, were approximately \$40 million and \$26 million, respectively. Because the length of time between order and shipment varies considerably by business segment and customers can change delivery schedules or potentially cancel orders, the Company does not believe that backlog, as of any particular date, is necessarily indicative of actual net sales for any future period. However, the Company expects that any revenue generated from its backlog, as of February 1, 2019, will be recognized during fiscal year 2020.

**EMPLOYEES**

As of January 31, 2019, the Company had 1,304 employees (including temporary workers). A summary by segment of these active employee include the following: Applied Technology - 450; Engineered Films - 496; Aerostar - 244; and Corporate Services - 114. Management believes its relationship with its employees is good.

## EXECUTIVE OFFICERS OF THE REGISTRANT

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### Name, Age, and Position

### Biographical Data

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**Daniel A. Rykhus, 54**

*President and Chief Executive Officer*

Mr. Rykhus became the Company's President and Chief Executive Officer in 2010. He joined the Company in 1990 as Director of World Class Manufacturing, was General Manager of the Applied Technology Division from 1998 through 2009, and served as Executive Vice President from 2004 through 2010.

**Steven E. Brazones, 45**

*Vice President and Chief Financial Officer*

Mr. Brazones joined the Company in December 2014 as its Vice President, Chief Financial Officer, and Treasurer. From 2002 to 2014, Mr. Brazones held a variety of positions with H.B. Fuller Company. Most recently, he served as H.B. Fuller's Americas Region Finance Director. Previously, he served as the Assistant Treasurer and the Director of Investor Relations. Prior to his tenure with H.B. Fuller, Mr. Brazones held various roles at Northwestern Growth.

**Anthony D. Schmidt, 47**

*Division Vice President and General Manager - Engineered Films Division*

Mr. Schmidt was named Division Vice President and General Manager of the Engineered Films Division in 2012. He joined the Company in 1995 in the Applied Technology Division performing various leadership roles within manufacturing and engineering. He transitioned to the Engineered Films Division in 2011 as Manufacturing Manager.

**Brian E. Meyer, 56**

*Division Vice President and General Manager - Applied Technology Division*

Mr. Meyer was named Division Vice President and General Manager of the Applied Technology Division in May 2015. He joined the Company in 2010 as Chief Information Officer. Prior to joining the Company, Mr. Meyer was an Information and Technology Executive in the health insurance industry and Vice President of Systems Development in the property and casualty insurance industry.

**Scott W. Wickersham, 45**

*Division Vice President and General Manager - Aerostar Division*

Mr. Wickersham was named Division Vice President and General Manager of the Aerostar Division in January 2018. He joined the Company in 2010 as the Director of Product Development and Engineering Manager and has been the General Manager for the Aerostar Division since November 2015. Prior to joining the Company, Mr. Wickersham held a range of engineering and operational roles with various technology companies.

**Lee A. Magnuson, 63**

*General Counsel and Vice President, Corporate Secretary*

Mr. Magnuson joined the Company in June 2017, as Vice President and General Counsel and also became the Company's Secretary in August 2017. Prior to joining the Company, Mr. Magnuson was managing partner of Lindquist and Vennum Law Firm's in the Sioux Falls, SD, office for five years, practicing in the areas of commercial transactions, mergers and acquisitions, corporate matters, real estate and regulatory matters.

**Janet L. Matthiesen, 61**

*Vice President of Human Resources (Former)*

Ms. Matthiesen joined the Company in 2010 as Director of Administration and has been the Company's Vice President of Human Resources since 2012. Prior to joining Raven, Ms. Matthiesen was a Human Resource Manager at Science Applications International Corporation from 2002 to 2010. Ms. Matthiesen will be retiring effective April 2019.

**Nicole Freeseemann, 36**

*Vice President of Human Resources (Current)*

Ms. Freeseemann was named Vice President of Human Resources in February of 2019. She started at Raven in 2008 and served in several human resources roles, including Human Resources Generalist, Human Resources Manager and Director. During her tenure at Raven, Ms. Freeseemann specialized in areas of due diligence and integration, performance management strategies and staffing strategies.

## ITEM 1A. RISK FACTORS

### RISKS RELATING TO THE COMPANY

The Company's business is subject to many risks, which by their nature are unpredictable or unquantifiable and may be unknown. In an attempt to provide you with information on potential risks the Company may encounter, the Company has provided below, what it believes are the most significant risks the Company could potentially face, based on its knowledge, experience, information and assumptions. The risks provided below should be assessed contemporaneously with other information contained in this Form 10-K, including Item 7 "Management's Discussion and Analysis of Financial Condition and Results of Operations," the risks and uncertainties addressed under "Forward-Looking Statements" on page 29, the Notes to the Consolidated Financial Statements on page 39, and other information presented in or incorporated by reference into this Annual Report on Form 10-K. The risks contained herein, as well as other statements in this Form 10-K are forward-looking statements and, as such, are uncertain. Such statements are not guarantees of future performance and undue reliance should not be placed on them. The indeterminate nature of risk factors makes them subject to change, and certain risks and uncertainties could potentially cause material changes to actual results. Some of these risks may affect the entire Company, where others may only affect particular segments of the Company's business, or may have no material affect at all.

The Company, except as required by law, disclaims any obligation to update or revise the risk factors contained herein, regardless of changes, whether as a result of new information, developments or otherwise. The risks provided in this Form 10-K and in other documents filed with the SEC are not exclusive in nature and, as such, there are other potential risks and uncertainties that the Company is not aware of, or does not presently consider material in nature that could feasibly cause actual results to vary materially from expectations.

***Weather conditions or natural disasters could affect certain Company markets, such as agriculture, construction, geomembrane installation, or the Company's primary manufacturing facilities.***

The Company's Applied Technology Division is largely dependent on the ability of farmers, agricultural service providers, and custom applicators to purchase agricultural equipment, including its products. If such farmers, agricultural service providers, or custom applicators experience weather conditions or natural disasters resulting in unfavorable field conditions, crop prices, or farm incomes, sales in the Applied Technology Division may be adversely affected.

Weather conditions and natural disasters may also adversely affect sales in the Company's Engineered Films Division. To the extent weather conditions or natural disasters impact agriculture, construction, or geomembrane installation activity, sales of the division's plastic sheeting would likely decrease.

Seasonal and weather-related variation could also affect quarterly results. If expected sales are deferred in a fiscal quarter and inventory has been built while operating expenses incurred, financial results could be negatively impacted.

The Company's primary manufacturing facilities for each of its operating divisions are located on contiguous properties in Sioux Falls, South Dakota. If weather-related natural disasters such as tornadoes or flooding were to occur in the area, such conditions could impede the manufacturing and shipping of products and potentially adversely affect the Company's sales, transactions processing, and financial reporting. The Company has disaster recovery plans in place to manage the Company's risks to these vulnerabilities but these measures may not be adequate, implemented properly, or executed timely to ensure that the Company's operations are not disrupted. Such consequences could adversely affect the Company's results of operations, financial condition, liquidity, and cash flows.

***The loss, disruption, or material change in the Company's business relationship with single source suppliers for particular materials, components or services, could cause a disruption in supply, or substantial increase in cost of any such products or services, and therefore could result in harm to the Company's sales, profitability, cash flows and financial condition.***

The Company obtains certain materials, components, or services from suppliers that serve as the only source of supply, or that supply the majority of the Company's requirements of the particular material, component, or service. While these materials, components, services, or suitable replacements, could potentially be sourced from other suppliers, in the event of a disruption or loss of supply of relevant materials, components, or services for any reason, the Company may not be able to immediately find alternative sources of supply, or if found, may not be found on similar terms. If the Company's relationship with any of these single source suppliers became challenged, or is terminated, the Company could have difficulty replacing these sources without causing disruption to the business.



***Price fluctuations in, and shortages of, raw materials could have a significant impact on the Company's ability to sustain and grow earnings.***

The Company's Engineered Films Division utilizes significant amounts of polymeric resin, the cost of which depends upon market prices for natural gas and oil and other market forces. These prices are subject to worldwide supply and demand as well as other factors beyond the Company's control. Although the Engineered Films Division is sometimes able to pass on price increases to its customers, significant variations in the cost of polymeric resins can affect the Company's operating results from period to period. Success in offsetting higher raw material costs with price increases is largely influenced by competitive and economic conditions and could vary significantly depending on the market served. Unusual supply disruptions, such as one caused by a natural disaster, could cause suppliers to invoke "force majeure" clauses in their supply agreements, causing shortages in supply of material. If the Company is not able to fully offset the effects of adverse availability of materials or higher costs, financial results could be adversely affected, which in turn could adversely affect the Company's results of operations, financial condition, liquidity, and cash flows.

Electronic components used by both the Applied Technology Division and Aerostar Division are sometimes in short supply, which may impact the ability to meet customer demand or provide products at a price the customer prefers. If a supplier of raw materials or electronic components were to significantly increase pricing or was unable to deliver due to shortage or financial difficulty, any of the Company's segments could be adversely affected.

***Fluctuations in commodity prices can increase the Company's costs and decrease sales.***

Agricultural income levels are affected by agricultural commodity prices (primarily corn, beans, and grains) and input costs. As a result, changes in commodity prices or input costs that reduce agricultural income levels could have a negative effect on the ability of farmers and their service providers to purchase the Company's precision agriculture products manufactured by its Applied Technology Division.

Exploration for oil and natural gas fluctuates with their price and energy market conditions are subject to volatility. Certain plastic sheeting manufactured and sold by the Engineered Films Division is sold as pit and pond liners to contain water used in the drilling processes for these energy commodities. Lower prices for oil and natural gas could reduce exploration activities and demand for its products.

Film manufacturing uses polymeric resins, which can be subject to changes in price as the cost of oil or natural gas changes. Accordingly, volatility in oil and natural gas prices may negatively affect raw material costs and cost of goods sold and potentially cause the division to increase prices, which could adversely affect sales and/or profitability.

***Failure to develop and market new technologies and products could impact the Company's competitive position and have an adverse effect on the Company's financial results.***

The Company's operating results in Applied Technology, Engineered Films, and Aerostar depend upon the ability to renew the pipeline of new technologies and products and to bring these to market. This ability could be adversely affected by difficulties or delays in product development, such as the inability to identify viable new products, successfully complete research and development projects, obtain relevant regulatory approvals, obtain intellectual property protection, or gain market acceptance of new products and services. Because of the lengthy development process, technological challenges, and competition, there can be no assurance that any of the products the Company is currently developing, or could begin to develop in the future, will achieve commercial success. Technical advancements in products may also increase the risk of product failure, increasing product returns or warranty claims and settlements. In addition, sales of the Company's new products could replace sales of some of its current products, offsetting the benefit of a successful new product introduction.

***Failure to develop and maintain partnerships, alliances, and other distribution or supplier relationships could adversely impact the Company's financial results.***

In certain areas of the Company's business, continued success depends on developing and maintaining relationships with other industry participants, such as original equipment manufacturers, ag retailers, dealers and distributors. If the Company fails to develop and maintain such relationships, or if there is disruption of current business relationships due to actions of the Company, the ability to effectively market and sell certain products could be harmed. The Company's relationships with other industry participants are complex and multifaceted, and evolve over time. Often, these relationships contribute to substantial ongoing business and operations in particular markets; therefore, changes in these relationships could have an adverse impact on sales and revenue.

Additionally, the Company uses dealer/distributor networks, some of which are affiliated with strategic and industry partners. Enlisting and retaining qualified dealers/distributors and training them in the use and selling of product offerings requires substantial time and resources. If the Company were to lose a significant dealer or distributor relationship, and were forced to identify new channels, the time and expense of training new dealers or distributors may make new-product introduction difficult. This may

hinder end-user sales and adoption, which could result in decreased revenues. Additionally, the interruption of dealer coverage within specific regions or markets could cause difficulties in marketing, selling or servicing the Company's products and could harm the Company's business, operating results or financial condition.

***The Company's sales of products that are specialized and highly technical in nature are subject to uncertainties, start-up costs and inefficiencies, as well as market, competitive, and compliance risks.***

The Company's growth strategy relies on the design and manufacture of proprietary products. Highly technical, specialized product inventories may be more susceptible to fluctuations in market demand. If demand is unexpectedly low, write-downs or impairments of such inventory may become necessary. Either of these outcomes could adversely affect the Company's results of operations. Start-up costs and inefficiencies can adversely affect operating results and such costs may not be recoverable in a proprietary product environment because the Company may not receive reimbursement from its customers for such costs.

Competition in agriculture markets could come from the Company's current customers if original equipment manufacturers develop and integrate precision agriculture technology products themselves rather than purchasing from third parties, thereby reducing demand for Applied Technology's products.

Regulatory restrictions could be placed on hydraulic fracturing activities as a result of environmental and health concerns, reducing demand for Engineered Film's products. For Engineered Films, the development of alternative technologies, such as closed loop drilling processes that reduce the need for pit liners in energy exploration, could also reduce demand for the Company's products.

Aerostar's future growth relies on sales of high-altitude stratospheric balloons, as well as advanced radar systems to international markets. In limited cases, such sales may be direct commercial sales to foreign governments rather than foreign military sales through the U.S. government. Direct commercial sales to foreign governments often involve large contracts subject to frequent delays because of budget uncertainties, regional military conflicts, political instability, and protracted negotiation processes. Such delays could adversely affect the Company's results of operations. The nature of these markets impact Aerostar's advanced radar systems and aerostats as these products are particularly susceptible to fluctuations in market demand. Demand fluctuations and the likelihood of delays in sales involving large contracts for such products also increase the risk of these products becoming obsolete, increasing the risk associated with expected sales of such products. The total value of certain advanced radar systems and aerostat inventory was approximately \$2 million at the end of fiscal year 2019. This valuation is based on an estimate that market demand for these products will be sufficient in future periods such that these inventories will be sold at a price greater than their carrying value and related selling costs. Write-downs or impairment of the value of such products carried in inventory could adversely affect the Company's results of operations. To the extent products become obsolete or anticipated sales are not realized, expected future cash flows could be adversely impacted. This could also lead to an impairment, which could adversely impact the Company's results of operations and financial condition.

Sales of certain of Aerostar's products into international markets increase the compliance risk associated with regulations such as International Traffic in Arms Regulations and Foreign Corrupt Practices Act, as well as others, exposing the Company to fines and its employees to fines, imprisonment, or civil penalties. Potential consequences of a material violation of such regulations include damage to the Company's reputation, litigation, and increased costs.

***The Company's Aerostar segment depends on the U.S. government for a significant portion of its sales, creating uncertainty in the timing of and funding for projected contracts.***

A significant portion of Aerostar's sales are to the U.S. government or U.S. government agencies as a prime or sub-contractor. Government spending has historically been cyclical. A decrease in U.S. government defense or near-space research spending or changes in spending allocations could result in one or more of the Company's programs being reduced, delayed, or terminated. Reductions in the Company's existing programs, unless offset by other programs and opportunities, could adversely affect its ability to sustain and grow its future sales and earnings. The Company's U.S. government sales are funded by the federal budget, which operates on an October-to-September fiscal year. Changes in congressional schedules, negotiations for program funding levels, reduced program funding due to U.S. government debt limitations, automatic budget cuts ("sequestration"), extended government shutdowns or unforeseen world events can interrupt the funding for a program or contract. Funds for multi-year contracts can be changed in subsequent years in the appropriations process.

In addition, many U.S. government contracts are subject to a competitive bidding and funding process even after the award of the basic contract, adding an additional element of uncertainty to future funding levels. Delays in the funding process or changes in funding are common and can impact the timing of available funds or can lead to changes in program content or termination at the government's convenience. The loss of anticipated funding or the termination of multiple or large programs could have an adverse effect on the Company's future sales and earnings.

***The Company derives a portion of its revenues from foreign markets, which subjects the Company to business risks, including risk of changes in government policies and laws or changes in worldwide economic conditions.***

The Company's consolidated net sales to locations outside of the U.S. were \$48.3 million in fiscal 2019, representing approximately 12% of consolidated net sales. The Company's financial results could be affected by changes in trade, monetary and fiscal policies, laws and regulations, or other activities of U.S. and non-U.S. governments, agencies and similar organizations, along with changes in worldwide economic conditions. These conditions include, but are not limited to, changes in a country's or region's economic or political condition; trade regulations affecting production, pricing, and marketing of products; local labor conditions and regulations; reduced protection of intellectual property rights in some countries; changes in the regulatory or legal environment; restrictions on currency exchange activities; the impact of fluctuations in foreign currency exchange rates, which may affect product demand and may adversely affect the profitability of the Company's products in U.S. dollars in foreign markets where payments are made in the local currency; taxes and tariffs; and other trade barriers. International risks and uncertainties also include changing social and economic conditions, terrorism, political hostilities and war, difficulty in enforcing agreements or collecting receivables, and increased transportation or other shipping costs. Any of these such risks could lead to reduced sales and reduced profitability associated with such sales.

***Adverse economic conditions in the major industries the Company serves may materially affect segment performance and consolidated results of operations.***

The Company's results of operations are impacted by the market fundamentals of the primary industries served. Significant declines of economic activity in the agricultural, oil and gas exploration, construction, industrial, aerospace/defense, and other major markets served may adversely affect segment performance and consolidated results of operations.

***The Company may pursue or complete acquisitions which represent additional risk and could impact future financial results.***

The Company's business strategy includes pursuing future acquisitions. Acquisitions involve a number of risks, including integration of the acquired company with the Company's operations and unanticipated liabilities or contingencies related to the acquired company. Further, business strategies supported by the acquisition may be in perceived, or actual, opposition to strategies of certain of the Company's customers and the Company's business could be materially adversely affected if those relationships are terminated and the expected strategic benefits are delayed or are not achieved. The Company cannot ensure that the expected benefits of any acquisition will be realized. Costs could be incurred on pursuits or proposed acquisitions that have not yet or may not close, which could significantly impact the operating results, financial condition, or cash flows. Additionally, after the acquisition, unforeseen issues could arise, which adversely affect the anticipated returns or which are otherwise not recoverable as an adjustment to the purchase price. Other acquisition risks include delays in realizing benefits from the acquired companies or products; difficulties due to lack of or limited prior experience in any new product or geographic markets entered; unforeseen adjustments, charges or write-offs; unforeseen losses of customers of, or suppliers to, acquired businesses; difficulties in retaining key employees of the acquired businesses; or challenges arising from increased geographic diversity and complexity of operations and information technology systems.

Total goodwill and intangible assets accounted for \$67.2 million, or approximately 19%, of the Company's total assets as of January 31, 2019. The Company evaluates goodwill and intangible assets for impairment annually, or when evidence of potential impairment exists. The annual impairment test is based on several factors requiring judgment. Principally, a significant decrease in expected cash flows or changes in market conditions may indicate potential impairment of recorded goodwill or intangible assets. These expected future cash flows are dependent on several factors, including revenue growth in certain product lines, and could be adversely impacted if anticipated revenue growth is not realized. Reductions in cash flows could result in an impairment of goodwill and/or intangible assets, which could adversely impact the Company's results of operations and financial condition.

***The Company may fail to continue to attract, develop, and retain key management and other key employees, which could negatively impact operating results.***

The Company depends on the performance of its board of directors, senior management team and other key employees, including experienced and skilled technical personnel. The loss of certain members of its board of directors, senior management, including the Chief Executive Officer, or other key employees, could negatively impact operating results and the ability to execute the Company's business strategy. Future success of the Company will also depend, in part, upon the ability to attract, train, motivate, and retain qualified board members, senior management and other key personnel.

***The Company may fail to protect its intellectual property effectively, or may infringe upon the intellectual property of others.***

The Company has developed significant proprietary technology and other rights that are used in its businesses. The Company relies on trade secret, copyright, trademark, and patent laws and contractual provisions to protect the Company's intellectual property. While the Company takes enforcement of these rights seriously, other companies, such as competitors or persons in related markets, may attempt to copy or use the Company's intellectual property for their own benefit.

In addition, intellectual property of others has an impact on the Company's ability to offer some of its products and services for specific uses or at competitive prices. Competitors' patents or other intellectual property may limit the Company's ability to offer products and services to its customers. Any infringement or claimed infringement by the Company on the intellectual property rights of others could result in litigation and adversely affect the Company's ability to continue to provide, or could increase the cost of providing, products and services and negatively impact sales and profitability. Any infringement by the Company could also result in judgments against the Company, which could adversely affect results of operations, financial condition, liquidity, and cash flows.

***The Company could be impacted by unfavorable results or material settlement of legal proceedings.***

The Company is sometimes a party to various legal proceedings and claims that arise in the ordinary course of business. Regardless of the merit of any such claims, litigation is often very costly, time-consuming, and disruptive to the operations and business of the Company, and a distraction to management and other personnel. While these matters generally are not material in nature, it is possible a matter may arise that is material to the Company's business.

Although the Company believes the probability of a materially adverse outcome is remote, if one or more claims were resolved against the Company in a reporting period for amounts in excess of management's expectations, the Company's consolidated financial statements may be materially adversely affected. Further, such an outcome could result in significant compensatory, punitive or trebled monetary damages, disgorgement of revenue or profits, remedial corporate measures or injunctive relief against the Company that could have a material adverse effect on its businesses, financial condition, results of operation, and cash flows.

***Technology failures or cyber-attacks on the Company's systems could disrupt the Company's operations or the functionality of its products and negatively impact the Company's business.***

The Company increasingly relies on information technology systems to process, transmit, and store electronic information. In addition, a significant portion of internal communications, as well as communication with customers and suppliers, depends on information technology. Further, the products in Applied Technology and Aerostar segments depend upon GPS and other systems through which products interact with government computer systems and other centralized information sources. The Company is exposed to the risk of cyber incidents in the normal course of business. Cyber incidents may be deliberate attacks for the theft of intellectual property or other sensitive information or may be the result of unintentional events. Like other companies, the Company's information technology systems may be vulnerable to interruption due to a variety of events beyond the Company's control, including, but not limited to, natural disasters, terrorist attacks, telecommunications failures, computer viruses, hackers, foreign governments, and other security issues. Further, attacks on centralized information sources could affect the operation of the Company's products or cause them to malfunction. The Company has technology security initiatives, education and training programs, and disaster recovery plans in place to manage the Company's risk to these vulnerabilities, but these measures may not be adequate, or implemented properly, or executed timely to ensure that the Company's operations are not significantly disrupted. Potential consequences of a material cyber incident include damage to the Company's reputation, litigation, and increased cyber security protection and remediation costs. Such consequences could adversely affect results of operations.

***The implementation of a new enterprise resource planning (ERP) system may result in short term disruption to the Company's operations and business, which could adversely impact the Company and damage customer relationships and brand reputation.***

The Company depends heavily on its management information systems for several aspects of its business. The Company launched a company-wide initiative during the fiscal 2018 third quarter called "Project Atlas." This is a strategic long-term investment to replace the Company's existing ERP platform. Project Atlas is being implemented in a phased approach and is expected to take approximately three years to complete. If the new ERP system or legacy system are disrupted, in any material way, during implementation, the Company may incur additional expenses and loss of data. Additionally, if improvements or upgrades are required to meet the evolving needs of the Company's business operations, the Company may be required to incur significant capital expenditures or expenses in the pursuit of improvements or upgrades to the new system. These efforts could potentially increase the amount of time for implementation of the new ERP platform, require expenditures above the anticipated amounts, demand the use of additional resources, distract key personnel and potentially cause short-term disruptions to existing systems and business. Any of these outcomes could impair the Company's ability to achieve critical strategic initiatives and could adversely impact sales, profitability, cash flows and financial condition. Project Atlas went live in February 2019 for Engineered Films and the remaining divisions are expected to go live in fiscal years 2020 and 2021.

**ITEM 1B. UNRESOLVED STAFF COMMENTS**

None.

## ITEM 2. PROPERTIES

Most of the Company's properties are located in Sioux Falls, South Dakota. This real estate is owned by the Company and used by all three divisions for sales, manufacturing and other functions. In addition, the Company owns or leases properties in: Midland and Sulphur Springs, Texas (USA); and Netherlands, Brazil and Canada (internationally).

The following is the approximate square footage of the Company's owned or leased facilities by segment: Applied Technology - 187,000; Engineered Films - 789,000; Aerostar - 275,000; and Corporate - 150,000. The Company believes that its properties are suitable and adequate to meet existing production needs.

## ITEM 3. LEGAL PROCEEDINGS

The Company is involved as a party in lawsuits, claims, regulatory inquiries, or disputes arising in the normal course of its business, the potential costs and liability of which cannot be determined at this time. Management does not believe the ultimate outcomes of its legal proceedings are likely to be material to its results of operations, financial position, or cash flows.

The Company has insurance policies that provide coverage to various degrees for potential liabilities arising from legal proceedings.

## ITEM 4. MINE SAFETY DISCLOSURES

Not applicable.

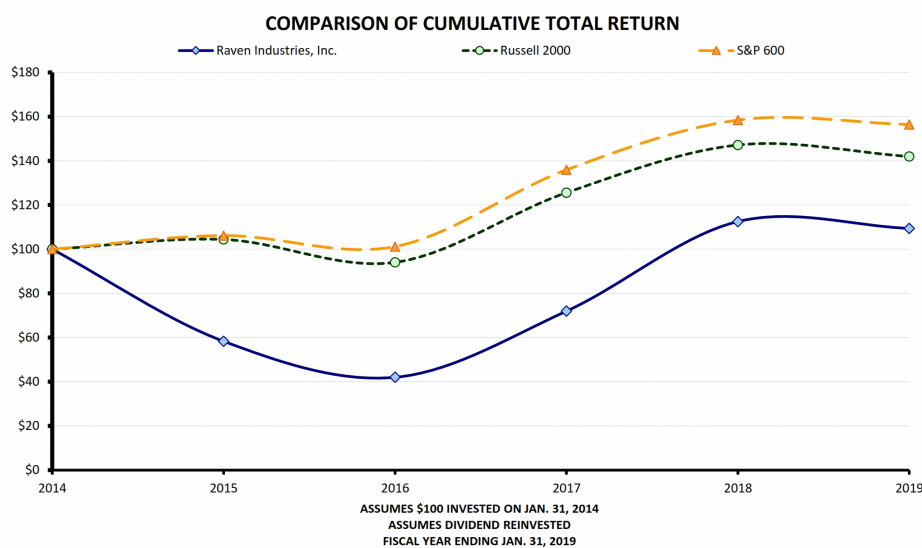
## PART II

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

#### **COMPANY STOCK PERFORMANCE**

The Company's common stock is traded on the NASDAQ Global Select Market under the ticker symbol RAVN. Daily market activity along with quoted prices and other trading information are readily available for the Company's common stock on numerous websites including [www.nasdaq.com](http://www.nasdaq.com). The graph and table below compares the cumulative total shareholder return of the Company's stock in relation to the cumulative return of the Russell 2000 and S&P Small Cap 600 indices. These two indices were selected as they are comparable benchmarks and the Company is a component of each index. Investors who hypothetically purchased \$100.00 in the Company's stock on January 31, 2014, held the stock for five years and reinvested the dividends, would have seen their value increase to \$109.41. Stock performance on the graph is not necessarily indicative of future share price performance.

**COMPARISON OF 5-YEAR CUMULATIVE TOTAL RETURN AMONG RAVEN INDUSTRIES, INC., RUSSELL 2000 INDEX, AND THE S&P SMALL CAP 600 INDEX.**



Company / Index	Years Ended January 31,						5-Year CAGR <sup>(a)</sup>
	2014	2015	2016	2017	2018	2019	
Raven Industries, Inc.	\$ 100.00	\$ 58.31	\$ 42.01	\$ 71.96	\$ 112.51	\$ 109.41	1.8%
Russell 2000 Index	100.00	104.41	94.05	125.58	147.16	141.97	7.3%
S&P Small Cap 600 Index	100.00	106.15	101.18	135.92	158.43	156.46	9.4%

<sup>(a)</sup> Compound annual growth rate (CAGR)

**ISSUER PURCHASES OF EQUITY SECURITIES**

As of January 31, 2019, the Company had approximately 12,500 beneficial holders, which includes a substantial amount of the Company's common stock held of record by banks, brokers, and other financial institutions.

On November 3, 2014, the Company announced that its Board of Directors (Board) had authorized a \$40.0 million stock buyback program. Since that time, the Board has provided additional authorizations to increase the total amount authorized under the program to \$75.0 million.

The Company did not repurchase any shares of the Company's common stock in fiscal 2019. During fiscal 2018, the Company made purchases of 348,286 common shares under this plan at an average price of \$28.71 equating to a total cost of \$10.0 million. None of these common shares were repurchased during the fourth quarter of fiscal 2018. There is \$28.0 million still available for share repurchases under this Board-authorized program which remains in place until such time as the authorized spending limit is reached or is otherwise revoked by the Board.

**DIVIDENDS**

The Company has a long-standing history of paying cash dividends to its shareholders. In each of the previous three fiscal years the Company has paid dividends of approximately \$19 million, or \$0.52 per share. The Company currently expects that comparable cash dividends will continue to be paid in the future; however, there can be no assurance as to the payment of future dividends as such payment depends on results of operations, financial condition, cash flows, potential business prospects, capital requirements, and other factors that the Board of Directors deems relevant.

ITEM 6. SELECTED FINANCIAL DATA

The following selected consolidated financial data should be read in conjunction with Item 7. "Management's Discussion and Analysis of Financial Condition and Results of Operations", Item 8. "Financial Statements and Supplementary Data", and previously filed annual reports (Form 10-K). Historical results are not necessarily indicative of future results.

**FIVE-YEAR FINANCIAL SUMMARY**

(In thousands, except employee counts and per-share amounts)

	For the years ended January 31,				
	2019	2018	2017	2016	2015
<b>OPERATIONS</b>					
Net sales <sup>(a)</sup>	\$ 406,668	\$ 377,317	\$ 277,395	\$ 258,229	\$ 378,153
Gross profit <sup>(b)</sup>	132,549	121,565	78,190	66,974	103,246
Operating income <sup>(b)(c)</sup>	55,133	59,170	28,413	4,391	43,801
Income before income taxes <sup>(b)(d)</sup>	61,570	58,986	27,853	4,081	43,501
Net income attributable to Raven Industries, Inc. <sup>(e)</sup>	51,794	41,022	20,191	4,776	31,733
Net income % of sales	12.7%	10.9%	7.3%	1.8%	8.4%
Net income % of average equity <sup>(f)</sup>	17.7%	15.3%	7.7%	1.7%	11.4%
<b>FINANCIAL POSITION</b>					
Cash and cash equivalents	\$ 65,787	\$ 40,535	\$ 50,648	\$ 33,782	\$ 51,949
Property, plant and equipment	106,615	106,280	106,324	115,704	117,513
Total assets	360,245	326,803	301,509	298,688	362,873
Total debt (including capital lease obligations)	284	448	—	—	—
Raven Industries, Inc. shareholders' equity	308,955	276,064	259,426	264,155	305,153
Net working capital <sup>(g)</sup>	100,276	100,777	77,012	77,870	100,183
Net working capital percentage <sup>(h)</sup>	28.5%	26.3%	27.9%	36.9%	27.9%
Long-term debt / total capitalization	0.1%	0.2%	—%	—%	—%
<b>CASH FLOWS PROVIDED BY (USED IN)</b>					
Operating activities	\$ 65,952	\$ 44,961	\$ 48,636	\$ 44,008	\$ 60,083
Investing activities	(16,444)	(25,675)	(4,642)	(11,074)	(29,986)
Financing activities	(23,755)	(29,721)	(27,151)	(50,684)	(30,665)
Change in cash and cash equivalents	25,252	(10,113)	16,866	(18,167)	(1,038)
<b>COMMON STOCK DATA</b>					
EPS — basic	\$ 1.44	\$ 1.14	\$ 0.56	\$ 0.13	\$ 0.86
EPS — diluted	1.42	1.13	0.56	0.13	0.86
Cash dividends per share	0.52	0.52	0.52	0.52	0.50
Stock price range during the year					
High	\$ 49.80	\$ 40.85	\$ 26.90	\$ 22.85	\$ 40.06
Low	31.45	23.75	12.88	13.87	20.75
Close	36.99	38.55	25.05	15.01	21.44
<b>OTHER DATA</b>					
Price / earnings ratio <sup>(i)</sup>	26.0	34.1	44.7	115.5	24.9
Average number of employees	1,219	1,054	907	936	1,251
Sales per employee	\$ 334	\$ 358	\$ 306	\$ 276	\$ 302

<sup>(a)</sup> The Company acquired Colorado Lining International, Inc. in September of fiscal year 2018. Refer to Note 6 "Acquisitions and Investments in Businesses and Technologies" of the Notes to the Consolidated Financial Statements for further details. Fiscal year 2019 and 2018 included \$14,494 and \$24,225, respectively of recovery film sales related to the hurricane recovery effort. In addition, the Company divested its client private business in the first quarter of fiscal 2019. Net sales related to this business in fiscal 2019 and 2018 were \$283 and \$5,592, respectively.

<sup>(b)</sup> Fiscal 2017 included inventory write-downs of \$2,278 for Aerostar as a result of discontinuing sales activities for a specific radar product line within its business, as further described in Note 7 "Goodwill, Long-Lived Assets, and Other Charges" of the Notes to the Consolidated Financial Statements. Fiscal 2016, included pre-contract cost write-offs of \$2,933, a goodwill impairment loss of \$11,497, and a long-lived asset impairment loss of \$3,826, partially offset by a reduction of \$2,273 of an acquisition-related contingent liability for Aerostar.

<sup>(c)</sup> Fiscal 2019 operating income included a \$4,503 expense related to the previously announced gift to South Dakota State University further described in Note 12 "Commitments and Contingencies" of the Notes to the Consolidated Financial Statements. Fiscal 2019 operating income included \$4,033 of expenses related to Project Atlas. Project Atlas related expenses were approximately \$900 in fiscal 2018.

<sup>(d)</sup> Fiscal 2019 included a gain of \$5,785 from the divestiture of the Company's ownership interest in SST, further described in Note 1 "Summary of Significant Accounting Policies".

<sup>(e)</sup> The Tax Cuts and Jobs Act had a favorable impact to the Company. Refer to Note 10 "Income Taxes" of the Notes to the Consolidated Financial Statements for further details.

<sup>(f)</sup> Net income attributable to Raven Industries, Inc. divided by average equity. Average equity is the sum of Raven Industries, Inc. shareholders' equity for the beginning and ending of the fiscal year divided by two.

<sup>(g)</sup> Net working capital is defined as accounts receivable, (net) plus inventories less accounts payable.

<sup>(h)</sup> Net working capital percentage is defined as net working capital divided by fourth quarter net sales times four for each of the fiscal years, respectively.

<sup>(i)</sup> Closing stock price on last business day of fiscal year divided by EPS — diluted.

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

The Management's Discussion and Analysis of Financial Condition and Results of Operations (MD&A) is designed to enhance overall financial disclosure with commentary on the operating results, liquidity, capital resources, and financial condition of Raven Industries, Inc. (the Company or Raven). This commentary provides management's analysis of the primary drivers of year-over-year changes in key financial statement elements, business segment results, and the impact of accounting principles on the Company's financial statements. The most significant risks and uncertainties impacting the operating performance and financial condition of the Company are discussed in section Item 1A. "Risk Factors" of this Annual Report on Form 10-K (Form 10-K).

This discussion should be read in conjunction with Raven's Consolidated Financial Statements and notes thereto in Item 8 of this Form 10-K.

The MD&A is organized as follows:

- Executive Summary
- Results of Operations - Segment Analysis
- Liquidity and Capital Resources
- Off-Balance Sheet Arrangements and Contractual Obligations
- Critical Accounting Policies and Estimates
- Accounting Pronouncements

### EXECUTIVE SUMMARY

Raven is a diversified technology company providing a variety of products to customers within the industrial, agricultural, geomembrane, construction, aerospace/defense and commercial lighter-than-air markets. The Company is comprised of three unique operating units, classified into reportable segments: Applied Technology Division (Applied Technology), Engineered Films Division (Engineered Films), and Aerostar Division (Aerostar). Segment information is reported consistent with the Company's management reporting structure.

Management uses a number of measures to assess the Company's performance including:

- Consolidated net sales, gross margin, operating income, operating margin, net income and diluted earnings per share.
- Cash flow from operations and shareholder returns.
- Return on sales, average assets and average equity.
- Segment net sales, gross profit, gross margin, operating margin and operating income. At the segment level, operating income does not include an allocation of general and administrative expenses.



## Vision and Strategy

Raven's purpose is to solve great challenges. Great challenges require great solutions. Raven's three unique divisions share resources, ideas and a passion to create technology that helps the world grow more food, produce more energy, protect the environment and live safely.

The Raven business model is its platform for success. Raven's business model is defensible, sustainable, and gives us a consistent approach in the pursuit of quality financial results. This overall approach to creating value, which is employed across the three business segments, is summarized as follows:

- Intentionally serve diverse market segments with strong short- and long-term growth prospects.
- Diversified portfolio of businesses provide balance, opportunity and risk mitigation.
- Invest in market-leading technologies and manufacturing capabilities.
- Balance sheet strength and stability enables strategic investments and acquisitions to enhance shareholder returns.
- Corporate responsibility is a top priority, it attracts great team members, customers and opportunities.
- Continuous process improvements and value engineering.

The following discussion highlights the consolidated operating results for the years ended January 31, 2019, 2018 and 2017. Segment operating results are more fully explained in the Results of Operations - Segment Analysis section.

<i>(dollars in thousands, except per-share data)</i>	For the years ended January 31,				
	2019	% change	2018	% change	2017
<b>Results of Operations</b>					
Net sales	\$ 406,668	7.8 %	\$ 377,317	36.0%	\$ 277,395
Gross margin <sup>(a)</sup>	32.6%		32.2%		28.2
Operating income	\$ 55,133	(6.8)%	\$ 59,170	108.2%	\$ 28,413
Operating margin <sup>(a)</sup>	13.6%		15.7%		10.2%
Net income attributable to Raven Industries, Inc.	\$ 51,794	26.3 %	\$ 41,022	103.2%	\$ 20,191
Diluted income per share	\$ 1.42	25.7 %	\$ 1.13	101.8%	\$ 0.56
<b>Cash Flow and Shareholder Returns</b>					
Cash flow from operating activities	\$ 65,952		\$ 44,961		\$ 48,636
Cash outflow for capital expenditures	\$ 14,127		\$ 12,011		\$ 4,796
Cash dividends	\$ 18,753		\$ 18,685		\$ 18,839
Common share repurchases	\$ —		\$ 10,000		\$ 7,702
<b>Performance Measures</b>					
Return on net sales <sup>(b)</sup>	12.7%		10.9%		7.3%
Return on average assets <sup>(c)</sup>	15.1%		13.1%		6.7%
Return on average equity <sup>(d)</sup>	17.7%		15.3%		7.7%

<sup>(a)</sup> The Company's gross and operating margins may not be comparable to industry peers due to variability in the classification of expenses across industries in which the Company operates.

<sup>(b)</sup> Net income attributable to Raven Industries, Inc. divided by net sales.

<sup>(c)</sup> Net income attributable to Raven Industries, Inc. divided by average assets. Average assets is the sum of Total Assets for the beginning and ending of the fiscal year divided by two.

<sup>(d)</sup> Net income attributable to Raven Industries, Inc. divided by average equity. Average equity is the sum of Total Raven Industries, Inc. shareholders' equity for the beginning and ending of the fiscal year divided by two.

## Results of Operations - Fiscal 2019 compared to Fiscal 2018

The Company's net sales in fiscal 2019 were \$406.7 million, an increase of \$29.4 million, or 7.8%, from the prior year's net sales of \$377.3 million. All three divisions achieved growth in net sales year-over-year, led by Aerostar attaining growth of 27.4%. Engineered Films achieved 6.2% growth year-over-year despite a significant reduction in hurricane recovery film sales. Net sales of hurricane recovery film were \$14.5 million and \$24.2 million in fiscal 2019 and 2018, respectively. Applied Technology grew net sales 4.1% year-over-year.

Operating income in Fiscal 2019 was \$55.1 million, a decrease of \$4.1 million, or 6.8%, from the prior year's operating income of \$59.2 million. Fiscal 2019 operating income was reduced by the following:

- Expense of \$4.5 million related to a gift to South Dakota State University (SDSU), further described in Note 12

"Commitments and Contingencies" of the Notes to the Consolidated Financial Statements.

- Project Atlas related expenses of \$4.0 million, which is an increase of \$3.1 million compared to \$0.9 million in fiscal 2018 when the project began.
- Higher investment in research and development activities within Applied Technology and Aerostar.
- Lower operating leverage within Engineered Films due to significantly lower hurricane recovery film sales.

Partially offsetting these unfavorable impacts to operating income were lower legal expenses, which included favorable legal recoveries in fiscal 2019 as compared to the prior year.

Net income for fiscal 2019 was \$51.8 million, or \$1.42 per diluted share, compared to net income of \$41.0 million, or \$1.13 per diluted share, in fiscal 2018. In addition to the significant items noted above impacting operating income, net income for the twelve-month period ended January 31, 2019, included a non-operating gain on the divestiture of the Company's ownership interest in Site-Specific Technology Development Group, Inc. (SST) of \$5.8 million (\$4.6 million after-tax, or \$0.13 per diluted share). Refer to Note 1 "Summary of Significant Accounting Policies" of the Notes to the Consolidated Financial Statements for further information regarding the sale of this ownership interest.

Additionally, net income benefited from a lower effective tax rate due to the U.S. Tax Cuts and Jobs Act (TCJA) and favorable discrete tax items. The Company's effective tax rate for fiscal 2019, excluding the impact of discrete items, declined by approximately 10 percentage points compared to fiscal 2018, resulting in a benefit to net income in the amount of approximately \$6 million or \$0.17 per diluted share.

#### *Applied Technology Division*

Fiscal 2019 net sales increased \$5.0 million, or 4.1%, from \$124.7 million in fiscal 2018 to \$129.7 million in fiscal 2019. The increase in net sales was driven by growth of both new and existing products. Geographically, domestic and international sales were up 5.0% and 0.9% year-over-year, respectively. The Company does not specifically model comparative market share position for any of its operating divisions, but based on the sales developments in fiscal 2019, the Company believes that Applied Technology, in aggregate, has maintained or increased its global market share position during the year.

Applied Technology's operating income increased by 24.9% to \$39.0 million from \$31.3 million in the prior year. The increase was due primarily to increased leverage on higher sales volume and lower legal expenses which included favorable legal recoveries. Throughout fiscal 2019, the division continued to invest in research and development activities to drive innovation and future sales growth.

#### *Engineered Films Division*

Fiscal 2019 net sales were \$226.6 million, an increase of \$13.3 million, or 6.2%, compared to fiscal 2018. Net sales increased despite a significant reduction in hurricane recovery film sales. Net sales of hurricane recovery film were \$14.5 million and \$24.2 million in fiscal 2019 and 2018, respectively. Excluding hurricane recovery film sales, the division's net sales increased significantly more than reported results year-over-year. Additionally, the acquisition of Colorado Lining International, Inc. (CLI), which occurred in September of fiscal year 2018 as further described in Note 6 "Acquisitions and Investments in Businesses and Technologies" of the Notes to the Consolidated Financial Statements, contributed a total of \$21.6 million in sales for the first seven months of fiscal 2019. For the first seven months of fiscal 2018 the division generated \$4.1 million in sales to CLI as a customer. Although the Company does not specifically model comparative market share position for any of its operating divisions, based on the sales developments in fiscal year 2019 the Company believes that Engineered Films, in aggregate, has maintained or increased market share in its core business.

Engineered Film's operating income decreased by 16.1% to \$39.7 million from \$47.3 million in the prior year. The decrease in operating income was led by lower plant utilization from the reduction in hurricane recovery film sales and approximately \$2 million of cost over-runs on a large geomembrane installation project that was completed in the fourth quarter of fiscal 2019.

#### *Aerostar Division*

Fiscal 2019 net sales were up 27.4% to \$50.9 million compared to \$39.9 million in fiscal 2018. The increase in sales for the division was principally driven by higher sales of lighter-than-air products and services. Aerostar divested its client private business in the first quarter of fiscal 2019. Net sales from the client private business were \$0.3 million and \$5.6 million in fiscal 2019 and 2018, respectively. Excluding client private business sales, the division's net sales increased significantly more than reported results year-over-year. While it is particularly challenging to measure market share information for the Aerostar division and the Company does not specifically model comparative market share position for any of its operating divisions, the Company believes that Aerostar's sales growth was driven by market share gains and overall growth in the markets served.

Aerostar's operating income increased 98.4% to \$8.2 million from \$4.1 million in the prior year. The improved profitability was primarily due to increased leverage on higher sales volume, strong margins on aerostat contract deliveries and higher utilization of engineering support on service contracts.

#### ***Results of Operations - Fiscal 2018 compared to Fiscal 2017***

The Company's net sales in fiscal 2018 were \$377.3 million, an increase of \$99.9 million, or 36.0%, from the prior year's net sales of \$277.4 million. All three divisions achieved double-digit growth, with Engineered Films achieving growth of 53.6% year-over-year. Delivery of hurricane recovery film to support relief efforts and the recent acquisition of CLI contributed sales of \$24.2 million and \$13.1 million, respectively.

Operating income for fiscal year 2018 was \$59.2 million compared to \$28.4 million in fiscal year 2017. The operating income increase year-over-year was principally driven by operating leverage on higher sales volumes in Engineered Films and Applied Technology, as well as improved profitability within Aerostar. Project Atlas began in the third quarter of fiscal 2018, and the related costs incurred were \$0.9 million in fiscal year 2018.

Net income for fiscal year 2018 was \$41.0 million, or \$1.13 per diluted share, compared to net income of \$20.2 million, or \$0.56 per diluted share, in fiscal year 2017. Net income was up \$20.8 million year-over-year, or \$0.57 per diluted share, in fiscal 2018. The TCJA was enacted on December 22, 2017 and reduced the U.S. federal statutory tax rate to 21 percent effective January 1, 2018. This change caused the Company's fiscal 2018 U.S. federal statutory tax rate to be reduced by 1.2 percentage points, benefiting fiscal year 2018 net income by \$0.7 million.

#### ***Applied Technology Division***

Fiscal 2018 net sales increased \$19.5 million, or 18.5%, to \$124.7 million from \$105.2 million in fiscal 2017. This increase in sales was driven by new product introductions and market share gains. Geographically, domestic and international sales were up 25.0% and 1.5% year-over-year, respectively. The Company does not specifically model comparative market share position for any of its operating divisions, but based on the sales developments in fiscal 2018, the Company believes that Applied Technology's global market share position improved during the year as a result of new product sales and building on key OEM relationships.

Applied Technology's operating income increased by 17.3% to \$31.3 million from \$26.6 million in the prior year due primarily to higher sales volume and lower manufacturing expenses. Throughout fiscal 2018, the division continued to invest in research and development activities to position itself for incremental new product sales and market share gains in future years.

#### ***Engineered Films Division***

Fiscal 2018 net sales were \$213.3 million, an increase of \$74.4 million, or 53.6%, compared to fiscal 2017. The geomembrane and construction markets had the largest increases in net sales, but all markets were up year-over-year. Although the Company does not specifically model comparative market share position for any of its operating divisions, based on the sales developments in fiscal year 2018 the Company believes that Engineered Films achieved sales growth due to improved end-market demand and increased market share. Delivery of hurricane recovery film to support relief efforts and the recent acquisition of CLI contributed net sales of \$24.2 million and \$13.1 million, respectively.

Engineered Film's operating income increased by 106.1% to \$47.3 million from \$23.0 million in the prior year due primarily to strong operating leverage on higher sales volume. Operational efficiency gains developed throughout the year and higher sales volume improved capacity utilization and resulted in fixed cost leverage.

#### ***Aerostar Division***

Fiscal 2018 net sales were \$39.9 million compared to \$34.1 million in fiscal 2017, up \$5.8 million. The increase in sales for the division was principally driven by higher sales of lighter-than-air products and services. While it is particularly challenging to measure market share information for the Aerostar division and the Company does not specifically model comparative market share position for any of its operating divisions, the Company believes that Aerostar's sales growth was primarily the result of continuing to develop capabilities for and interest in the emerging stratospheric balloon market rather than capturing existing market share from others.

Aerostar reported operating income of \$4.1 million in fiscal 2018 compared to an operating loss of \$1.6 million in fiscal 2017. The improved profitability was driven by higher sales volume, and the absence of inventory write-downs, which lowered prior year results by \$2.3 million as discussed in more detail in Note 7 "Goodwill, Long-Lived Assets, and Other Charges" of the Notes to the Consolidated Financial Statements.

## RESULTS OF OPERATIONS - SEGMENT ANALYSIS

### Applied Technology

Applied Technology designs, manufactures, sells, and services innovative precision agriculture products and information management tools, which are collectively referred to as precision agriculture equipment, that help farmers reduce costs, more precisely control inputs, and improve farm yields for the global agriculture market.

(dollars in thousands)	For the years ended January 31,				
	2019	% change	2018	% change	2017
Net sales	\$ 129,749	4.1%	\$ 124,688	18.5%	\$ 105,217
Gross profit	65,778	20.3%	54,682	25.8%	43,476
Gross margin	50.7%		43.9%		41.3%
Operating expense	\$ 26,734	15.4%	\$ 23,166	37.6%	\$ 16,833
Operating expense as % of sales	20.6%		18.6%		16.0%
Long-lived asset impairment loss	\$ —		\$ 259		\$ —
Operating income <sup>(a)</sup>	39,044	24.9%	31,257	17.3%	26,643
Operating margin	30.1%		25.1%		25.3%

<sup>(a)</sup> At the segment level, operating income does not include an allocation of general and administrative expenses.

For fiscal 2019, net sales increased \$5.0 million, or 4.1%, to \$129.7 million as compared to \$124.7 million in fiscal 2018. Operating income increased \$7.7 million, or 24.9%, to \$39.0 million as compared to \$31.3 million in fiscal 2018.

Fiscal 2019 comparative results were primarily driven by the following factors:

- *Market conditions.* Corn surplus remains near an all-time high, and U.S. farm income has decreased over the last five years. Offsetting these general ag market challenges is the growing demand for machine replacements that have been deferred for several years. In order to drive growth in these challenging market conditions, the division continues to invest in the development and acquisition of market leading technologies. Applied Technology continually makes a significant investment in research and development to drive innovation and maintain a cadence of new product introductions to the market. Additionally, the division completed the acquisition of AgSync on January 1, 2019. Applied Technology will leverage this acquisition to enhance its Slingshot® platform by delivering a logistics solution for ag retailers, custom applicators and enterprise farms. This strategic expansion of the Slingshot® platform is an effort to provide further value to the end customer and grow the division's subscription-based service model.
- *Sales volume and selling prices.* Geographically, domestic and international sales were up 5.0% and 0.9% year-over-year, respectively. Higher sales volume of both new and existing products, rather than an increase in selling price, was the primary driver of this increase.
- *International sales.* Net sales outside the U.S. accounted for 22.9% of segment sales in fiscal 2019 compared to 23.6% in fiscal 2018. International sales of \$29.7 million in fiscal 2019 increased \$0.3 million, or 0.9%, compared to fiscal 2018. The year-over-year increases in Europe and Latin America were mostly offset by a decrease in Canada.
- *Gross margin.* Gross margin increased from 43.9% in fiscal 2018 to 50.7% in fiscal 2019. The year-over-year increase in profitability was primarily driven by increased leverage on higher sales volume and a reduction of manufacturing related engineering support. Engineering support related expenses may be allocated to overhead, and thus cost of sales, or research and development expenses based on the focus of the engineering effort.
- *Operating expenses.* Fiscal 2019 operating expenses were 20.6% of net sales compared to 18.6% for the prior year. Operating expenses as a percentage of sales increased primarily due to higher investment in research and development activities and approximately \$2 million in selling expenses related to the establishment of the division's Latin American headquarters in Brazil. The greenfield project to establish a direct presence in Latin America resulted in higher operating expenses while sales development activities increased. The division expects this investment to provide strong organic growth over the long-term. Partially offsetting this year-over-year increase in operating expenses were lower legal expenses, which included favorable legal recoveries.

For fiscal 2018, net sales increased \$19.5 million, or 18.5%, to \$124.7 million as compared to \$105.2 million in fiscal 2017. Operating income increased \$4.6 million, or 17.3%, to \$31.3 million as compared to \$26.6 million in fiscal 2017.

Fiscal 2018 comparative results were primarily driven by the following factors:

- *Market conditions.* Conditions in the agriculture market remained subdued; however, Applied Technology's marketplace

strategy has capitalized on new product introductions in fiscal 2018. While OEM and aftermarket sales channel demand remained challenging, Applied Technology achieved fourth quarter and year-to-date sales growth compared to the prior year primarily due to market share gains driven by new product introductions and building on key OEM relationships. These were the primary growth drivers both domestically and internationally.

- *Sales volume and selling prices.* Geographically, domestic and international sales were up 25.0% and 1.5% year-over-year, respectively. Higher sales volume and growth in new product sales, rather than an increase in selling price, were the primary drivers for these increases.
- *International sales.* Net sales outside the U.S. accounted for 23.6% of segment sales in fiscal 2018 compared to 27.6% in fiscal 2017. International sales increased \$0.4 million, or 1.5%, to \$29.4 million in fiscal 2018 compared to fiscal 2017. Higher sales in Latin America and Europe, partially offset by a decrease in Canada, were the primary drivers of the increase. European revenue growth included strong growth at SBG Innovatie BV (SBG) in fiscal 2018.
- *Gross margin.* Gross margin increased from 41.3% in fiscal 2017 to 43.9% in fiscal 2018. Higher sales volume and lower manufacturing costs increased operating leverage and drove the increase in gross margin. Due to the existing available capacity of the manufacturing facilities, the increase in sales volume did not require a commensurate increase in costs in fiscal 2018.
- *Operating expenses.* Fiscal 2018 operating expenses were 18.6% of net sales compared to 16.0% for the prior year. Throughout fiscal 2018, the division continued to invest in research and development activities to position itself for incremental new product sales and market share gains in future years.

### **Engineered Films**

Engineered Films produces high-performance plastic films and sheeting for geomembrane, agricultural, construction, and industrial applications and also offers design-build and installation services of these plastic films and sheeting. Plastic film and sheeting can be purchased separately or together with installation services.

<i>(dollars in thousands)</i>	For the years ended January 31,				
	2019	% change	2018	% change	2017
Net sales	\$ 226,574	6.2 %	\$ 213,298	53.6%	\$ 138,855
Gross profit	47,641	(15.3)%	56,255	91.3%	29,407
Gross margin	21.0%		26.4%		21.2%
Operating expenses	\$ 7,927	(11.2)%	\$ 8,931	38.7%	\$ 6,441
Operating expenses as % of sales	3.5%		4.2%		4.6%
Operating income <sup>(a)</sup>	\$ 39,714	(16.1)%	\$ 47,324	106.1%	\$ 22,966
Operating margin	17.5%		22.2%		16.5%

<sup>(a)</sup> At the segment level, operating income does not include an allocation of general and administrative expenses.

For fiscal 2019, net sales increased \$13.3 million, or 6.2%, to \$226.6 million as compared to fiscal 2018. Operating income was \$39.7 million, down 16.1% for fiscal 2019 as compared to \$47.3 million for fiscal 2018.

Fiscal 2019 comparative results were primarily driven by the following factors:

- *Market conditions.* The division's end-market conditions improved throughout most of fiscal 2019, with the exception of significantly lower demand for hurricane recovery film compared to fiscal 2018. While oil prices dipped into the \$50 per barrel range at the end of fiscal 2019, they averaged approximately \$64 per barrel throughout fiscal 2019 which drove a 12.6% increase in Permian Basin rig counts from January 2018 to January 2019. Lastly, the division began the commissioning process for Line 15 at the end of fiscal 2019 and will start selling product in the first quarter of fiscal 2020. Line 15 is a new extrusion line designed to expand production capacity and capitalize on the growing end-market demand.
- *Sales volume and selling prices.* As expected, the year-over-year comparison was impacted by a reduction in hurricane recovery film sales. Net sales of hurricane recovery film were \$14.5 million and \$24.2 million in fiscal 2019 and 2018, respectively. Additionally, the acquisition of CLI, which occurred in September of fiscal year 2018, contributed a total of \$21.6 million in sales for the first seven months of fiscal 2019. For the first seven months of fiscal 2018 the division generated \$4.1 million in sales to CLI as a customer. Excluding the impact from hurricane recovery film sales and the impact of CLI prior to the anniversary of the acquisition, net sales of the underlying business achieved growth year-over-year. In the underlying business, pounds sold did not change significantly but there was a modest increase in average selling price per pound.
- *Gross margin.* Fiscal 2019 gross margin was 21.0%, 5.4 percentage points lower than the prior fiscal year. The decrease in gross margin percentage was led by lower plant utilization from the reduction in hurricane recovery film sales, a higher

proportion of installation service revenue, and approximately \$2 million of cost over-runs on a large geomembrane installation project that was completed in the fourth quarter of fiscal 2019.

- *Operating expenses.* Fiscal 2019 operating expenses, as a percentage of net sales, decreased to 3.5%, from 4.2% in the prior year. The division reduced selling expenses while sales grew year-over-year.

For fiscal 2018, net sales increased \$74.4 million, or 53.6%, to \$213.3 million as compared to fiscal 2017. Operating income was \$47.3 million, up 106.1% for fiscal 2018 as compared to \$23.0 million for fiscal 2017.

Fiscal 2018 comparative results were primarily driven by the following factors:

- *Market conditions.* Engineered Films produces high-performance plastic films and sheeting for geomembrane, agricultural, construction, and industrial applications. End-market conditions for Engineered Films exhibited significant year-over-year improvement throughout fiscal 2018. U.S. land-based rig counts have increased 34.6% from January 2017 to January 2018. Additionally, as discussed in more detail in Note 6 "Acquisitions of and Investments in Business and Technologies" of the Notes to the Consolidated Financial Statements, Engineered Films acquired the assets of CLI in September 2017. This acquisition enhanced the division's geomembrane market position through extended service and product offerings with the addition of new design-build and installation service components. The acquisition of CLI advanced Engineered Films' business model into a vertically-integrated, full-service solutions provider for the geomembrane market. CLI contributed \$13.1 million in net sales in fiscal 2018. Additionally, driven by the unusually devastating hurricane season, delivery of hurricane recovery film during fiscal 2018 resulted in sales of \$24.2 million. It had been several years since the Company received a substantial increase in demand for hurricane recovery film, and sales of such film are generally less than \$2.0 million on an annual basis.
- *Sales volume and selling prices.* Primary drivers of the increase in net sales were the improved end-market conditions, the acquisition of CLI, and the delivery of hurricane recovery film, which added \$2.3 million, \$7.9 million and \$15.8 million, in the fourth quarter of fiscal 2018, and \$34.9 million, \$13.1 million and \$24.2 million, in the 2018 full fiscal year, respectively.
- *Gross margin.* Fiscal 2018 gross margin was 26.4%, 5.2 percentage points higher than the prior fiscal year. During fiscal 2018 fourth quarter, the gross margin was 26.3% compared to 20.5% in the prior year fourth quarter. The increase for both periods was primarily the result of operational efficiency gains developed throughout the year and higher sales volume that improved capacity utilization and resulted in fixed cost leverage. Due to the existing available capacity of the facilities, the increase in sales volume did not require a commensurate increase in costs in fiscal 2018.
- *Operating expenses.* Fiscal 2018 operating expenses, as a percentage of net sales, decreased to 4.2%, from 4.6% in the prior year. The year-over-year decrease in operating expenses was led by lower selling expenses.

#### *Aerostar*

Aerostar serves the aerospace/defense and commercial lighter-than-air markets. Aerostar's core products include high-altitude stratospheric balloons and radar systems. These products can be integrated with additional third-party sensors to provide research, communications, and situational awareness capabilities to governmental and commercial customers.

<i>(dollars in thousands)</i>	For the years ended January 31,				
	2019	% change	2018	% change	2017
Net sales	\$ 50,867	27.4%	\$ 39,915	17.0 %	\$ 34,113
Gross profit	19,165	80.7%	10,608	99.4 %	5,319
Gross margin	37.7%		26.6%		15.6 %
Operating expenses	\$ 10,986	69.4%	\$ 6,486	(4.5)%	\$ 6,792
Operating expenses as % of sales	21.6%		16.2%		19.9 %
Long-lived asset impairment loss	\$ —		\$ —		\$ 87
Operating income (loss) <sup>(a)</sup>	8,179	98.4%	4,122	(364.2)%	(1,560)
Operating margin	16.1%		10.3%		(4.6)%

<sup>(a)</sup> At the segment level, operating income (loss) does not include an allocation of general and administrative expenses.

Net sales for fiscal 2019 increased 27.4% to \$50.9 million from last year's net sales of \$39.9 million. Operating income increased \$4.1 million to \$8.2 million in fiscal 2019 compared to \$4.1 million in fiscal 2018.

Fiscal 2019 comparative results were primarily driven by the following factors:

- *Market conditions.* Aerostar's markets are subject to significant variability in demand due to government spending uncertainties and the timing of contract awards. During fiscal 2019, the division continued to develop its capabilities in the emerging stratospheric balloon market beyond those developed in collaboration with Google on Project Loon. The division also remained focused on radar products and services and during fiscal year 2019 the division was awarded a new five-year \$36 million radar systems contract with the U.S. Naval Air Warfare Center Aircraft Division. Deliveries for this contract are expected to begin in fiscal 2020.
- *Sales volume.* The increase in sales for the division was driven primarily by higher sales of lighter-than-air products and services. In the first quarter of fiscal 2019 the division divested its client private business. The client private business generated net sales of \$0.3 million and \$5.6 million in fiscal 2019 and 2018, respectively. Excluding net sales associated with the client private business, the division's net sales increased significantly year-over-year when compared to reported results.
- *Gross margin.* For fiscal 2019, gross margin increased 11.1 percentage points compared to the prior fiscal year. The improved profitability was primarily due to increased leverage on higher sales volume, strong margins on aerostat contract deliveries and higher utilization of engineering support on service contracts. Given the contract-based nature of this division, gross margin for Aerostar can vary considerably based on the timing and magnitude of contracts.
- *Operating expenses.* Operating expenses as a percentage of net sales increased 5.4 percentage points compared to the prior year. Fiscal 2019 operating expenses were \$11.0 million, or 21.6% of net sales, compared to operating expenses of \$6.5 million, or 16.2% of net sales in fiscal 2018. The increase in operating expenses as a percentage of net sales was primarily driven by higher investment in research and development activities as compared to the prior year.

Fiscal 2018 net sales increased 17.0% to \$39.9 million from last year's net sales of \$34.1 million. Operating income was \$4.1 million, up \$5.7 million, compared to the fiscal 2017 operating loss of \$1.6 million. Higher sales volume and the absence of inventory write-downs, which lowered prior year results by \$2.3 million, drove the improved profitability.

Fiscal 2018 comparative results were primarily driven by the following factors:

- *Market conditions.* Aerostar's markets are subject to significant variability due to government spending and the timing of contract awards. During fiscal 2018, Aerostar was pioneering new markets with leading-edge applications of its stratospheric balloons and was in active collaboration with Google on Project Loon. Project Loon is a program to provide high-speed wireless Internet accessibility and telecommunications to rural, remote, and under-served areas of the world. During fiscal 2018 Aerostar had several new contract wins further expanding the market for its stratospheric balloons.
- *Sales volume.* The increase was principally driven by higher sales of stratospheric balloons and radar systems.
- *Gross margin.* For fiscal 2018, gross margin increased 11.0 percentage points compared to the prior fiscal year. The improved profitability was driven by higher sales volume, and the absence of inventory write-downs, which lowered prior year results by \$2.3 million.
- *Operating expenses.* Operating expenses as a percentage of net sales decreased 3.7 percentage points compared to prior fiscal year. Fiscal 2018 operating expenses were \$6.5 million, or 16.2% of net sales, compared to operating expenses of \$6.8 million, or 19.9% of net sales in fiscal 2017.

**Corporate Expenses (administrative expenses; other income (expense), net; and effective tax rate)**

(dollars in thousands)	For the years ended January 31,		
	2019	2018	2017
Administrative expenses	\$ 31,769	\$ 23,553	\$ 19,624
Administrative expenses as a % of sales	7.8%	6.2%	7.1%
Other income (expense), net	\$ 6,437	\$ (184)	\$ (560)
Effective tax rate	15.7%	30.5%	27.5%

Administrative expenses increased \$8.2 million in fiscal 2019 compared to fiscal 2018. The increase was driven primarily by a \$4.5 million one-time gift to SDSU and a \$3.1 million increase in Project Atlas related expenses. Project Atlas related expenses were \$4.0 million and \$0.9 million in fiscal 2019 and fiscal 2018, respectively.

Other income (expense), net consists primarily of activity related to the Company's equity investments, interest income, foreign currency transaction gains or losses, amortization of debt issuance costs, and other fees related to the Company's credit facility further described in Note 11 "Financing Arrangements" of the Notes to the Consolidated Financial Statements. In fiscal 2019 other income (expense), net included a \$5.8 million gain on the divestiture of the Company's equity interest in SST.

The Company's fiscal 2019 effective tax rate was 15.7% compared to 30.5% in the prior year. Approximately 10 percentage points of the decline year-over-year was due to the TCJA. The remaining decrease is a result of net favorable discrete tax items in fiscal 2019 compared to the prior year. For further information regarding the change in effective tax rates, refer to Note 10 "Income Taxes" of the Notes to the Consolidated Financial Statements.

## LIQUIDITY AND CAPITAL RESOURCES

The Company's balance sheet continues to reflect significant liquidity and a strong capital base. Management focuses on the current cash balance and operating cash flows in considering liquidity, as operating cash flows have historically been the Company's primary source of liquidity. Management expects that current cash, combined with the generation of positive operating cash flows, will be sufficient to fund the Company's normal operating, investing and financing activities beyond the next twelve months. Additionally, the Company has a credit facility of up to \$125.0 million with a maturity date of April 15, 2020.

The Company's cash balances and cash flows were as follows:

<i>(dollars in thousands)</i>	As of January 31,		
	2019	2018	2017
Cash and cash equivalents	\$ 65,787	\$ 40,535	\$ 50,648

<i>(dollars in thousands)</i>	For the years ended January 31,		
	2019	2018	2017
Cash provided by operating activities	\$ 65,952	\$ 44,961	\$ 48,636
Cash used in investing activities	(16,444)	(25,675)	(4,642)
Cash used in financing activities	(23,755)	(29,721)	(27,151)
Effect of exchange rate changes on cash and cash equivalents	(501)	322	23
Net increase (decrease) in cash and cash equivalents	\$ 25,252	\$ (10,113)	\$ 16,866

Cash and cash equivalents totaled \$65.8 million at January 31, 2019, compared to \$40.5 million at January 31, 2018, an increase of \$25.3 million. The year-over-year increase in cash was primarily driven by the continued strength in operating cash flows, cash proceeds from the sale of non-core assets, a reduction in cash outlays for business acquisitions, and the absence of share repurchases.

At January 31, 2019, the Company held cash and cash equivalents of \$4.6 million in accounts outside the United States. These balances included undistributed earnings of foreign subsidiaries. As of January 31, 2019, the Company has no deferred tax liability recognized relating to the Company's investment in foreign subsidiaries where the earnings have been indefinitely reinvested. The TCJA generally eliminates U.S. federal income taxes on dividends from foreign subsidiaries, and as a result, the accumulated undistributed earnings would only be subject to other taxes, such as withholding taxes and state income taxes, on distribution of such earnings. No additional withholding or income taxes has been provided for any remaining undistributed foreign earnings not subject to the one-time deemed repatriation tax, as it is the Company's intention for these amounts to continue to be indefinitely reinvested in foreign operations. The Company's liquidity is not materially impacted by the amount held in accounts outside of the United States as the Company's operating cash flows are primarily driven by U.S. sources.

### **Operating Activities**

Operating cash flows result primarily from cash received from customers, which is offset by cash payments for inventories, services, employee compensation, and income taxes. Cash provided by operating activities was \$66.0 million in fiscal 2019, \$45.0 million in fiscal 2018 and \$48.6 million in fiscal 2017. The \$21.0 million increase in operating cash flows in fiscal 2019 as compared to fiscal 2018 is primarily due to the increase in net income and consistent net working capital levels. The \$3.6 million decrease in operating cash flows in fiscal 2018 as compared to fiscal 2017 is primarily due to an increase in net working capital demands.

The Company's cash needs have minimal seasonal trends. As a result, the discussion of trends in operating cash flows focuses on the primary drivers of year-over-year variability in net working capital. Net working capital and net working capital percentage are metrics used by management as a guide in measuring the efficient use of cash resources to support business activities and growth. The Company's net working capital for the comparative periods was as follows:



<i>(dollars in thousands)</i>	As of January 31,		
	2019	2018	2017
Accounts receivable, net	\$ 54,472	\$ 58,532	\$ 43,143
Plus: Inventories	54,076	55,351	42,336
Less: Accounts payable	8,272	13,106	8,467
Net working capital <sup>(a)</sup>	\$ 100,276	\$ 100,777	\$ 77,012
Annualized net sales <sup>(b)</sup>	\$ 352,088	\$ 383,292	\$ 275,660
Net working capital percentage <sup>(c)</sup>	28.5%	26.3%	27.9%

<sup>(a)</sup> Net working capital is defined as accounts receivable, (net) plus inventories less accounts payable.

<sup>(b)</sup> Annualized net sales is defined as fourth quarter net sales during the applicable fiscal year multiplied by four.

<sup>(c)</sup> Net working capital percentage is defined as net working capital divided by annualized sales.

Net working capital percentage deteriorated from 26.3% at January 31, 2018, to 28.5% at January 31, 2019. This year-over-year change is heavily influenced by hurricane recovery film demand and the related impacts to inventory, accounts receivable, and net sales. Excluding these estimated impacts, the Company believes the underlying inventory and accounts receivable balances increased in-line with the underlying increase in net sales year-over-year in the fourth quarter; however, accounts payable significantly decreased from fiscal 2018 to fiscal 2019 and drove the year-over-year increase in net working capital percentage.

Inventory levels were down \$1.3 million or 2.3% from \$55.4 million at January 31, 2018, to \$54.1 million at January 31, 2019. In comparison net sales decreased \$7.8 million or 8.1% year-over-year in the fourth quarter. Excluding the estimated impact of hurricane recovery film demand from inventory levels and net sales, the Company believes the underlying inventory balance increased in-line with the underlying increase in net sales year-over-year in the fourth quarter. Inventory levels increased \$13.1 million, or 30.7% from \$42.3 million at January 31, 2017 to \$55.4 million at January 31, 2018, driven by the increase in sales. In comparison net sales increased \$26.9 million or 39.0% year-over-year in the fourth quarter.

Accounts receivable levels decreased \$4.0 million, or 6.9% from \$58.5 million at January 31, 2018, to \$54.5 million at January 31, 2019. In comparison net sales decreased \$7.8 million or 8.1% year-over-year in the fourth quarter. The decrease in accounts receivable was generally in-line with the decrease in sales. Accounts receivable levels increased \$15.4 million, or 35.7%, from \$43.1 million at January 31, 2017, to \$58.5 million at January 31, 2018, due primarily to increased sales volume. In comparison net sales increased \$26.9 million or 39.0% year-over-year in the fourth quarter.

Accounts payable decreased \$4.8 million, or 36.9% to \$8.3 million at January 31, 2019, from \$13.1 million at January 31, 2018. Accounts payable were actively reduced prior to Engineered Films' go-live on Project Atlas to mitigate the risk of late payment during the cut-over process. Additionally, timing of purchases and related payments in the fourth quarter of fiscal 2019 as compared to the fourth quarter of fiscal 2018 led to a further decrease in the accounts payable balance year-over-year. Accounts Payable increased \$4.6 million, or 54.8%, year-over-year from \$8.5 million at January 31, 2017, to \$13.1 million at January 31, 2018, primarily due to improved timing of payments to suppliers, as well as additional purchases of raw materials to support the increase in sales year-over-year.

#### **Investing Activities**

Cash used in investing activities totaled \$16.4 million in fiscal 2019, \$25.7 million in fiscal 2018, and \$4.6 million in fiscal 2017. Capital expenditures totaled \$14.1 million in fiscal 2019 compared to \$12.0 million in fiscal 2018 and \$4.8 million in fiscal 2017. The primary drivers of the decrease in cash outflows in fiscal 2019 were proceeds from the sale of non-core assets and a reduction in cash used for acquisitions. The primary drivers of the increase in cash outflows in fiscal 2018 were the payment related to the acquisition of CLI and increased capital expenditures.

Management anticipates capital spending of approximately \$15 million in fiscal 2020.

#### **Financing Activities**

Financing activities consumed cash of \$23.8 million in fiscal 2019 compared with \$29.7 million in fiscal 2018 and \$27.2 million in fiscal 2017.

Dividends paid were \$18.8 million, \$18.7 million and \$18.8 million in fiscal years 2019, 2018, and 2017, respectively, or \$0.52 per share in all three years.

In fiscal 2016, the Company began to repurchase common shares as part of the \$40.0 million share repurchase plan authorized by the Company's Board of Directors. Since that time, the Board has provided additional authorizations bringing the total amount authorized under the plan to \$75.0 million at January 31, 2019. The Company made no share repurchases in fiscal 2019. The Company paid \$10.0 million and \$7.7 million for share repurchases in 2018 and 2017, respectively. Approximately \$28 million of the total authorization remains available for share repurchases under this plan as of January 31, 2019.

No borrowings or repayments have occurred on the Company's credit facility discussed further in Note 11 "Financing Arrangements" of the Notes to the Consolidated Financial Statements and below during any of fiscal periods reported.

**Other Liquidity and Capital Resources**

The Company entered into a credit facility on April 15, 2015, (Credit Agreement) which provides for a syndicated senior revolving credit facility up to \$125.0 million with a maturity date of April 15, 2020. This Credit Agreement is more fully described in Note 11 "Financing Arrangements" of the Notes to the Consolidated Financial Statements. There were no borrowings outstanding for any of the fiscal periods covered by this Form 10-K. Availability under the Credit Agreement for borrowings as of January 31, 2019, was \$124.5 million.

Letters of credit (LOC) totaling \$0.5 million and \$1.1 million were outstanding at January 31, 2019 and 2018. Any draws required under the LOCs would be settled with available cash or borrowings under the Credit Agreement.

The Credit Agreement contains customary affirmative and negative covenants, including those relating to financial reporting and notification, limits on levels of indebtedness and liens, investments, mergers and acquisitions, affiliate transactions, sales of assets, restrictive agreements, and change in control as defined in the Credit Agreement. The Company requested and received the necessary covenant waivers relating to its late filing of financial information in fiscal 2017. Financial covenants include an interest coverage ratio and funded indebtedness to earnings before interest, taxes, depreciation, and amortization as defined in the Credit Agreement. The Company is in compliance with all financial covenants set forth in the Credit Agreement.

The Company launched a company-wide initiative during the third quarter of fiscal 2018 called Project Atlas. This is a strategic long-term investment to replace the Company's existing enterprise resource planning platform. This investment will drive efficiencies across the enterprise, enable faster integration of future acquisitions, automate a significant portion of internal controls, and enhance the Company's execution of its long-term growth strategy. Subsequent to the fiscal 2019 year end, Engineered Films went live on Project Atlas. The remaining divisions are expected to go live in fiscal years 2020 and 2021. The total project is expected to cost approximately \$10 million. The company recognized \$4.0 million of expenses for Project Atlas in fiscal 2019 and \$0.9 million in fiscal 2018. Project Atlas spending is expected to be approximately \$3 million in fiscal year 2020.

**OFF-BALANCE SHEET ARRANGEMENTS AND CONTRACTUAL OBLIGATIONS**

As of January 31, 2019, the Company is obligated to make cash payments in connection with its non-cancelable operating leases for facilities and equipment, capital lease obligations and unconditional purchase obligations, primarily for raw materials. Additionally, the Company's known off-balance sheet debt and other unrecorded obligations at January 31, 2019, are listed in the table below.

<i>(dollars in thousands)</i>	Total	Less than 1 year	2-3 years	4-5 years	More than 5 years
Credit facility	\$ 275	\$ 212	\$ 63	\$ —	\$ —
Capital lease obligations	330	182	146	2	—
Operating leases	5,376	2,213	2,666	497	—
Unconditional purchase obligations	31,373	31,373	—	—	—
Postretirement benefits	17,980	330	690	706	16,254
Acquisition-related contingent payments	5,838	2,138	3,700	—	—
Contractual Gift Agreement	3,570	715	1,430	1,425	—
Uncertain tax positions	2,670	—	—	—	—
	<u>\$ 67,412</u>	<u>\$ 37,163</u>	<u>\$ 8,695</u>	<u>\$ 2,630</u>	<u>\$ 16,254</u>

***Credit facility***

The Company's Credit Agreement provides for a syndicated senior revolving credit facility up to \$125.0 million with a maturity date of April 15, 2020. The loan proceeds may be utilized by Raven for strategic business purposes such as acquisitions and for working capital needs. Loans or borrowings defined under the Credit Agreement bear interest and fees at varying rates and terms defined in the Credit Agreement based on the type of borrowing as defined. The Credit Agreement includes annual administrative and unborrowed capacity fees of \$0.2 million.

***Capital lease obligations***

The Company's capital lease obligations are related to a fleet of vehicles held under capital leases to support business operations.

***Operating Leases***

The Company leases certain vehicles, equipment, and facilities under operating leases. These future obligations primarily support sales efforts.

***Unconditional purchase obligations***

Unconditional purchase obligations consist of those for inventory and other obligations that arise in the normal course of business operations. The majority of these are related to the purchase of raw material inventories in the Applied Technology and Engineered Films divisions.

***Postretirement Benefit Obligation,***

The Company previously provided postretirement medical and other benefits to certain senior executive officers and senior managers. In fiscal 2016, the Company eliminated this benefit and obligation for all of its active senior executive officers and their spouses except two officers who had over 20 years of service at that time. At January 31, 2019, seventeen participants remained eligible to receive postretirement medical and other benefits for their lifetimes. Postretirement benefit amounts presented in the table above represent expected payments on the accumulated postretirement benefit obligation before it is discounted. This benefit obligation is unfunded and is further described in Note 8 "Employee Postretirement Benefits" of the Notes to the Consolidated Financial Statements.

***Acquisition-related obligations***

The Company has future obligations for earn-out payments associated with the acquisition of Aerostar Technical Solutions, Inc. (ATS), formerly named Vista Research, Inc. or "Vista," completed in fiscal 2012; SBG, completed in fiscal 2015; CLI, completed in fiscal 2018; and AgSync, completed in fiscal 2019. The total liability recorded on the Consolidated Balance Sheet as of January 31, 2019, related to these future obligations was \$4.2 million of which \$1.8 million was classified as "Accrued liabilities" and \$2.4 million as "Other liabilities." These liabilities recorded represent the present value of earn-out payments classified as consideration at the acquisition date.

***Contractual Gift Agreement***

The Company has future obligations related to a gift agreement with the South Dakota State University Foundation, Inc. (the Foundation) effective in January 2018. This gift will be used by SDSU, located in Brookings, SD, for the establishment of a precision agriculture facility to support SDSU's Precision Agriculture degrees and curriculum. This facility will assist the Company in further collaboration with faculty, staff, and students on emerging technology in support of the growing need for precision agriculture practices and tools. The Company will make a \$5.0 million gift to the Foundation in annual installments throughout the term of the agreement. The fair value of this contingency at January 31, 2019, was \$3.2 million (measured based on the present value of the expected future cash outflows) of which \$0.7 million was classified as "Accrued liabilities" and \$2.5 million was classified as "Other liabilities" on the Consolidated Balance Sheet. To date the Company has gifted \$1.4 million.

***Uncertain tax positions***

Raven reported a total liability for uncertain tax positions of \$2.7 million at January 31, 2019. The Company is not able to reasonably estimate the timing of future payments relating to these non-current tax benefits. This obligation is retired when the uncertain tax position is settled or the applicable tax year is no longer subject to examination by the tax authorities.

**CRITICAL ACCOUNTING POLICIES AND ESTIMATES**

Critical accounting policies are those that require the application of especially challenging, subjective, or complex judgment when valuing assets and liabilities on the Company's balance sheet. These policies and estimates are discussed below because a fluctuation in actual results versus expected results could materially affect operating results and because the policies require significant judgments and estimates to be made. Accounting related to these policies is initially based on best estimates at the time of original entry in the accounting records. Adjustments are periodically recorded when the Company's actual experience differs from the expected experience underlying the estimates. These adjustments could be material if experience were to change significantly.

### **Revenue Recognition**

Revenue is recognized when control of the promised goods or services are transferred to our customers, in an amount that reflects the consideration we expect to be entitled to in exchange for transferring those goods or providing services. The Company accounts for a contract when it has approval and commitment from both parties, the rights of the parties are identified, payment terms are identified, the contract has commercial substance and collectability of consideration is probable.

When determining whether the customer has obtained control of the goods or services, the Company considers any future performance obligations. Generally, there is no post-shipment obligation on products sold other than warranty obligations in the normal and ordinary course of business. In the event significant post-shipment obligations were to exist, revenue recognition would be deferred until the Company has substantially accomplished what it must do to be entitled to the benefits represented by the revenue. Estimated returns, sales allowances, and warranty charges, if applicable, are recorded at the same time revenue is recorded.

### **Goodwill Impairment**

The Company recognizes goodwill as the excess cost of an acquired business over the net amount assigned to assets acquired and liabilities assumed. Management assesses goodwill for impairment annually during the fourth quarter and between annual tests whenever a triggering event indicates there may be an impairment. When performing goodwill impairment testing, the fair values of reporting units are determined based on valuation techniques using the best available information, primarily discounted cash flow projections. Such valuations are derived from valuation techniques in which one or more significant inputs are not observable (Level 3 fair value measures).

The Company performs impairment reviews of goodwill by reporting unit. For fiscal years 2017 through 2019, the Company determined it had three reporting units: Engineered Films Division; Applied Technology Division; and Aerostar Division.

During the annual impairment review process the Company first performs a step zero qualitative impairment assessment over relative events and circumstances to determine whether it is more likely than not that the fair value of a reporting unit is less than its carrying value. Although not all inclusive, these events and circumstances assessed include the Company's stock price, macroeconomic conditions, industry and market considerations, change in cost factors and adverse changes in financial performance such as declines in projected revenues, earnings and cash flows. If events and circumstances indicate the fair value of a reporting unit is less than its carry value a step one quantitative analysis is performed. The Company also has the option of bypassing the step zero qualitative impairment assessment by proceeding directly to the step one quantitative goodwill impairment test during the annual review process.

In step one of the goodwill impairment analysis (quantitative analysis), the fair value of each reporting unit is determined using a discounted cash flow analysis. Projecting discounted future cash flows requires the Company to make significant estimates and assumptions regarding future revenues and expenses, projected capital expenditures, changes in net working capital, and the appropriate discount rate.

In developing the discounted cash flow analysis, assumptions about the revenue growth rate, operating profit margin percentage, capital expenditures, and changes in net working capital reference both the Company's annual operating plan (budget) and long-term strategic plan for each of the Company's reporting units; however, they also reflect the best available information at that time and as appropriate reflect market participant assumptions if such amounts might differ from the Company-specific assumptions for each of the Company's reporting units.

Discount rate assumptions for each reporting unit include the Company's estimated weighted average cost of capital, derived using both known and estimated customary market metrics, and management's assessment of risks inherent to the future cash flows of the respective reporting unit. One of the metrics considered by the Company in its selection of a discount rate is the relevant small company size premium appropriate to the reporting unit for which the valuation is being assessed. Generally, the lower the revenues associated with a reporting unit, the higher the small company premium and the higher the discount rate for that reporting unit. Other factors, such as the optimal capital structure assumed for the reporting unit, will likely result in a different discount rate assumption for each reporting unit being evaluated and may result in the discount rate for each reporting unit to vary year-over-year.

For goodwill impairment tests prior to fiscal 2018, the estimated fair value of the reporting unit was then compared with the book value of its net assets. If the estimated fair value of the reporting unit was less than the book value of the net assets of the reporting unit, an impairment loss was possible and a more refined measurement of the impairment loss took place. This was the second step of the goodwill impairment testing (step two), in which management used market comparisons and recent transactions to assign the fair value of the reporting unit to all of the assets and liabilities of that unit. The valuation methodologies in both steps of goodwill impairment testing used significant estimates and assumptions. Management evaluated the merits of each significant assumption and the overall basket of assumptions used to determine the fair value of the reporting unit.

In the fiscal 2018 first quarter, the Company early adopted Accounting Standards Update (ASU) No. 2017-04 (issued by the Financial Accounting Standards Board (FASB) in January 2017), "Intangibles - Goodwill and Other (Topic 350): Simplifying the Test for Goodwill Impairment" (ASU 2017-04) on a prospective basis. This ASU removed step two of the former goodwill impairment test, which required a hypothetical purchase price allocation. Under the new guidance, a goodwill impairment is now measured as the amount by which a reporting unit's carrying value exceeds its fair value. This amendment was applied on a prospective basis, and as such step two was applied as appropriate in fiscal 2017.

During fiscal 2019 there were no triggering events with respect to any of the Company's reporting units. Based on the Company's annual qualitative assessment for its three reporting units, the Company determined a quantitative analysis was not necessary for fiscal 2019. No goodwill impairment losses were recorded for fiscal year 2019.

During fiscal 2018 there were no triggering events with respect to any of the Company's reporting units. Based on the Company's annual qualitative assessment for the Applied Technology and Engineered Films reporting units, the Company determined a quantitative analysis was not necessary for fiscal 2018. For the Aerostar reporting unit, the Company determined the excess of the fair value of the reporting unit over its carrying value in the previous year's annual impairment assessment was not significant enough based upon the then current macroeconomic conditions to perform a qualitative analysis. As such, the Company performed a quantitative analysis for the annual impairment assessment of the Aerostar reporting unit. In determining the estimated fair value of the Aerostar reporting unit, the Company was required to estimate a number of factors, including projected revenue growth rates, projected operating income results, terminal growth rates, economic conditions, anticipated future cash flows, and the discount rate. This analysis indicated that the estimated fair value of the Aerostar reporting unit exceeded the net book value by approximately \$12 million, or approximately 41%, therefore, no goodwill impairment losses were recorded for fiscal year 2018 for the Aerostar reporting unit.

The discount rate and terminal growth rate used in determination of the Aerostar reporting unit's fair value in fiscal year 2018 were 13.0% and 3.0%, respectively. Using the discount rate and terminal growth rate to illustrate sensitivity on this estimated fair value, a one-half percentage point increase in the discount rate or a one-half percentage point decrease in the terminal growth rate would have reduced the fair value of the Aerostar reporting unit by \$1.5 million and \$0.5 million, respectively.

During fiscal 2017, there were no triggering events with respect to the Applied Technology or Engineered Films reporting units. Based on the Company's annual impairment assessment (step zero) for the Applied Technology reporting unit, no quantitative or step two analysis were determined to be necessary for fiscal 2017. The Company determined that there was a triggering event with respect to the Aerostar reporting unit in the third quarter of that year, which resulted in a goodwill impairment test. The Company also completed a quantitative analysis during the annual goodwill impairment process on the Engineered Films and Aerostar reporting units. The annual impairment analysis indicated that the fair value of Engineered Films and Aerostar reporting units exceeded their carrying value by approximately \$105 million and \$9 million, or approximately 90% and 30%, respectively. Therefore; no goodwill impairment losses were recorded for fiscal year 2017.

#### **ACCOUNTING PRONOUNCEMENTS**

See Note 1 "Summary of Significant Accounting Policies" of the Notes to the Consolidated Financial Statements included in Item 8 of this Form 10-K for a summary of recent accounting pronouncements.

#### **FORWARD-LOOKING STATEMENTS**

Certain statements contained in this report are "forward-looking statements" within the meaning of Section 27A of the Securities Act of 1933, as amended, and Section 21E of the Securities Exchange Act of 1934, as amended, including statements regarding the expectations, beliefs, intentions or strategies regarding the future, not past or historical events. Without limiting the foregoing, the words "anticipates," "believes," "expects," "intends," "may," "plans," "should," "estimate," "would," "will," "predict," "project," "potential," and similar expressions are intended to identify forward-looking statements. However, the absence of these words or similar expressions does not mean that a statement is not forward-looking. The Company intends that all forward-looking statements be subject to the safe harbor provisions of the Private Securities Litigation Reform Act.

Although the Company believes that the expectations reflected in such forward-looking statements are based on reasonable assumptions when made, there is no assurance that such assumptions are correct or that these expectations will be achieved. Assumptions involve important risks and uncertainties that could significantly affect results in the future. These risks and uncertainties include, but are not limited to, those relating to weather conditions, which could affect sales and profitability in some of the Company's primary markets, such as agriculture and construction and oil and gas drilling; or changes in raw material availability, commodity prices, competition, technology or relationships with the Company's largest customers, risks and uncertainties relating to development of new technologies to satisfy customer requirements, possible development of competitive technologies, ability to scale production of new products without negatively impacting quality and cost, risks of operating in

foreign markets, risks relating to acquisitions, including risks of integration or unanticipated liabilities or contingencies, and ability to finance investment and net working capital needs for new development projects, any of which could adversely impact any of the Company's product lines, risks of litigation, as well as other risks described in Item 1A "Risk Factors" of this Annual Report on Form 10-K. The foregoing list is not exhaustive and the Company disclaims any obligation to subsequently revise any forward-looking statements to reflect events or circumstances after the date of such statements. Past financial performance may not be a reliable indicator of future performance and historical trends should not be used to anticipate results or trends in future periods.

#### ITEM 7A. QUANTITATIVE AND QUALITATIVE DISCLOSURES ABOUT MARKET RISK

The exposure to market risks pertains mainly to changes in interest rates on cash and cash equivalents. The Company's only outstanding debt as of January 31, 2019, is an immaterial amount of capital lease obligations. As a result, the Company does not expect net income or cash flows to be significantly affected by changes in interest rates.

The Company's subsidiaries that operate outside the United States use their local currency as the functional currency. The functional currency is translated into U.S. dollars for balance sheet accounts using the period-end exchange rates and average exchange rates for the statement of income. Cash and cash equivalents held in foreign currency (primarily Euros and Canadian dollars) totaled \$4.6 million and \$4.1 million at January 31, 2019 and 2018, respectively. Adjustments resulting from financial statement translations are included as cumulative translation adjustments in "Accumulated other comprehensive income (loss)" within shareholders' equity. Foreign currency transaction gains or losses are recognized in the period incurred and are included in "Other income (expense), net" in the Consolidated Statements of Income and Comprehensive Income. Foreign currency fluctuations had no material effect on the Company's financial condition, results of operations, or cash flows.

The Company does not enter into derivatives or other financial instruments for trading or speculative purposes. However, the Company does utilize derivative financial instruments to manage the economic impact of fluctuation in foreign currency exchange rates on those transactions that are denominated in currency other than its functional currency, which is the U.S. dollar. Such transactions are principally Canadian dollar-denominated transactions. The use of these financial instruments had no material effect on the Company's financial condition, results of operations, or cash flows in any of the three previous years.

ITEM 8. FINANCIAL STATEMENTS AND SUPPLEMENTARY DATA

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## 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 Rule 13a-15(f) of the Securities Exchange Act of 1934, as amended. Our internal control over financial reporting is designed to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with generally accepted accounting principles.

Our 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 our assets; (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 our receipts and expenditures are being made only in accordance with authorizations of our management and directors; and (iii) provide reasonable assurance regarding prevention or timely detection of unauthorized acquisition, use, or disposition of our 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.

Management has assessed effectiveness of the Company's internal control over financial reporting as of January 31, 2019. In making its assessment of effectiveness of internal control over financial reporting, management used the criteria described by the Committee of Sponsoring Organizations of the Treadway Commission in *Internal Control - Integrated Framework* (2013). Based on this assessment using those criteria, we concluded that, as of January 31, 2019, the Company's internal control over financial reporting was effective at a reasonable assurance level.

The effectiveness of our internal control over financial reporting as of January 31, 2019 has been audited by Deloitte & Touche, LLP, an independent registered public accounting firm, as stated in their report, which appears on the next page.

/s/ DANIEL A. RYKHUS

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Daniel A. Rykhus  
President and Chief Executive Officer

/s/ STEVEN E. BRAZONES

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Steven E. Brazones  
Vice President and Chief Financial Officer

March 22, 2019



# REPORT OF INDEPENDENT REGISTERED PUBLIC ACCOUNTING FIRM

To the Board of Directors and Shareholders of Raven Industries, Inc.

## Opinions on the Financial Statements and Internal Control over Financial Reporting

We have audited the accompanying consolidated balance sheets of Raven Industries, Inc. and subsidiaries (the "Company") as of January 31, 2019 and 2018, the related consolidated statements of income and comprehensive income, consolidated statements of shareholders' equity, consolidated statements of cash flows, for each of the two years in the period ended January 31, 2019, and the related notes and the schedules listed in the Index at Item 15 (collectively referred to as the "financial statements"). We also have audited the Company's internal control over financial reporting as of January 31, 2019, 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 financial statements present fairly, in all material respects, the financial position of the Company as of January 31, 2019, and 2018 the results of its operations and its cash flows for each of the two years in the period ended January 31, 2019, 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 January 31, 2019, based on criteria established in Internal Control - Integrated Framework (2013) issued by COSO.

## Basis for Opinions

The Company's management is responsible for these financial statements, for maintaining effective internal control over financial reporting, and for its assessment of the effectiveness of internal control over financial reporting, included in the accompanying managements report on internal control over financial reporting. Our responsibility is to express an opinion on these financial statements and an opinion 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 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 financial statements included performing procedures to assess the risks of material misstatement of the financial statements, whether due to error or fraud, and performing procedures to respond to those risks. Such procedures included examining, on a test basis, evidence regarding the amounts and disclosures in the 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 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 (1) pertain to the maintenance of records that, in reasonable detail, accurately and fairly reflect the transactions and dispositions of the assets of the company; (2) 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 (3) 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.

/s/ Deloitte & Touche LLP  
Minneapolis, Minnesota  
March 22, 2019

We have served as the Company's auditor since 2017.

## REPORT OF INDEPENDENT REGISTERED PUBLIC ACCOUNTING FIRM

To the Board of Directors and Shareholders of Raven Industries, Inc.

In our opinion, the consolidated statements of income and comprehensive income, shareholder's equity and cash flows for the year ended January 31, 2017 present fairly, in all material respects, the results of operations and cash flows of Raven Industries, Inc. and its subsidiaries for the year ended January 31, 2017, in conformity with accounting principles generally accepted in the United States of America. In addition, in our opinion, the financial statement schedule for the year ended January 31 2017 presents fairly, in all material respects, the information set forth therein when read in conjunction with the related consolidated financial statements. These financial statements and financial statement schedule are the responsibility of the Company's management. Our responsibility is to express an opinion on these financial statements and financial statement schedule based on our audit. We conducted our audit of these financial statements in accordance with the standards of the Public Company Accounting Oversight Board (United States). Those standards require that we plan and perform the audit to obtain reasonable assurance about whether the financial statements are free of material misstatement. An audit includes examining, on a test basis, evidence supporting the amounts and disclosures in the financial statements, assessing the accounting principles used and significant estimates made by management, and evaluating the overall financial statement presentation. We believe that our audit provides a reasonable basis for our opinion.

/s/ PricewaterhouseCoopers LLP  
Minneapolis, Minnesota  
March 31, 2017

RAVEN INDUSTRIES, INC.

**CONSOLIDATED BALANCE SHEETS**

(Dollars and shares in thousands, except per-share amounts)

	As of January 31,	
	2019	2018
<b>ASSETS</b>		
Current assets		
Cash and cash equivalents	\$ 65,787	\$ 40,535
Accounts receivable, net	54,472	58,532
Inventories	54,076	55,351
Other current assets	8,736	5,861
Total current assets	183,071	160,279
Property, plant and equipment, net	106,615	106,280
Goodwill	50,942	46,710
Amortizable intangible assets, net	16,293	10,584
Other assets	3,324	2,950
<b>TOTAL ASSETS</b>	<b>\$ 360,245</b>	<b>\$ 326,803</b>
<b>LIABILITIES AND SHAREHOLDERS' EQUITY</b>		
Current liabilities		
Accounts payable	\$ 8,272	\$ 13,106
Accrued liabilities	23,478	21,946
Other current liabilities	1,303	1,890
Total current liabilities	33,053	36,942
Other liabilities	18,235	13,795
Commitments and contingencies (see Note 12)		
Raven Industries, Inc. shareholders' equity		
Common stock, \$1 par value, authorized shares 100,000; issued 67,289 and 67,124, respectively	67,289	67,124
Paid-in capital	59,655	59,143
Retained earnings	285,969	252,772
Accumulated other comprehensive loss	(3,556)	(2,573)
Less treasury stock at cost, 31,332 and 31,332 shares, respectively	(100,402)	(100,402)
Total Raven Industries, Inc. shareholders' equity	308,955	276,064
Noncontrolling interest	2	2
Total shareholders' equity	308,957	276,066
<b>TOTAL LIABILITIES AND SHAREHOLDERS' EQUITY</b>	<b>\$ 360,245</b>	<b>\$ 326,803</b>

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

RAVEN INDUSTRIES, INC.

**CONSOLIDATED STATEMENTS OF INCOME AND COMPREHENSIVE INCOME**

(Dollars in thousands, except per-share amounts)

	For the years ended January 31,		
	2019	2018	2017
Net sales	\$ 406,668	\$ 377,317	\$ 277,395
Cost of sales	274,119	255,752	199,205
Gross profit	132,549	121,565	78,190
Research and development expenses	26,174	16,936	16,312
Selling, general and administrative expenses	51,242	45,200	33,378
Long-lived asset impairment loss	—	259	87
Operating income	55,133	59,170	28,413
Other income (expense), net	6,437	(184)	(560)
Income before income taxes	61,570	58,986	27,853
Income tax expense	9,697	17,967	7,661
Net income	51,873	41,019	20,192
Net income (loss) attributable to the noncontrolling interest	79	(3)	1
Net income attributable to Raven Industries, Inc.	\$ 51,794	\$ 41,022	\$ 20,191
Net income per common share:			
Basic	\$ 1.44	\$ 1.14	\$ 0.56
Diluted	\$ 1.42	\$ 1.13	\$ 0.56
Comprehensive income:			
Net income	\$ 51,873	\$ 41,019	\$ 20,192
Other comprehensive income (loss):			
Foreign currency translation	(1,045)	1,234	50
Postretirement benefits, net of income tax (expense) benefit of (\$99), \$44, and \$129, respectively	342	(131)	(225)
Other comprehensive income (loss), net of tax	(703)	1,103	(175)
Comprehensive income	51,170	42,122	20,017
Comprehensive income (loss) attributable to noncontrolling interest	79	(3)	1
Comprehensive income attributable to Raven Industries, Inc.	\$ 51,091	\$ 42,125	\$ 20,016

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

RAVEN INDUSTRIES, INC.

**CONSOLIDATED STATEMENTS OF SHAREHOLDERS' EQUITY**

(Dollars and shares in thousands, except per-share amounts)

	\$1 Par Common Stock	Paid-in Capital	Treasury Stock		Retained Earnings	Accumulated Other Compre- hensive Incom- e (Loss)	Raven Industries, Inc. Equity	Non-controlling Interest	Total Equity
			Shares	Cost					
Balance January 31, 2016	\$ 67,006	\$ 53,907	30,500	\$ (82,700)	\$ 229,443	\$ (3,501)	\$ 264,155	\$ 74	\$ 264,229
Net income	—	—	—	—	20,191	—	20,191	1	20,192
Other comprehensive (loss), net of income tax	—	—	—	—	—	(175)	(175)	—	(175)
Cash dividends (\$0.52 per share)	—	216	—	—	(18,985)	—	(18,769)	—	(18,769)
Dividends of less than wholly-owned subsidiary paid to noncontrolling interest	—	—	—	—	—	—	—	(70)	(70)
Director shares issued	19	(19)	—	—	—	—	—	—	—
Shares issued on vesting of stock units, net of shares withheld for employee taxes	35	(291)	—	—	—	—	(256)	—	(256)
Shares repurchased	—	—	484	(7,702)	—	—	(7,702)	—	(7,702)
Share-based compensation	—	3,071	—	—	—	—	3,071	—	3,071
Income tax impact related to share-based compensation	—	(1,089)	—	—	—	—	(1,089)	—	(1,089)
Balance January 31, 2017	67,060	55,795	30,984	(90,402)	230,649	(3,676)	259,426	5	259,431
Net income	—	—	—	—	41,022	—	41,022	(3)	41,019
Other comprehensive income, net of income tax	—	—	—	—	—	1,103	1,103	—	1,103
Cash dividends (\$0.52 per share)	—	214	—	—	(18,899)	—	(18,685)	—	(18,685)
Director shares issued	26	(26)	—	—	—	—	—	—	—
Shares issued on stock options exercised, net of shares withheld for employee taxes	21	(311)	—	—	—	—	(290)	—	(290)
Shares issued on vesting of stock units, net of shares withheld for employee taxes	17	(254)	—	—	—	—	(237)	—	(237)
Shares repurchased	—	—	348	(10,000)	—	—	(10,000)	—	(10,000)
Share-based compensation	—	3,725	—	—	—	—	3,725	—	3,725
Balance January 31, 2018	67,124	59,143	31,332	(100,402)	252,772	(2,573)	276,064	2	276,066
Net income	—	—	—	—	51,794	—	51,794	79	51,873
Other comprehensive (loss), net of income tax	—	—	—	—	—	(703)	(703)	—	(703)
Reclassification due to ASU 2018-02 adoption	—	—	—	—	280	(280)	—	—	—
Cash dividends (\$0.52 per share)	—	203	—	—	(18,877)	—	(18,674)	—	(18,674)
Dividends of less than wholly-owned subsidiary paid to noncontrolling interest	—	—	—	—	—	—	—	(79)	(79)
Shares issued on stock options exercised, net of shares withheld for employee taxes	113	(2,750)	—	—	—	—	(2,637)	—	(2,637)
Shares issued on vesting of stock units, net of shares withheld for employee taxes	52	(892)	—	—	—	—	(840)	—	(840)
Share-based compensation	—	3,951	—	—	—	—	3,951	—	3,951
Balance January 31, 2019	\$ 67,289	\$ 59,655	31,332	\$ (100,402)	\$ 285,969	\$ (3,556)	\$ 308,955	\$ 2	\$ 308,957

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

RAVEN INDUSTRIES, INC.

**CONSOLIDATED STATEMENTS OF CASH FLOWS**

(Dollars in thousands)

	For the years ended January 31,		
	2019	2018	2017
<b>OPERATING ACTIVITIES:</b>			
Net income	\$ 51,873	\$ 41,019	\$ 20,192
Adjustments to reconcile net income to net cash provided by operating activities:			
Depreciation	13,296	12,743	13,169
Amortization of intangible assets	1,827	2,059	2,267
Long-lived asset impairment loss	—	259	87
Change in fair value of acquisition-related contingent consideration	708	457	36
Loss from equity investments	—	114	72
Gain from sale of equity method investments	(5,785)	—	—
Deferred income taxes	953	(787)	307
Share-based compensation expense	3,951	3,725	3,071
Other operating activities, net	(2,424)	2,053	2,390
Change in operating assets and liabilities	1,553	(16,681)	7,045
<b>Net cash provided by operating activities</b>	<b>65,952</b>	<b>44,961</b>	<b>48,636</b>
<b>INVESTING ACTIVITIES:</b>			
Capital expenditures	(14,127)	(12,011)	(4,796)
Payments related to business acquisitions	(7,671)	(13,267)	—
Proceeds from sale or maturities of investments	7,334	250	250
Purchases of investments	(745)	(273)	(750)
Proceeds (disbursements) from sale of assets, settlement of liabilities	832	(333)	1,188
Other investing activities, net	(2,067)	(41)	(534)
<b>Net cash used in investing activities</b>	<b>(16,444)</b>	<b>(25,675)</b>	<b>(4,642)</b>
<b>FINANCING ACTIVITIES:</b>			
Dividends paid	(18,753)	(18,685)	(18,839)
Payments for common shares repurchased	—	(10,000)	(7,702)
Payment of acquisition-related contingent liabilities	(1,324)	(408)	(354)
Restricted stock units vested and issued	(840)	(237)	(256)
Employee stock option exercises net of tax benefit	(2,637)	(290)	—
Other financing activities, net	(201)	(101)	—
<b>Net cash used in financing activities</b>	<b>(23,755)</b>	<b>(29,721)</b>	<b>(27,151)</b>
Effect of exchange rate changes on cash	(501)	322	23
<b>Net increase (decrease) in cash and cash equivalents</b>	<b>25,252</b>	<b>(10,113)</b>	<b>16,866</b>
Cash and cash equivalents at beginning of year	40,535	50,648	33,782
Cash and cash equivalents at end of year	<b>\$ 65,787</b>	<b>\$ 40,535</b>	<b>\$ 50,648</b>

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

## NOTES TO CONSOLIDATED FINANCIAL STATEMENTS

(Dollars in thousands, except per-share amounts)

### NOTE 1 SUMMARY OF SIGNIFICANT ACCOUNTING POLICIES

#### ***Basis of Presentation and Principles of Consolidation***

Raven Industries, Inc. (the Company or Raven) is a diversified technology company providing a variety of products to customers within the industrial, agricultural, geomembrane, construction, commercial lighter-than-air and aerospace/defense markets. The Company conducts this business through the following direct and indirect subsidiaries: Aerostar International, Inc. (Aerostar); Aerostar Technical Solutions, Inc. (ATS), formerly named Vista Research, Inc. or "Vista;" Aerostar Integrated Systems, LLC (AIS); Raven CLI Construction, Inc.; Raven Slingshot, Inc.; Raven International Holding Company BV (Raven Holdings); Raven Industries Canada, Inc. (Raven Canada); SBG Innovatie BV (SBG); Raven Industries Australia Pty Ltd (Raven Australia); Raven Industries Holding, LLC, and Raven do Brasil Participacoes E Servicos Tecnicos LTDA (Raven Brazil). The Company and these subsidiaries comprise three unique operating units, or divisions, classified into reportable segments (Applied Technology, Engineered Films, and Aerostar).

The consolidated financial statements for the periods included herein have been prepared by the Company pursuant to the rules and regulations of the Securities and Exchange Commission (SEC). The accompanying consolidated financial statements include the accounts of the Company and its wholly-owned or controlled subsidiaries. All intercompany balances and transactions have been eliminated in consolidation.

#### ***Noncontrolling Interest***

Noncontrolling interests represent capital contributions, income and loss attributable to the owners of less than wholly-owned and consolidated entities. The Company owns 75% of a business venture, AIS, to pursue potential product and support services contracts through agencies and instrumentalities of the United States government. This business venture, is included in the Aerostar business segment. No capital contributions have been made by the noncontrolling interest since the initial capitalization in fiscal year 2012. Given the Company's controlling financial interest, the accounts of the business venture have been consolidated with the accounts of the Company, and a noncontrolling interest has been recorded for the noncontrolling investor's interests in the net assets and operations of the business venture.

#### ***Equity Investments***

In February 2016, the Applied Technology Division acquired an interest of approximately 5% in Ag-Eagle Aerial Systems, Inc. (AgEagle). AgEagle was considered a variable interest entity (VIE) and the Company's equity ownership interest in AgEagle was considered a variable interest. Prior to the equity interest being sold for an immaterial gain in fiscal year 2019, the Company accounted for its investment in AgEagle under the equity method of accounting as the Company had the ability to exercise significant influence over the operating policies of AgEagle through the Company's representation on AgEagle's Board of Directors and the exclusive distribution agreement between the companies. However, the Company was not the primary beneficiary as the Company did not have the power to direct the activities that most significantly impacted the VIE's economic performance and the obligation to absorb the majority of the losses or the right to receive the majority of the benefits of the VIE.

The Company considers whether the value of any of its equity method investments has been impaired whenever adverse events or changes in circumstances indicate that recorded values may not be recoverable. If the Company considered any such decline to be other than temporary (based on various factors, including historical financial results, product development activities, and the overall health of the affiliate's industry), an impairment loss would be recorded. In April 2017, the Company determined the investment in AgEagle and the related customer relationship intangible asset were fully impaired. The resulting accelerated equity method investment loss and impairment loss recorded were not material to the Company.

The Company owned an interest of approximately 22% in Site-Specific Technology Development Group, Inc. (SST) before being sold in fiscal year 2019. The Company had significant influence, but there was neither a controlling interest nor a majority interest in the risks or rewards of SST. As a result, this affiliate investment was accounted for using the equity method.

The Company's proceeds from the sale of its ownership interest in SST were \$6,556 and was reported as "Proceeds from sale or maturity of investments" in the Consolidated Statements of Cash Flows in fiscal year 2019. The Company recognized a gain of \$5,785 from the sale reported as "Other income (expense), net" in the Consolidated Statements of Income and Comprehensive

(Dollars in thousands, except per-share amounts)

Income for the fiscal year ended January 31, 2019. This amount includes a fifteen percent hold-back provision held in an escrow account which is expected to be settled in fiscal 2020.

The investment balances for both AgEagle and SST are included in "Other assets" on the Consolidated Balance Sheet at January 31, 2018 while the Company's share of the results of AgEagle and SST operations are included in "Other income (expense), net" for fiscal years 2019, 2018, and 2017.

#### ***Use of Estimates***

Preparing the financial statements in conformity with accounting principles generally accepted in the United States of America (GAAP) requires management to make certain estimates and assumptions. These affect the reported amounts of assets and liabilities as of the date of the financial statements and the reported amounts of revenues and expenses during the reporting period. The Company's forecasts, based principally on estimates, are critical inputs to asset valuations such as those for inventory or goodwill. These assumptions and estimates require significant judgment and actual results could differ from assumed and estimated amounts.

#### ***Foreign Currency***

The Company's subsidiaries that operate outside the United States use the local currency as their functional currency. The functional currency is translated into U.S. dollars for balance sheet accounts using the period-end exchange rates and average exchange rates for the Consolidated Statements of Income and Comprehensive Income. Adjustments resulting from financial statement translations are included as foreign currency translation adjustments in "Accumulated other comprehensive income (loss)" within shareholders' equity in the Consolidated Balance Sheets. Foreign currency transaction gains or losses are recognized in the period incurred and are included in "Other income (expense), net" in the Consolidated Statements of Income and Comprehensive Income. Foreign currency transaction gains or losses on intercompany notes receivable and notes payable denominated in foreign currencies for which settlement is not planned in the foreseeable future are considered part the net investment and are reported in the same manner as foreign currency translation adjustments.

#### ***Cash and Cash Equivalents***

The Company considers all highly liquid instruments with original maturities of three or fewer months to be cash equivalents. Cash and cash equivalent balances are principally concentrated in checking, money market, and savings accounts. Certificates of deposit that mature in over 90 days but less than one year are considered short-term investments. Certificates of deposit that mature in one year or more are considered to be other long-term assets and are carried at cost. The Company held cash and cash equivalents in accounts in the United States of \$61,221 and \$36,434 as of January 31, 2019 and 2018, respectively. The Company held cash and cash equivalents in accounts outside the United States of \$4,566 and \$4,101 as of January 31, 2019 and 2018, respectively.

#### ***Accounts Receivable and Allowance for Doubtful Accounts***

Trade accounts receivable are recorded at the invoiced amount, do not bear interest, and are considered past due based on invoice terms. The allowance for doubtful accounts is the Company's best estimate of the amount of probable credit losses. This is based on historical write-off experience by segment and an estimate of the collectability of past due accounts. Unbilled receivables arise when revenues have been earned, but not billed, and are related to differences in timing. Unbilled receivables were \$1,391 and \$2,447 as of January 31, 2019 and 2018, respectively.

#### ***Inventory Valuation***

Inventories are carried at the lower of cost or net realizable value, with cost determined on the first-in, first-out basis. Net realizable value is the estimated selling price in the ordinary course of business, less reasonably predictable costs of completion, disposal, and transportation.

#### ***Pre-Contract Costs***

From time to time, pre-contract costs are incurred, excluding start-up costs which are expensed as incurred, are deferred and included in "Inventories" on the Consolidated Balance Sheets if the Company determines that it is probable it will be awarded the specific anticipated contract. Deferred pre-contract costs are periodically reviewed and assessed for recoverability under the contract. Write-offs of pre-contract costs are charged to cost of sales when it becomes probable that such costs will not be recoverable. No pre-contract costs were included in "Inventories" on the Consolidated Balance Sheets at January 31, 2019 or 2018. Additionally, there were no pre-contract costs written-off in fiscal years 2019, 2018 or 2017.

#### ***Property, Plant and Equipment***

Property, plant and equipment held for use is carried at the asset's cost and depreciated over the estimated useful life of the asset.



(Dollars in thousands, except per-share amounts)

The estimated useful lives used for computing depreciation are as follows:

Building and improvements	15 - 39 years
Manufacturing equipment by segment	
Applied Technology	3 - 5 years
Engineered Films	5 - 12 years
Aerostar	3 - 5 years
Furniture, fixtures, office equipment, and other	3 - 7 years

The cost of maintenance and repairs is charged to expense in the period incurred, and renewals and betterments are capitalized. The cost and related accumulated depreciation of assets sold or disposed are removed from the accounts and the resulting gain or loss is reflected in the Consolidated Statements of Income and Comprehensive Income.

#### ***Fair Value Measurements***

Fair value is defined as an exit price representing the amount that would be received to sell an asset or paid to transfer a liability in an orderly transaction between market participants. As such, fair value is a market-based measurement that should be determined based on assumptions that market participants would use in pricing an asset or liability. The Company uses the established fair value hierarchy, which classifies or prioritizes the inputs used in measuring fair value. These classifications include:

**Level 1** - Observable inputs such as quoted prices in active markets.

**Level 2** - Inputs other than quoted prices in active markets that are either directly or indirectly observable.

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

The Company's financial assets required to be measured at fair value on a recurring basis include cash and cash equivalents, short-term investments and mutual funds. The Company determines fair value of its cash equivalents, short-term investments and mutual funds through quoted market prices. Mutual funds relate to the Company's deferred compensation plan further described within Note 8 "Employee Postretirement Benefits". The fair values of accounts receivable and accounts payable approximate their carrying values because of the short-term nature of these instruments.

The Company's goodwill and long-lived assets, including intangible assets subject to amortization, are measured at fair value on a non-recurring basis. These valuations are derived from valuation techniques in which one or more significant inputs are not observable. Fair value measurements associated with goodwill and long-lived assets are further described in Note 7 "Goodwill, Long-Lived Assets, and Other Charges".

For all acquisitions, the Company is required to measure the fair value of the net identifiable tangible and intangible assets acquired. In addition, the Company determines the estimated fair value of contingent consideration as of the acquisition date, and subsequently at the end of each reporting period. These valuations are derived from valuation techniques in which one or more significant inputs are not observable. Fair value measurements associated with acquisitions, including acquisition-related contingent liabilities, are described in Note 6 "Acquisition of and Investments in Businesses and Technologies".

#### ***Intangible Assets***

Intangible assets, primarily comprised of technologies acquired through acquisitions, are recorded at cost and presented net of accumulated amortization. Amortization is computed using the method that best approximates the pattern of economic benefits which the asset provides. The Company has used both the straight-line method and the undiscounted cash flows method to appropriately allocate the cost of intangible assets to earnings in each reporting period.

The straight-line method allocates the cost of such intangible assets ratably over the asset's life. Under the undiscounted cash flow method, the estimated cash flow attributable to each year of an intangible asset's life is calculated as a percentage of the total of the cash flows over the asset's life and that percentage is applied to the initial value of the asset to determine the annual amortization to be recorded.

Intangible assets also include patents, trademarks, and other product rights attained to protect the Company's intellectual property. The estimated useful lives of the Company's intangible assets range from 3 to 20 years.

#### ***Goodwill***

The Company recognizes goodwill as the excess cost of an acquired business over the net amount assigned to assets acquired and liabilities assumed. Goodwill is allocated to the reporting units that are expected to benefit from the synergies of the business combination. Acquisition earn-out payments are accrued at fair value as of the purchase date and payments reduce the accrual

(Dollars in thousands, except per-share amounts)

without affecting goodwill. Any change in the fair value of the contingent consideration after the acquisition date is recognized in "Cost of sales" in the Consolidated Statements of Income and Comprehensive Income.

Goodwill is tested for impairment on an annual basis during the fourth quarter and between annual tests whenever a triggering event indicates there may be an impairment. Impairment tests of goodwill are performed at the reporting unit level. A qualitative impairment assessment over relevant events and circumstances may be assessed to determine whether it is more likely than not that the fair value of a reporting unit is less than its carrying amount. If events and circumstances indicate the fair value of a reporting unit may be less than its carrying value, then the fair values are estimated based on discounted cash flows and are compared with the corresponding carrying value of the reporting unit. If the fair value of the reporting unit is less than the carrying amount, a goodwill impairment loss is recognized for the amount that the carrying value of the reporting unit, including goodwill, exceeds its fair value, limited to the total amount of goodwill allocated to the reporting unit.

When performing goodwill impairment testing, the fair values of reporting units are determined based on valuation techniques using the best available information, primarily discounted cash flow projections. Such valuations are derived from valuation techniques in which one or more significant inputs are not observable (Level 3 fair value measures).

#### ***Long-Lived Assets***

The Company periodically assesses the recoverability of long-lived and intangible assets. An impairment loss is recognized when the carrying amount of an asset group exceeds the estimated undiscounted cash flows used in determining the fair value of the asset group. The amount of the impairment loss to be recorded is the excess of the carrying value of the assets within the group over their fair value. When performing long-lived asset impairment testing, the fair values of an asset are determined based on valuation techniques using the best available information. Such valuations are derived from valuation techniques in which one or more significant inputs are not observable (Level 3 fair value measures).

Long-lived assets determined to be held for sale and classified as such in accordance with the applicable guidance are reported as long-term assets at the lower of the asset's carrying amount or fair value less the estimated cost to sell. Depreciation is not recorded once a long-lived asset has been classified as held for sale.

#### ***Acquisition-Related Contingent Consideration***

Acquisition-related contingent consideration represents an obligation of the Company to transfer additional assets or equity interests if specified future events occur or conditions are met. This contingency is accounted for at fair value either as a liability or equity depending on the terms of the acquisition agreement. The Company determines the estimated fair value of contingent consideration as of the acquisition date, and subsequently at the end of each reporting period. In doing so, the Company makes significant estimates and assumptions regarding future events or conditions being achieved under the subject contingent agreement as well as the appropriate discount rate to apply. Such valuations are derived from valuation techniques in which one or more significant inputs are not observable (Level 3 fair value measures).

#### ***Litigation and Contingencies***

Legal costs are recognized as an expense in the period incurred. The Company is involved as a party in lawsuits, claims, regulatory inquiries, or disputes arising in the normal course of business, some of which allege substantial monetary damages. The Company accrues for any loss contingencies when losses become probable and are reasonably estimable. If the reasonable estimate of the loss is a range and no amount within the range is a better estimate than any other amount within the range, the minimum amount of the range is recorded as a liability. Amounts recovered by insurance, if any, are recognized when they are realized.

#### ***Revenue Recognition***

The Company adopted the new revenue recognition standard, Revenue from Contracts with Customers, using the modified retrospective method applied to all contracts not completed as of January 31, 2018. Results for reporting periods beginning after January 31, 2018, are presented under ASC 606 while prior period amounts continue to be reported in accordance with legacy ASC 605. The adoption of this standard did not have a material impact on the Company's consolidated financial statements or results of operations as of the adoption date as a significant majority of our sales revenue is recognized when products are shipped from our manufacturing facilities.

Revenue is recognized when control of the promised goods or services are transferred to our customers, in an amount that reflects the consideration we expect to be entitled to in exchange for transferring those goods or providing services. The Company accounts for a contract when it has approval and commitment from both parties, the rights of the parties are identified, payment terms are identified, the contract has commercial substance and collectability of consideration is probable.

When determining whether the customer has obtained control of the goods or services, the Company considers any future performance obligations. Generally, there is no post-shipment obligation on products sold other than warranty obligations in the

(Dollars in thousands, except per-share amounts)

normal and ordinary course of business. In the event significant post-shipment obligations were to exist, revenue recognition would be deferred until the Company has substantially accomplished what it must do to be entitled to the benefits represented by the revenue. Estimated returns, sales allowances, and warranty charges, if applicable, are recorded at the same time revenue is recorded.

#### *Performance obligations*

A performance obligation is a promise in a contract to transfer a distinct good or service to the customer, and is the unit of account for purposes of revenue recognition. A contract's transaction price is allocated to each distinct performance obligation and recognized as revenue when, or as, the performance obligation is satisfied. The majority of the Company's contracts have a single performance obligation as the promise to transfer the individual goods or services is not separately identifiable from other promises in the contracts and, therefore, are not distinct. For contracts with multiple performance obligations, standalone selling price is generally readily observable. The Company's performance obligations are satisfied at a point in time or over time as work progresses. Revenue from goods and services transferred to customers at a point in time accounts for a majority of the Company's revenues. Revenue on these contracts is recognized when obligations under the terms of the contract with our customer are satisfied; generally this occurs with the transfer of control upon shipment.

The Company uses an input measure to determine progress towards completion for revenue generated from products and services transferred to customers over time. Under this method, net sales and gross profit are recognized as work is performed generally based on the relationship between the actual costs incurred and the total estimated costs at completion ("the cost-to-cost method") or based on efforts for measuring progress towards completion in situations in which this approach is more representative of the progress on the contract than the cost-to-cost method. Contract costs include labor, material, overhead and, when appropriate, general and administrative expenses. Changes to the original estimates may be required during the life of the contract, and such estimates are reviewed on a regular basis. Sales and gross profit are adjusted using the cumulative catch-up method for revisions in estimated total contract costs. For performance obligations related to long term contracts, when estimates of total costs to be incurred on a performance obligation exceed total estimates of revenue to be earned, a provision for the entire loss on the performance obligation is recognized in the period the loss is determined.

#### *Sales returns*

The right of return may exist explicitly or implicitly with our customers. The Company's return policy allows for customer returns only upon the Company's authorization. Goods returned must be a product the Company continues to market and must be in salable condition. When the right of return exists, we adjust the transaction price for the estimated effect of returns. We estimate the expected returns based on historical sales levels, the timing and magnitude of historical sales return levels as a percent of sales, type of product, type of customer and a projection of this experience into the future.

#### *Shipping and handling costs*

Amounts billed to customers for shipping and handling activities after the customer obtains control are treated as a promised service performance obligation and recorded in net sales in the accompanying Consolidated Statements of Income and Comprehensive Income. Shipping and handling costs incurred by the Company for the delivery of goods to customers are considered a cost to fulfill the contract and are included in cost of sales in the accompanying Consolidated Statements of Income and Comprehensive Income.

#### *Sales tax*

Taxes that are collected by the Company from a customer, which are assessed by governmental authorities that are both imposed upon and concurrent with a specific revenue-producing transaction, are excluded from revenues.

#### ***Operating Expenses***

The primary types of operating expenses are classified in the income statement as follows:

<u>Cost of sales</u>	<u>Research and development (R&amp;D) expenses</u>	<u>Selling, general, and administrative (SG&amp;A) expenses</u>
Direct material costs	Personnel costs	Personnel costs
Material acquisition and handling costs	Professional service fees	Professional service fees
Direct labor	Material and supplies	Advertising
Factory overhead including depreciation and amortization	Facility allocation	Promotions
Inventory obsolescence		Information technology equipment depreciation
Product warranties		Office supplies
Shipping and handling cost		Facility allocation
		Bad debt expense

Total engineering costs consist of R&D and other engineering support related expenses. R&D costs are internal direct and indirect costs associated with development of technologies to support the Company's proprietary product lines in each of its divisions.

(Dollars in thousands, except per-share amounts)

These R&D costs are expensed as incurred. Engineering support related expenses may be allocated to overhead, and thus cost of sales, or R&D expenses based on the focus of the engineering effort.

General and administrative expenses included in SG&A are not allocated at the segment level. The Company's gross margin and segment operating income may not be comparable to industry peers due to variability in the classification of these expenses across the industries in which the Company operates.

#### ***Warranties***

Accruals necessary for product warranties are estimated based on historical warranty costs in relation to sales and average time elapsed between purchases and returns for each division. Additional accruals are made for any significant, discrete warranty issues.

#### ***Share-Based Compensation***

The Company records compensation expense related to its share-based compensation plans using the fair value method. Under this method, the fair value of share-based compensation is determined as of the grant date and the related expense is recorded over the period in which the share-based compensation vests.

#### ***Income Taxes***

Deferred income taxes reflect future tax effects of temporary differences between the tax and financial reporting basis of the Company's assets and liabilities measured using enacted tax laws and statutory tax rates applicable to the periods when the temporary differences will affect taxable income. When necessary, deferred tax assets are reduced by a valuation allowance to reflect realizable value. All deferred tax balances are reported as long-term on the Consolidated Balance Sheets. Accruals are maintained for uncertain tax positions.

#### ***Accounting Pronouncements***

##### ***Accounting Standards Adopted***

In the fiscal 2019 fourth quarter, the Company early adopted Financial Accounting Standards Board (FASB) Accounting Standards Update (ASU) No. 2018-14, "Compensation-Retirement Benefits-Defined Benefit Plans-General (Subtopic 715-20): Disclosure Framework-Changes to the Disclosure Requirements for Defined Benefit Plans" (ASU 2018-14) issued in August 2018. The amendments in this guidance modify the disclosure requirements for employers that sponsor defined benefit pension or other postretirement plans. The amendments in this Update remove disclosures that no longer are considered cost beneficial, clarify the specific requirements for certain disclosures, and add disclosure requirements identified as relevant. The Company does not have a defined benefit pension plan but does have an unfunded defined benefit postretirement plan that offers postretirement medical and other benefits to certain retired and active senior executives and their spouses. The Company elected to early adopt the guidance on a retrospective basis applied to all periods. ASU 2018-14 is disclosure in nature only and as such did not significantly impact the Company's consolidated financial statements.

In the fiscal 2019 first quarter, the Company early adopted FASB ASU 2018-02, "Income Statement-Reporting Comprehensive Income (Topic 220): Reclassification of Certain Tax Effects from Accumulated Other Comprehensive Income" (ASU 2018-02) issued in February 2018. The amendments in this guidance allow for a reclassification from accumulated other comprehensive income to retained earnings for stranded tax effects resulting from the Tax Cuts and Jobs Acts (TCJA). Consequently, the amendments eliminate the stranded tax effects resulting from the TCJA and are intended to improve the usefulness of information reported. The Company elected to apply the amendments in the period of adoption. The Company recorded a \$280 reclassification entry for the stranded tax effects in Accumulated Other Comprehensive Income related to Raven's post-retirement plan further disclosed in Note 8 "Employee Retirement Benefits". The impact of the reclassification is reported as "Reclassification due to ASU 2018-02 adoption" in the Consolidated Statements of Shareholders' Equity and Note 3 "Accumulated Other Comprehensive Income (Loss)".

In the fiscal 2019 first quarter when it became effective, the Company adopted FASB ASU No. 2017-09, "Compensation-Stock Compensation (Topic 718): Scope of Modification Accounting" (ASU 2017-09) on a prospective basis. The guidance amends the scope of modification accounting for share-based payment arrangements. The ASU provides guidance on the types of changes to the terms or conditions of share-based payment awards to which an entity would be required to apply modification accounting under Topic 718. Specifically, an entity would not apply modification accounting if the fair value, vesting conditions, and classification of the awards as equity instruments or liability instruments are the same immediately before and after the modification to the award. The Company did not modify any of its outstanding awards during the twelve-month period ended January 31, 2019; therefore, the adoption of this guidance had no impact on its consolidated financial statements.

In the fiscal 2019 first quarter when it became effective, the Company adopted, the FASB ASU No. 2017-07, "Compensation-Retirement Benefits (Topic 715): Improving the Presentation of Net Periodic Pension Cost and Net Periodic Postretirement Benefit Cost" (ASU 2017-07). The guidance clarifies where the cost components of the net benefit cost should be reported in the income statement and it allows only the service cost to be capitalized. The adoption of this guidance resulted in \$28 of the net periodic

(Dollars in thousands, except per-share amounts)

benefit cost being reported as a charge to operating income and \$284 reported as a charge to non-operating income (expense) for the twelve-months ended January 31, 2019. The classification of this charge on the Consolidated Statements of Income and Comprehensive Income is described in Note 8 "Employee Retirement Benefits" in the Notes to the Consolidated Financial Statements. The net periodic benefit cost for the fiscal year 2018 and 2017 was not material.

In the fiscal 2019 first quarter when it became effective, the Company adopted FASB ASU 2016-16, "Income Taxes (Topic 740): Intra-Entity Transfers of Assets Other Than Inventory" (ASU 2016-16). Previous GAAP prohibits the recognition of current and deferred income taxes for an intra-entity asset transfer until the asset has been sold to an outside party. This prohibition on recognition is an exception to the principle of comprehensive recognition of current and deferred income taxes in GAAP. This new guidance eliminates the exception for an intra-entity transfer of an asset other than inventory. The Company did not have any intra-entity transfers of assets impacted by this guidance, as such the adoption of this guidance had no impact on its consolidated financial statements.

In the fiscal 2019 first quarter when it became effective, the Company adopted FASB ASU 2016-15, "Statement of Cash Flows (Topic 230): Classification of Certain Cash Receipts and Cash Payments" (ASU 2016-15). The specific classification issues clarified in the guidance either were not applicable to the Company or are consistent with how the Company previously classified them, therefore the adoption of this guidance had no impact on its consolidated financial statements.

In the fiscal 2019 first quarter when it became effective, the Company adopted FASB ASU No. 2016-01, "Financial Instruments-Overall (Subtopic 825-10): Recognition and Measurement of Financial Assets and Financial Liabilities" (ASU 2016-01). The updated accounting guidance requires equity securities to be measured at fair value with changes in the fair value recognized through net income. An entity's equity investments that are accounted for under the equity method of accounting or result in consolidation of an investee are not included within the scope of this update. The impacted financial instruments held at the time of adoption were not material, as such, the adoption of this guidance and the subsequent changes to Subtopic 825-10 in ASU 2018-03 "Technical Corrections and Improvements to Financial Instruments—Overall (Subtopic 825-10): Recognition and Measurement of Financial Assets and Financial Liabilities," did not have a material impact on the Company's consolidated financial statements.

In the fiscal 2019 first quarter, the Company adopted ASU No. 2014-09, "Revenue from Contracts with Customers (Topic 606)" (ASU 2014-09). ASU 2014-09 provides a comprehensive new recognition model that requires recognition of revenue when a company transfers promised goods or services to customers in an amount that reflects the consideration which a company expects to receive in exchange for those goods or services. This guidance supersedes the revenue recognition requirements in FASB ASC Topic 605, "Revenue Recognition," and most industry-specific guidance. ASU 2014-09 defines a five-step process to achieve this core principle. It also requires additional disclosure about the nature, amount, timing, and uncertainty of revenue and cash flows arising from customer contracts. The Company adopted ASU 2014-09 on a modified retrospective basis. The comparative historical information has not been adjusted and continues to be reported under ASC Topic 605 as previously presented. The adoption of ASU 2014-09 did not have a material impact on the Company's consolidated financial statements or results of operations as of the adoption date and for the three- and twelve-months ended January 31, 2019, as a significant majority of the Company's sales revenue is recognized when products are shipped from the Company's manufacturing facilities. As part of the adoption of ASU 2014-09 the Company has elected the following practical expedients: modified retrospective basis was applied for all contracts that were not completed as of February 1, 2018; shipping and handling costs associated with outbound freight after control over a product has transferred to a customer are considered fulfillment costs included within cost of sales; and taxes that are collected by the Company from a customer, which are assessed by governmental authorities that are both imposed upon and concurrent with a specific revenue-producing transaction, are excluded from revenues. Additional disclosures related to the revenues arising from contracts with customers as required by Topic 606 are included in Note 5 "Revenue".

#### *New Accounting Standards Not Yet Adopted*

In November 2018 the FASB issued ASU No. 2018-18, "Collaborative Arrangements (Topic 808): Clarifying the Interaction between Topic 808 and Topic 606" (ASU 2018-18). The amendments in ASU 2018-18 clarify that certain transactions between participants in collaborative arrangements should be accounted for as revenue under Topic 606 "Revenue from Contracts with Customers" and precludes certain transactions that are not with a customer from using Topic 606. The amendments in this update are effective for fiscal years, and interim periods within those fiscal years, beginning after December 15, 2019. Early adoption of this guidance is permitted in any interim period. The amendments should be applied retrospectively to the date Topic 606 was adopted. The Company is examining specific collaborative agreements to determine the impact, if any, the new guidance will have on the Company's consolidated financial statements.

In August 2018 the FASB issued ASU No. 2018-13, "Fair Value Measurement (Topic 820): Disclosure Framework-Changes to the Disclosure Requirements for Fair Value Measurement" (ASU 2018-13). The amendments in ASU 2018-13 remove, modify and add disclosures for companies required to make disclosures about recurring or nonrecurring fair value measurements under

(Dollars in thousands, except per-share amounts)

Topic 820. The amendments in this update are effective for all entities for fiscal years, and interim periods within those fiscal years, beginning after December 15, 2019. Early adoption of this guidance is permitted, however the Company has the option to delay the adoption of the additional disclosures required until the effective date. Certain amendments in this guidance are required to be applied prospectively and others are to be applied retrospectively. The Company is evaluating the amendments in ASU 2018-13 to determine when it will adopt this guidance and the impact the guidance will have on the Company's disclosures for assets and liabilities reported at fair value on a recurring or nonrecurring basis.

In February 2016 the FASB issued ASU No. 2016-02, "Leases (Topic 842)" (ASU 2016-02). The primary difference between previous GAAP and ASU 2016-02 is the recognition of lease assets and lease liabilities by lessees for those leases classified as operating leases under previous GAAP. The guidance requires a lessee to recognize a lease liability (to make lease payments) and a right-of-use asset (representing its right to use the underlying asset for the lease term) on the balance sheet with terms greater than 12 months. ASU 2016-02 is effective for fiscal years beginning after December 15, 2018. In July 2018 the FASB amended Topic 842 to provide entities additional guidance on transition to adopt using either a modified retrospective approach for leases that exist upon adoption and in the comparative periods presented, or an optional approach to initially apply the new lease guidance upon the adoption date without adjusting the comparative periods presented. The Company has designed necessary internal controls to facilitate the adoption of this new standard. Using the modified retrospective approach, the Company expects to recognize a right-of-use asset and lease liability of approximately \$3,900 in the first quarter of fiscal 2020. The adoption of this standard is not expected to have a significant impact on the Company's consolidated results of operations.

(Dollars in thousands, except per-share amounts)

## NOTE 2 SELECTED BALANCE SHEET INFORMATION

Following are the components of selected balance sheet items:

	As of January 31,	
	2019	2018
<b>Accounts receivable, net:</b>		
Trade accounts	\$ 53,820	\$ 57,063
Unbilled receivables	1,391	2,447
Allowance for doubtful accounts	(739)	(978)
	<u>\$ 54,472</u>	<u>\$ 58,532</u>
<b>Inventories:</b>		
Finished goods	\$ 7,629	\$ 8,054
In process	1,103	961
Materials	45,344	46,336
	<u>\$ 54,076</u>	<u>\$ 55,351</u>
<b>Other current assets:</b>		
Insurance policy benefit	\$ 336	\$ 759
Federal income tax receivable	1,045	1,397
Receivable from sale of investment	1,055	—
Prepaid expenses and other	6,300	3,705
	<u>\$ 8,736</u>	<u>\$ 5,861</u>
<b>Property, plant and equipment, net:</b>		
Assets held for use and assets held for sale <sup>(a)</sup> :		
Land	\$ 3,234	\$ 3,234
Buildings and improvements	81,381	80,299
Machinery and equipment	155,463	149,847
Accumulated depreciation	(133,724)	(127,523)
	<u>\$ 106,354</u>	<u>\$ 105,857</u>
Property, plant and equipment subject to capital leases:		
Machinery and equipment	\$ 510	\$ 488
Accumulated amortization for capitalized leases	(249)	(65)
	<u>261</u>	<u>423</u>
	<u>\$ 106,615</u>	<u>\$ 106,280</u>
<b>Other assets:</b>		
Equity investments	\$ 345	\$ 1,955
Deferred income taxes	16	19
Other	2,963	976
	<u>\$ 3,324</u>	<u>\$ 2,950</u>
<b>Accrued liabilities:</b>		
Salaries and related	\$ 8,244	\$ 9,409
Benefits	4,751	4,225
Insurance obligations	1,963	1,992
Warranties	890	1,163
Income taxes	328	226
Other taxes	2,434	1,880
Acquisition-related contingent consideration	1,796	1,036
Other	3,072	2,015
	<u>\$ 23,478</u>	<u>\$ 21,946</u>
<b>Other liabilities:</b>		
Postretirement benefits	\$ 7,678	\$ 8,264
Acquisition-related contingent consideration	2,376	2,010
Deferred income taxes	1,659	615
Uncertain tax positions	2,670	2,634
Other	3,852	272

<u>\$</u>	<u>18,235</u>	<u>\$</u>	<u>13,795</u>
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<sup>(a)</sup> The amount of assets and liabilities held for sale as of January 31, 2019 and 2018 were not material.



(Dollars in thousands, except per-share amounts)

**NOTE 3 ACCUMULATED OTHER COMPREHENSIVE INCOME (LOSS)**

Other comprehensive income (loss) refers to revenue, expenses, gains, and losses that under GAAP are recorded as an element of shareholders' equity but are excluded from net income. The changes in the components of accumulated other comprehensive income (loss) (AOCI) are shown below:

	Cumulative foreign currency translation adjustment	Postretirement benefits	Total
Balance at January 31, 2017	\$ (2,427)	\$ (1,249)	\$ (3,676)
Other comprehensive income before reclassifications	1,234	\$ —	1,234
Amounts reclassified from accumulated other comprehensive income (loss) after tax benefit of \$44	—	(131)	(131)
Balance at January 31, 2018	\$ (1,193)	\$ (1,380)	\$ (2,573)
Other comprehensive (loss) before reclassifications	(1,045)	—	(1,045)
Reclassification due to ASU 2018-02 adoption	—	(280)	(280)
Amounts reclassified from accumulated other comprehensive income (loss) after tax (expense) of (\$99)	—	342	342
Balance at January 31, 2019	\$ (2,238)	\$ (1,318)	\$ (3,556)

Postretirement benefit cost components are reclassified in their entirety from accumulated other comprehensive loss to net periodic benefit cost. Net periodic benefit costs are reported in net income in accordance with ASU 2017-07 "Compensation - Retirement Benefits (Topic 715): Improving the Presentation of Net Periodic Postretirement Benefit Cost" (ASU 2017-07) further described in Note 1 "Summary of Significant Accounting Policies" of the Notes to the Consolidated Financial Statements. Service cost is reported in net income as "Cost of sales" or "Selling, general, and administrative expenses" in a manner consistent with the classification of direct labor and personnel costs of the eligible employees. Interest cost, amortization of actuarial gains or losses, and amortization of prior service cost is classified as a non-operating expense in "Other income (expense), net" on the Consolidated Statements of Income and Comprehensive Income.

**NOTE 4 SUPPLEMENTAL CASH FLOW INFORMATION**

	For the years ended January 31,		
	2019	2018	2017
<b>Changes in operating assets and liabilities:</b>			
Accounts receivable	\$ 3,938	\$ (7,014)	\$ (5,361)
Inventories	1,092	(11,062)	1,215
Prepaid expenses and other assets	(2,440)	(2,445)	228
Accounts payable	(4,517)	1,280	2,558
Accrued and other liabilities	3,480	2,560	8,405
	\$ 1,553	\$ (16,681)	\$ 7,045
<b>Supplemental disclosures of cash flow information:</b>			
Cash paid during the year for income taxes	\$ 8,225	\$ 19,854	\$ 6,618
Interest paid	\$ 227	\$ 186	\$ 190
<b>Significant non-cash transactions:</b>			
Capital expenditures and other intangibles included in accounts payable	\$ 655	\$ 418	\$ 84
Assets acquired under capital leases	\$ 38	\$ 79	\$ —

(Dollars in thousands, except per-share amounts)

## NOTE 5 REVENUE

### Nature of goods and services

The Company is comprised of three unique operating divisions, classified into reportable segments: Applied Technology, Engineered Films, and Aerostar. The following is a description of principal activities, separated by reportable segment, from which the Company generates revenue. Service revenues and contract losses are not material and are not separately disclosed. Furthermore, the Company acts as a principal in transactions and recognizes revenue on a gross basis for which it is entitled from its customers.

### Applied Technology

Applied Technology designs, manufactures, sells, and services innovative precision agriculture products and information management tools, which are collectively referred to as precision agriculture equipment, that help farmers reduce costs, more precisely control inputs, and improve farm yields for the global agriculture market. Customers can purchase precision agriculture equipment individually or in large quantities. For purchases made in large quantities, the Company accounts for each piece of equipment separately, as each is a distinct performance obligation from which the customer derives benefit. The stand-alone selling prices are determined based on the prices at which the Company charges other customers for similar products in similar circumstances. Kits or bundles, which can consist of various pieces of equipment, are shipped together and therefore allocation of transaction price does not impact timing of revenue recognition. In the normal course of business the customer agrees to a fixed price and revenue is recognized when control has transferred to the customer.

### Engineered Films

Engineered Films produces high-performance plastic films and sheeting for geomembrane, agricultural, construction, and industrial applications and also offers design-build and installation services of these plastic films and sheeting. Plastic film and sheeting can be purchased separately or together with installation services. The majority of transactions within Engineered Films are considered non-customized product-only sales. The Company accounts for each product separately, as each is a distinct performance obligation from which the customer derives benefit. The stand-alone selling prices are determined based on the prices at which the Company charges other customers for similar products in similar circumstances. In the normal course of business the customer agrees to a fixed price and revenue is recognized when control has transferred to the customer.

The remaining transactions within Engineered Films are related to installation and/or customized product sales. Installation revenues are recognized over time using the cost incurred input method (i.e., costs incurred to date relative to total estimated costs at completion) because of continuous transfer of control to customers. For customized product-only sales, the Company recognizes revenue over time by applying an output method, such as units delivered, to measure progress.

### Aerostar

Aerostar serves the aerospace/defense and commercial lighter-than-air markets. Aerostar's core products include high-altitude stratospheric balloons and radar systems. These products can be integrated with additional third-party sensors to provide research, communications, and situational awareness capabilities to governmental and commercial customers. Aerostar pursues product and support services contracts with agencies and instrumentalities of the U.S. government. Product sales to customers for which the division does not continuously transfer control are recognized based on a point-in-time. Contracts with customers which include elements of service, and are considered to be single performance obligations, are recognized over time. The stand-alone selling prices are determined based on the prices at which the Company charges other customers for similar products or services in similar circumstances. In the normal course of business the customer agrees to a fixed price. For revenues recognized at a point-in-time, the Company recognizes revenue when control has transferred to the customer. Certain lighter-than-air contracts are recognized over time using the cost incurred input method. The remaining transactions are recognized over time applying an output method, such as units delivered, to measure progress.

### Disaggregation of Revenues

In the following table, revenue is disaggregated by major product category and geography as the Company believes these categories best depict how the nature, amount, timing and uncertainty of revenue and cash flows are affected by economic factors. The table also includes a reconciliation of the disaggregated revenue with reportable segments.

(Dollars in thousands, except per-share amounts)

<b>Revenue by Product Category</b>					
<b>Twelve months ended January 31, 2019</b>					
	<b>ATD</b>	<b>EFD</b>	<b>AERO</b>	<b>ELIM<sup>(a)</sup></b>	<b>Total</b>
<b>Lighter-than-Air</b>					
Domestic	\$ —	\$ —	\$ 37,866	\$ —	\$ 37,866
International	—	—	932	—	932
<b>Plastic Films &amp; Sheeting</b>					
Domestic	—	208,882	—	(512)	208,370
International	—	17,692	—	—	17,692
<b>Precision Agriculture Equipment</b>					
Domestic	100,051	—	—	(10)	100,041
International	29,698	—	—	—	29,698
<b>Other</b>					
Domestic	—	—	12,062	—	12,062
International	—	—	7	—	7
<b>Totals</b>	<b>\$ 129,749</b>	<b>\$ 226,574</b>	<b>\$ 50,867</b>	<b>\$ (522)</b>	<b>\$ 406,668</b>
<b>Twelve months ended January 31, 2018</b>					
	<b>ATD</b>	<b>EFD</b>	<b>AERO</b>	<b>ELIM<sup>(a)</sup></b>	<b>Total</b>
<b>Lighter-than-Air</b>					
Domestic	\$ —	\$ —	\$ 24,956	\$ —	\$ 24,956
International	—	—	93	—	93
<b>Plastic Films &amp; Sheeting</b>					
Domestic	—	201,330	—	(584)	200,746
International	—	11,968	—	—	11,968
<b>Precision Agriculture Equipment</b>					
Domestic	95,249	—	—	—	95,249
International	29,439	—	—	—	29,439
<b>Other</b>					
Domestic	—	—	14,810	—	14,810
International	—	—	56	—	56
<b>Totals</b>	<b>\$ 124,688</b>	<b>\$ 213,298</b>	<b>\$ 39,915</b>	<b>\$ (584)</b>	<b>\$ 377,317</b>
<b>Twelve months ended January 31, 2017</b>					
	<b>ATD</b>	<b>EFD</b>	<b>AERO</b>	<b>ELIM<sup>(a)</sup></b>	<b>Total</b>
<b>Lighter-than-Air</b>					
Domestic	\$ —	\$ —	\$ 17,117	\$ —	\$ 17,117
International	—	—	357	—	357
<b>Plastic Films &amp; Sheeting</b>					
Domestic	—	132,704	—	(789)	131,915
International	—	6,151	—	—	6,151
<b>Precision Agriculture Equipment</b>					
Domestic	76,205	—	—	(1)	76,204
International	29,012	—	—	—	29,012
<b>Other</b>					
Domestic	—	—	16,631	—	16,631
International	—	—	8	—	8
<b>Totals</b>	<b>\$ 105,217</b>	<b>\$ 138,855</b>	<b>\$ 34,113</b>	<b>\$ (790)</b>	<b>\$ 277,395</b>

<sup>(a)</sup> Intersegment sales for fiscal years 2019, 2018 and 2017 were primarily sales from Engineered Films to Aerostar.

(Dollars in thousands, except per-share amounts)

#### Contract Balances

Contract balances include contract assets and contract liabilities that are recorded when the Company enters into a contract with a customer. Contract assets primarily relate to the Company's rights to consideration for work completed but not billed (unbilled receivables) at the reporting date, or retainage provisions on billings that have been issued. Contract assets are converted to receivables when the right to collect becomes unconditional. The Company's contract assets reported at January 31, 2019 and 2018 primarily relate to Engineered Films' geomembrane installation services and service contracts for Aerostar's lighter-than air products and radar processing systems. Contract assets are reported in "Accounts receivable, net" in the Consolidated Balance Sheets.

Contract liabilities consist of customer advances and deferred revenue. Contract liabilities primarily relate to consideration received from customers prior to transferring goods or services to the customer. Contract liabilities are reported in "Other current liabilities" in the Consolidated Balance Sheets.

The changes in contract assets and liabilities were as follows:

	January 31, 2019	January 31, 2018	\$ Change	% Change
Contract assets	\$ 2,027	\$ 3,119	\$ (1,092)	(35.0)%
Contract liabilities	\$ 1,303	\$ 1,890	\$ (587)	(31.1)%

During the twelve months ended January 31, 2019, the Company's contract assets decreased by \$1,092 and contract liabilities decreased by \$587, primarily as a result of the contract terms which include timing of customer payments, timing of invoicing, and progress made on open contracts. The Company's contract assets at January 31, 2019, are primarily unbilled receivables that will convert to billed receivables in first quarter of next year. The Company's contract liabilities at January 31, 2019, include customer advances that will substantially all convert to revenue recognized during the next fiscal year. Due to the short-term nature of the Company's contracts, substantially all of the contract assets that existed as of January 31, 2018, were converted to accounts receivable. In addition the Company's contract liabilities that existed as of January 31, 2018, were recognized as revenue during fiscal 2019.

#### Remaining performance obligations

As of January 31, 2019, the Company did not have any remaining performance obligations related to customer contracts that had an original expected duration of one year or more.

## NOTE 6 ACQUISITIONS AND INVESTMENTS IN BUSINESSES AND TECHNOLOGIES

#### Fiscal year 2019 acquisition

On January 1, 2019, the Company completed the acquisition of substantially all of the assets ("AgSync Acquisition") of AgSync Inc. (AgSync), an Indiana corporation, headquartered in Wakarusa, Indiana. This acquisition was aligned under the Company's Applied Technology Division and is expected to enhance its Slingshot® platform by delivering a more seamless logistics solution for ag retailers, aerial applicators, custom applicators and enterprise farms. The AgSync Acquisition constitutes a business and as such was accounted for as a business combination; however, the business combination was not significant enough to warrant pro-forma financial information.

The purchase price was approximately \$9,400 which includes potential earn-out payments with an estimated fair value of \$1,742. The earn-out is contingent upon achieving certain revenue milestones. Based on the initial acquisition accounting the purchase price of the business acquired was allocated to the assets acquired and liabilities assumed based on their estimated fair values. The excess of the purchase price over the fair value of the identifiable assets acquired and liabilities assumed is reflected as goodwill, which is fully tax deductible. The estimated goodwill and identifiable intangible assets recorded as part of the purchase price allocation at January 31, 2019, were \$4,559 and \$5,400, respectively. The Company expects to complete the purchase price allocation by the end of fiscal 2020.

#### Fiscal year 2018 acquisition

On September 1, 2017, the Company completed the acquisition of substantially all of the assets ("CLI Acquisition") of Colorado Lining International, Inc. (CLI), a Colorado corporation headquartered in Parker, CO. This acquisition was aligned under the Company's Engineered Films Division. The acquisition enhanced the Company's geomembrane market position through extended service and product offerings with the addition of new design-build and installation service components, and advanced Engineered

(Dollars in thousands, except per-share amounts)

Films' business model into a vertically-integrated, full-service solutions provider for the geomembrane market. The CLI Acquisition constitutes a business and as such was accounted for as a business combination; however, the business combination was not significant enough to warrant pro-forma financial information.

The CLI Acquisition included a working capital adjustment that was settled in January 2018. The final working capital adjustment was \$566 which brought the total purchase price to \$14,938. This purchase price included potential earn-out payments with an estimated fair value of \$1,256 which are contingent upon achieving certain revenues and operational synergies.

The fair value of the business acquired was allocated to the assets acquired and liabilities assumed based on their estimated fair values. The excess of the purchase price over the fair value of the identifiable assets acquired and liabilities assumed was reflected as goodwill. Goodwill recorded as part of the purchase price allocation was \$5,714, all of which is tax deductible.

#### **Acquisition-related contingent consideration**

The Company has contingent liabilities related to the current fiscal year acquisition of AgSync, as well as the prior acquisitions of CLI in September 2017, SBG in May 2014 and ATS in January 2012. The fair value of such contingent consideration is estimated as of the acquisition date, and subsequently at the end of each reporting period, using forecasted cash flows. Projecting future cash flows requires the Company to make significant estimates and assumptions regarding future events, conditions or revenues being achieved under the subject contingent agreement as well as the appropriate discount rate. Such valuation techniques include one or more significant inputs that are not observable (Level 3 fair value measures).

Changes in the fair value of the liability for acquisition-related contingent consideration are as follows:

	For the years ended January 31,	
	2019	2018
Beginning balance	\$ 3,046	\$ 1,741
Fair value of contingent consideration acquired	1,742	1,256
Change in fair value of the liability	708	457
Contingent consideration earn-out paid	(1,324)	(408)
Ending balance	\$ 4,172	\$ 3,046
Classification of liability in the Consolidated Balance Sheets		
Accrued Liabilities	\$ 1,796	\$ 1,036
Other Liabilities, long-term	2,376	2,010
Ending balance	\$ 4,172	\$ 3,046

As part of the AgSync Acquisition in the current fiscal year, the Company entered into a contingent earn-out agreement, not to exceed \$3,500. The earn-out is to be paid annually over three years after the purchase date, contingent upon achieving certain revenue milestones. The Company has made no payments on this potential earn-out liability as of January 31, 2019.

Related to the CLI Acquisition in the prior fiscal year, the Company entered into a contingent earn-out agreement, not to exceed \$2,000. The earn-out is paid annually for three years after the purchase date, contingent upon achieving certain revenues and operational synergies. As of January 31, 2019, the Company has paid a total of \$667 of this potential earn-out liability.

In connection with the acquisition of SBG, Raven is committed to making additional earn-out payments, not to exceed \$2,500 calculated and paid quarterly for ten years after the purchase date contingent upon achieving certain revenues. As of January 31, 2019, the Company has paid a total of \$1,336 of this potential earn-out liability.

Related to the acquisition of ATS in 2012, the Company is committed to making annual payments based upon earn-out percentages on specific revenue streams for seven years after the purchase date. To date, the Company has paid a total of \$1,783 of this contingent liability and will make its final annual payment in first quarter of fiscal 2020.

## **NOTE 7 GOODWILL, LONG-LIVED ASSETS, AND OTHER CHARGES**

### **Goodwill**

For goodwill, the Company performs impairment reviews by reporting unit. At the end of fiscal 2019 and 2018, the Company determined it had three reporting units: Engineered Films Division, Applied Technology Division, and Aerostar Division.

(Dollars in thousands, except per-share amounts)

The changes in the carrying amount of goodwill by reporting unit are shown below:

	Applied Technology	Engineered Films	Aerostar	Total
Balance at January 31, 2017	\$ 12,342	\$ 27,518	\$ 789	\$ 40,649
Additions due to business combinations	—	5,714	—	5,714
Divestiture of business	—	—	(52)	(52)
Foreign currency translation adjustment	399	—	—	399
Balance at January 31, 2018	12,741	33,232	737	46,710
Additions due to business combinations	4,559	—	—	4,559
Divestiture of business	—	—	(103)	(103)
Foreign currency translation adjustment	(224)	—	—	(224)
Balance at January 31, 2019	\$ 17,076	\$ 33,232	\$ 634	\$ 50,942

Goodwill gross and net of accumulated impairment losses were as follows:

	As of January 31,	
	2019	2018
Gross goodwill	\$ 62,439	\$ 58,207
Accumulated impairment loss	(11,497)	(11,497)
Net goodwill	\$ 50,942	\$ 46,710

Goodwill is tested for impairment on an annual basis and between annual tests whenever a triggering event indicates there may be an impairment. The annual impairment tests were completed for each reporting unit in the fourth quarter based on a November 30th valuation date.

Fiscal 2019 Goodwill Impairment Testing

In fiscal 2019 no triggering events were deemed to have occurred in any of the quarterly periods and no impairments were recorded as a result of the annual impairment testing. In its annual impairment testing, the Company concluded a quantitative analysis was not required for any of its reporting units based on the Company's qualitative analysis.

Fiscal 2018 Goodwill Impairment Testing

In fiscal 2018 no triggering events were deemed to have occurred in any of the quarterly periods and no impairments were recorded as a result of the annual impairment testing. In its annual impairment testing, the Company concluded a quantitative analysis was not required for the Applied Technology and Engineered Films reporting units. This was based on the Company's qualitative analysis and the fact that the estimated fair value in the Company's most recent impairment test substantially exceeded its carrying value for each of these reporting units.

For the Aerostar reporting unit, the Company determined the excess of the fair value of the reporting unit over its carry value in the previous year's annual impairment assessment was not significant enough based on the current macroeconomic conditions to perform a qualitative analysis. As such, the Company performed a quantitative analysis for the annual impairment assessment of the Aerostar reporting unit. In determining the estimated fair value of the Aerostar reporting unit, the Company was required to estimate a number of factors, including future revenues and expenses, projected capital expenditures, changes in net working capital and the discount rate. On the basis of these estimates, the November 30, 2017, analysis indicated that the estimated fair value of the Aerostar reporting unit exceeded the reporting unit carrying value by approximately \$11,600 or approximately 41%, as such there were no goodwill impairment losses reported in the year ended January 31, 2018.

Fiscal 2017 Goodwill Impairment Testing

In the fiscal 2017 third quarter, the Company determined that a triggering event occurred for its Aerostar reporting unit, which had \$789 of goodwill as of October 31, 2016. The triggering event was caused by lowering the financial expectations for net sales and operating income of the reporting unit and certain asset groups due to delays and uncertainties regarding the reporting unit's pursuit of certain opportunities, including aerostat orders, certain classified stratospheric balloon pursuits, and radar pursuits. Aerostar was still actively pursuing these opportunities and some were in active negotiations, but the timing of certain aerostat and classified stratospheric balloon opportunities were being delayed more than previously expected and the likelihood of radar sales is lower due to the Company's decision to no longer actively pursue certain radar product opportunities.

(Dollars in thousands, except per-share amounts)

A quantitative impairment analysis was completed using fair value techniques as of October 31, 2016. In determining the estimated fair value of the Aerostar reporting unit, the Company was required to estimate a number of factors, including projected revenue growth rates, projected operating results, terminal growth rates, economic conditions, anticipated future cash flows, and the discount rate. On the basis of these estimates, the October 31, 2016, analysis indicated that the estimated fair value of the Aerostar reporting unit exceeded the reporting unit carrying value by approximately \$9,000, or approximately 30%.

There were no other triggering events during fiscal 2017 for any of the three reporting units, and no impairments were recorded as a result of the annual impairment testing for fiscal 2017.

#### ***Intangible Assets***

The following table provides the gross carrying amount and related accumulated amortization of definite-lived intangible assets:

	For the years ended January 31,					
	2019			2018		
	Amount	Accumulated amortization	Net	Amount	Accumulated amortization	Net
Existing technology	\$ 9,203	\$ (7,216)	\$ 1,987	\$ 7,290	\$ (6,996)	\$ 294
Customer relationships	15,791	(5,508)	10,283	13,264	(4,834)	8,430
Patents and other intangibles	5,908	(1,885)	4,023	4,241	(2,381)	1,860
<b>Total</b>	<b>\$ 30,902</b>	<b>\$ (14,609)</b>	<b>\$ 16,293</b>	<b>\$ 24,795</b>	<b>\$ (14,211)</b>	<b>\$ 10,584</b>

The estimated future amortization expense for these definite-lived intangible assets during the next five years is as follows:

	2020	2021	2022	2023	2024
Estimated amortization expense	\$ 2,425	\$ 2,358	\$ 2,300	\$ 2,235	\$ 1,711

#### ***Long-lived assets***

The Company assesses the recoverability of long-lived assets, including definite-lived intangibles, equity method investments, and property plant and equipment if events or changes in circumstances indicate that an asset might be impaired. For long-lived and intangible assets, the Company performs impairment reviews by asset groups. Management periodically assesses for triggering events and discusses any significant changes in the utilization of long-lived assets. For purposes of recognition and measurement of an impairment loss, a long-lived asset is grouped with other assets and liabilities at the lowest level for which identifiable cash flows are largely independent of the cash flows of other assets and liabilities.

When performing long-lived asset testing, the fair values of assets are determined based on valuation techniques using the best available information. Such valuations are derived from valuation techniques in which one or more significant inputs are not observable (Level 3 fair value measures). An impairment loss is measured and recognized when the carrying amount of an asset exceeds the estimated discounted cash flows.

#### ***Fiscal 2019 Long-lived Assets Impairment Assessment***

The Company did not identify any triggering events for any of its assets groups during fiscal 2019 and as such there were no impairment losses reported in the year ended January 31, 2019, for any of the Company's long-lived assets.

#### ***Fiscal 2018 Long-lived Assets Impairment Assessment***

During first quarter of fiscal 2018, the Company determined the customer relationship intangible asset related to the AgEagle investment was fully impaired. This is more fully described in Note 1 "Significant Accounting Policies". The Company did not identify any additional triggering events for any of its asset groups for the remainder of fiscal 2018.

#### ***Fiscal 2017 Long-lived Assets Impairment Assessment***

The Company evaluated the triggering events described in the goodwill impairment analysis for fiscal 2017 and determined there were also triggering events with respect to the assets associated with the aerostat and stratospheric programs (Lighter-than-Air) and the radar product and radar services (Radar) asset groups in the Aerostar reporting unit in the third quarter of fiscal 2017, which resulted in an asset impairment test.

Using the sum of the undiscounted cash flows associated with each of the two asset groups, a quantitative test was performed for each asset group. The undiscounted cash flows for the Lighter-than-Air asset group exceeded the carrying value of the long-lived assets by approximately \$110,000, or 800%, and no discounted quantitative analysis was deemed necessary based on the

(Dollars in thousands, except per-share amounts)

recoverability of the long-lived assets. For the Radar asset group, however, the undiscounted cash flows did not exceed the carrying value of the long-lived assets and the Company performed a discounted quantitative analysis for the long-lived assets.

In this discounted quantitative impairment analysis, the fair value determined was allocated to the assets and liabilities of the Radar asset group. The resulting estimated fair value of the Radar asset group long-lived assets was \$175 compared to the carrying value of \$262 for the asset group. The shortfall of \$87 was recorded in the fiscal 2017 third quarter as an impairment charge to operating income reported as "Long-lived asset impairment loss" in the Consolidated Statements of Income and Comprehensive Income. The total impairment loss related to property, plant, and equipment and patents was \$62 and \$25, respectively.

#### ***Other Charges***

##### ***Inventory Write-downs***

Due to the Company's decision to no longer actively pursue certain radar opportunities, during the fiscal 2017 third quarter the Company wrote-down radar inventory, purchased primarily during fiscal 2016. The decision to write-down this inventory is consistent with the triggering event identified during the fiscal 2017 third quarter relating to the Aerostar reporting unit and the Radar asset group. This radar-specific inventory write-down increased "Cost of sales" by \$2,278 in fiscal 2017. There were no significant inventory write-downs in fiscal 2019 or 2018.

## **NOTE 8      EMPLOYEE POSTRETIREMENT BENEFITS**

#### ***Defined contribution 401(k) plan***

The Company has one 401(k) plan covering substantially all employees and this plan matches employee contributions up to 5%. Prior to January 1, 2018, the plan matched contributions up to 4%. Under this plan all account balances and future contributions and related earnings can be invested in several investment alternatives as well as the Company's common stock in accordance with each participant's elections. Participants may choose to make separate investment choices for current account balances and for future contributions. Participants may elect to direct up to 10% of their contributions and the employers matching contributions to the 401(k) plan into the Company's common stock. In addition, the plan does not allow a participant to exchange more than 10% of their existing account balance into the Company's common stock or permit exchanges that would cause the participant's investment in the Company's common stock to exceed 10% of the participant's total balance in the 401(k) plan. Officers of the Company may not include Raven's common stock in their 401(k) plan elections.

Total contribution expense to all such plans was \$3,006, \$2,263, and \$2,030 for fiscal 2019, 2018, and 2017, respectively, and all of these contributions were to the 401(k) plan.

#### ***Deferred compensation plan***

Effective January 1, 2018, the Company established a section 409A non-qualified deferred compensation plan and associated *rabbi trust* for participants approved by the Board of Director's Personnel and Compensation Committee. The purpose of the deferred compensation plan is to attract and retain key employees by providing them with an opportunity to defer a portion of their compensation. The plan's *rabbi trust* is funded from the participant's deferred compensation as the Company does not contribute or match participant contributions. Any assets held in *rabbi trust* are part of the Company's general assets and are subject to creditor's claims. The Company's common stock is not an investment option under this Plan as all contributions to the *rabbi trust* are invested in open-end mutual funds registered with the Securities and Exchange Commission based on the participant's investment elections.

The Company reports these financial instruments at fair value using level 1 observable inputs. The fair value of the liability and financial instruments held at January 31, 2019, were not material. Changes in the fair value of these financial instruments, realized gains and losses, dividends, and interest income were reported in "Other income (expense), net" on the Consolidated Statements of Income and Comprehensive Income and were not material for fiscal 2019.



(Dollars in thousands, except per-share amounts)

Defined benefit postretirement plan

In addition, the Company provides postretirement medical and other benefits to certain senior executive officers and senior managers. These plan obligations are unfunded and therefore have no assets as of January 31, 2019, and 2018. The accumulated benefit obligation is as follows:

	For the years ended January 31,	
	2019	2018
Benefit obligation at beginning of year	\$ 8,571	\$ 8,416
Service cost	28	74
Interest cost	316	312
Actuarial (gain) loss and assumption changes	(473)	112
Retiree benefits paid	(441)	(343)
Benefit obligation at end of year	\$ 8,001	\$ 8,571

The following tables set forth the plan's pre-tax adjustment to accumulated other comprehensive income/loss:

	For the years ended January 31,	
	2019	2018
Amounts not yet recognized in net periodic benefit cost:		
Net actuarial loss	\$ 2,114	\$ 2,714
Prior service cost	(413)	(572)
Total pre-tax accumulated other comprehensive loss	\$ 1,701	\$ 2,142
Pre-tax accumulated other comprehensive loss - beginning of year related to benefit obligation	\$ 2,142	\$ 1,967
Reclassification adjustments recognized in benefit cost:		
Recognized net (loss)	(128)	(96)
Amortization of prior service cost	160	159
Amounts recognized in AOCI during the year:		
Net actuarial (gain) loss	(473)	112
Pre-tax accumulated other comprehensive loss - end of year related to benefit obligation	\$ 1,701	\$ 2,142

The net actuarial gain for fiscal year 2019 was the result of an increase in the discount rate by 50 basis points and unfavorable medical cost trends. The net actuarial loss for fiscal year 2018 was the result of a decrease in the discount rate and unfavorable demographic experience partially offset by medical costs trending lower than expected. The liability and net periodic benefit cost reflected in the Consolidated Balance Sheets and Consolidated Statements of Income and Comprehensive Income were as follows:

(Dollars in thousands, except per-share amounts)

	For the years ended January 31,	
	2019	2018
Beginning liability balance	\$ 8,571	\$ 8,416
Net periodic benefit cost	312	323
Other comprehensive (gain) loss	(441)	175
Total recognized in net periodic benefit cost and other comprehensive income	(129)	498
Retiree benefits paid	(441)	(343)
Ending liability balance	\$ 8,001	\$ 8,571
Current portion in accrued liabilities	\$ 323	\$ 307
Long-term portion in other liabilities	\$ 7,678	\$ 8,264
Assumptions used to calculate benefit obligation:		
Discount rate	4.25%	3.75%
Rate of compensation increase	4.00%	4.00%
Health care cost trend rates:		
Health care cost trend rate assumed for next year	6.33%	6.50%
Ultimate health care cost trend rate	4.50%	4.50%
Year that the rate reaches the ultimate trend rate	2030	2030
Assumptions used to calculate the net periodic benefit cost:		
Discount rate	3.75%	4.00%
Rate of compensation increase	4.00%	4.00%

The discount rate is based on matching rates of return on high-quality fixed-income investments with the timing and amount of expected benefit payments. No material fluctuations in retiree benefit payments are expected in future years.

The Company expects to make \$330 in postretirement medical and other benefit payments in fiscal 2020. The following postretirement other than pension benefit payments, which reflect expected future service as appropriate, are expected to be paid:

	2020	2021	2022	2023	2024	2025 - 2029
Expected postretirement medical and other benefit payments	\$ 330	\$ 341	\$ 349	\$ 352	\$ 354	\$ 1,888

## NOTE 9 WARRANTIES

Changes in the warranty accrual were as follows:

	For the years ended January 31,		
	2019	2018	2017
Beginning balance	\$ 1,163	\$ 1,547	\$ 1,835
Change in provision	1,449	1,762	1,597
Settlements made	(1,722)	(2,146)	(1,885)
Ending balance	\$ 890	\$ 1,163	\$ 1,547

(Dollars in thousands, except per-share amounts)

## NOTE 10 INCOME TAXES

The reconciliation of income tax computed at the federal statutory rate to the Company's effective income tax rate was as follows:

	For the years ended January 31,		
	2019	2018	2017
Tax at U.S. federal statutory rate	21.0 %	33.8 %	35.0 %
Impact of the Tax Cuts and Jobs Act	—	(0.1)	—
State and local income taxes, net of U.S. federal tax benefit	1.7	1.6	0.7
Tax credit for research activities	(2.3)	(1.8)	(3.7)
Tax benefit on qualified production activities	—	(3.0)	(2.8)
Tax benefit from foreign-derived intangible income	(0.8)	—	—
Tax benefit on insurance premiums	(0.8)	(1.3)	(1.5)
Change in uncertain tax positions	—	0.1	(0.3)
Foreign tax rate difference	0.1	—	(0.3)
Impact of settlement of stock-based awards	(2.4)	1.2	—
Other, net	(0.8)	—	0.4
Effective Tax Rate	15.7 %	30.5 %	27.5 %

The TCJA was enacted on December 22, 2017, and reduced the U.S. federal statutory tax rate to 21 percent effective January 1, 2018. In addition, the SEC staff issued Staff Accounting Bulletin No. 118 (SAB 118), Income Tax Accounting Implications of the TCJA, which allows the Company to record provisional amounts during a measurement period not to extend beyond one year from the enactment date. The Company completed its accounting for the transition tax during this measurement period in fiscal 2019 and has also determined that it will elect to recognize Global Intangible Low Taxed Income as a period cost if, and when, incurred.

The decrease in the effective tax rate for fiscal 2019 is primarily due to the decrease in the federal statutory tax rate pursuant to the TCJA and the recognition of net favorable discrete items. Excluding these net favorable discrete items, the Company's effective tax rate decreased approximately 10 percentage points resulting in tax savings of \$6,218 in fiscal year 2019. Including these net favorable discrete items, the Company's effective tax rate decreased approximately 15 percentage points resulting in tax savings of \$9,112 in fiscal year 2019.

The increase in the fiscal 2018 effective tax rate compared to fiscal 2017 is primarily due to higher pre-tax income in fiscal 2018, net discrete tax items from the settlement of stock-based awards, and the TCJA.

The expense (benefit) for income taxes consists of:

	For the years ended January 31, 2019		
	2019	2018	2017
Current expense (benefit):			
Federal	\$ 6,910	\$ 17,057	\$ 6,375
State	1,099	1,549	591
Foreign	735	148	388
	8,744	18,754	7,354
Deferred expense (benefit):			
Federal	1,018	(613)	330
State	73	(13)	14
Foreign	(138)	(161)	(37)
	953	(787)	307
Income tax expense	\$ 9,697	\$ 17,967	\$ 7,661

(Dollars in thousands, except per-share amounts)

**Deferred Tax Assets (Liabilities)**

Deferred income taxes reflect the net tax effects of temporary differences between the carrying amounts of assets and liabilities for financial reporting purposes and the amounts used for income tax purposes. Significant components of the Company's deferred tax assets and liabilities were as follows:

	As of January 31,	
	2019	2018
<b>Deferred tax assets:</b>		
Accounts receivable	\$ 147	\$ 184
Inventories	1,110	664
Accrued vacation	695	647
Insurance obligations	187	137
Warranty obligations	200	262
Postretirement benefits	1,800	1,929
Uncertain tax positions	487	491
Share-based compensation	1,834	1,761
Other accrued liabilities	913	54
	<u>7,373</u>	<u>6,129</u>
<b>Deferred tax (liabilities):</b>		
Depreciation and amortization	(8,498)	(6,082)
Other	(518)	(643)
	<u>(9,016)</u>	<u>(6,725)</u>
<b>Net deferred tax (liability)</b>	<b>\$ (1,643)</b>	<b>\$ (596)</b>

**Uncertain Tax Positions**

A summary of the activity related to the gross unrecognized tax benefits (excluding interest and penalties) is as follows:

	For the years ended January 31,		
	2019	2018	2017
Gross unrecognized tax benefits at beginning of year	\$ 2,216	\$ 2,110	\$ 2,327
Increases in tax positions related to the current year	415	426	279
Decreases in tax positions related to prior years	—	—	(193)
Decreases as a result of lapses in applicable statutes of limitation	(403)	(320)	(303)
Gross unrecognized tax benefits at end of year	<u>\$ 2,228</u>	<u>\$ 2,216</u>	<u>\$ 2,110</u>

Fiscal year 2019 and 2018 changes to uncertain tax positions related to prior years resulted from lapses of applicable statutes of limitations.

The total unrecognized tax benefits (including interest and penalty) that, if recognized, would affect the Company's effective tax rate were \$2,183, \$2,143, and \$1,806 as of January 31, 2019, 2018, and 2017, respectively. The Company recognizes interest and penalties accrued related to unrecognized tax benefits in income tax expense. At January 31, 2019, 2018 and 2017, accrued interest and penalties were \$442, \$418, and \$500, respectively. The Company does not expect any significant change in the amount of unrecognized tax benefits in the next fiscal year.

**Additional Tax Information**

The Company files tax returns, including returns for its subsidiaries, with various federal, state, and local jurisdictions. Uncertain tax positions are related to tax years that remain subject to examination. As of January 31, 2019, federal tax returns filed in the U.S. for fiscal years ended January 31, 2016 through January 31, 2018 remain subject to examination by federal tax authorities. In state and local jurisdictions, tax returns for fiscal years ended January 31, 2013 through January 31, 2018 remain subject to examination by state and local tax authorities. International jurisdictions have open tax years varying by location beginning in fiscal 2014.

Pre-tax book income for the U.S. companies and the foreign subsidiaries was \$59,774 and \$1,796, respectively. As of January 31, 2019, the Company has no deferred tax liability recognized relating to the Company's investment in foreign subsidiaries where the earnings have been indefinitely reinvested. The TCJA generally eliminates U.S. federal income taxes on dividends from foreign subsidiaries, and as a result, the accumulated undistributed earnings would only be subject to other taxes, such as withholding

(Dollars in thousands, except per-share amounts)

taxes and state income taxes, on distribution of such earnings. No additional withholding or income taxes has been provided for any remaining undistributed foreign earnings not subject to the one-time deemed repatriation tax, as it is the Company's intention for these amounts to continue to be indefinitely reinvested in foreign operations.

## NOTE 11 FINANCING ARRANGEMENTS

The Company entered into a credit facility on April 15, 2015 with JPMorgan Chase Bank, N.A., Toronto Branch as Canadian Administrative Agent, JPMorgan Chase Bank, National Association, as administrative agent, and each lender from time to time party thereto (the Credit Agreement). The Credit Agreement provides for a syndicated senior revolving credit facility up to \$125,000 with a maturity date of April 15, 2020. Loan proceeds may be utilized by Raven for strategic business purposes, such as business acquisitions, and for net working capital needs.

Simultaneous with execution of the Credit Agreement, Raven, Aerostar and ATS entered into a guaranty agreement in favor of JPMorgan Chase Bank National Association in its capacity as administrator under the Credit Agreement for the benefit of JPMorgan Chase Bank N.A., Toronto Branch and the lenders and their affiliates under the Credit Agreement.

The unamortized debt issuance costs associated with this Credit Agreement were as follows:

	As of January 31,	
	2019	2018
Unamortized debt issuance costs <sup>(a)</sup>	\$ 132	\$ 242

<sup>(a)</sup> Unamortized debt issuance costs are amortized over the term of the Credit Agreement and are reported as "Other assets" in the Consolidated Balance Sheets.

Loans or borrowings defined under the Credit Agreement bear interest and fees at varying rates and terms defined in the Credit Agreement based on the type of borrowing as defined. The Credit Agreement includes annual administrative and unborrowed capacity fees. Such fees were \$212, \$211 and \$215 for the years ended January 31, 2019, 2018 and 2017, respectively.

The Credit Agreement also contains customary affirmative and negative covenants, including those relating to financial reporting and notification, limits on levels of indebtedness and liens, investments, mergers and acquisitions, affiliate transactions, sales of assets, restrictive agreements, and change in control as defined in the Credit Agreement. Financial covenants include an interest coverage ratio and funded indebtedness to earnings before interest, taxes, depreciation, and amortization as defined in the Credit Agreement. The Company is in compliance with all covenants as of January 31, 2019.

Letters of credit (LOC) issued and outstanding were as follows:

	As of January 31,	
	2019	2018
Letters of credit outstanding <sup>(a)</sup>	\$ 514	\$ 1,097

<sup>(a)</sup> Any draws required under the LOC would be settled with available cash or borrowings under the Credit Agreement.

There have been no borrowings under any of the credit agreements and there were no borrowings outstanding for any of the fiscal periods covered by this Annual Report on Form 10-K. Availability under the Credit Agreement for borrowings as of January 31, 2019 was \$124,536.

### Capital leases

The Company's capital leases include a fleet of vehicles to support business operations. Future minimum lease payments under capital leases and the present value of the net minimum lease payments as of January 31, 2019, were as follows:

	2020	2021	2022	2023	2024	Thereafter	Total
Minimum lease payments	\$ 182	\$ 102	\$ 44	\$ 2	\$ —	\$ —	\$ 330
Less amount representing estimated executory costs such as taxes, license and insurance including profit thereon.							(14)
Net minimum lease payments							316
Less amounts representing interest							(32)
Present value of net minimum lease payments							\$ 284

(Dollars in thousands, except per-share amounts)

At January 31, 2019, the present value of net minimum lease payments due within one year is \$154. Amortization and interest expense were as follows:

	For the years ended January 31,		
	2019	2018	2017
Amortization expense	\$ 200	\$ 65	\$ —
Interest expense	39	13	—

#### Operating leases

The Company leases certain vehicles, equipment and facilities under operating leases. Total rent and lease expense was \$2,897, \$2,104 and \$2,028 in fiscal 2019, 2018 and 2017, respectively.

Future minimum lease payments under noncancelable operating leases are as follows:

	2020	2021	2022	2023	2024	Thereafter
Minimum lease payments	\$ 2,213	\$ 1,939	\$ 728	\$ 356	\$ 140	\$ —

## NOTE 12 COMMITMENTS AND CONTINGENCIES

The Company is involved as a party in lawsuits, claims, regulatory inquiries, or disputes arising in the normal course of its business, the potential costs and liability of which cannot be determined at this time. Management does not believe the ultimate outcomes of its legal proceedings are likely to be material to its results of operations, financial position, or cash flows.

The Company has insurance policies that provide coverage to various degrees for potential liabilities arising from legal proceedings.

The Company entered into a Gift Agreement (the Agreement) effective in January 2018 with the South Dakota State University Foundation, Inc. (the Foundation). The Agreement states that the Company will make a \$5,000 gift to the Foundation, conditional on certain other actions. Management concluded contingencies related to this gift were substantially met during the first quarter of fiscal 2019 and a liability had been incurred. As such, \$4,503 of contribution expense was recognized in first quarter with interest expense to be recognized in periods thereafter. The fair value of this contingency at January 31, 2019, was \$3,199 (measured based on the present value of the expected future cash outflows) of which \$691 was classified as "Accrued liabilities" and \$2,509 was classified as "Other liabilities" on the Consolidated Balance Sheet. For the twelve-month period ended January 31, 2019, the Company reported \$4,503 of selling, general, and administrative expenses and \$127 of interest expense related to this gift. As of January 31, 2019, the Company has made payments related to the commitment totaling \$1,430. This gift will be used by South Dakota State University (SDSU), located in Brookings, SD, for the establishment of a precision agriculture facility to support SDSU's Precision Agriculture degrees and curriculum. This facility will assist the Company in further collaboration with faculty, staff and students on emerging technology in support of the growing need for precision agriculture practices and tools.

In addition to commitments disclosed elsewhere in the Notes to the Consolidated Financial Statements, the Company has unconditional purchase obligations for inventory and other obligations that arise in the normal course of business operations. The majority of these obligations are related to the Applied Technology and Engineered Films divisions and arise from the purchase of raw materials inventory.

## NOTE 13 SHARE-BASED COMPENSATION

At January 31, 2019, the Company had two shareholder approved share-based compensation plans, which are described below. The compensation cost and related income tax benefit for these plans were as follows:

	For the years ended January 31,		
	2019	2018	2017
Share-based compensation cost	\$ 3,951	\$ 3,725	\$ 3,071
Tax benefit	736	1,275	1,103

Share-based compensation cost capitalized as part of inventory is not significant.

(Dollars in thousands, except per-share amounts)

### Equity Compensation Plans

The Company reserved shares of its common stock for issuance to directors, officers, employees and certain advisors of the Company through incentive stock options and non-statutory stock options, stock appreciation rights, stock awards, restricted stock, restricted stock units (RSUs) and performance awards to be granted under the Amended and Restated 2010 Stock Incentive Plan (the Plan) which was approved by shareholders on May 22, 2012. The aggregate number of shares initially available for grant under the Plan was 2,000,000. As of January 31, 2019, the number of shares available for grant was 1,030,973. Option exercises under the Plan are settled in newly issued common shares.

The Plan is administered by the Personnel and Compensation Committee of the Board of Directors (the Committee), consisting of two or more independent directors of the Company. The Committee determines the option exercise prices and the term of each grant. The Committee may accelerate the exercisability of awards under the Plan or extend the term of such awards to the extent allowed by the Plan to a maximum term of ten years. Two types of awards were granted under the Plan in fiscal 2019, stock options and restricted stock units.

### Stock Option Awards

The Company granted 55,810 non-qualified stock options during fiscal 2019. Options are granted with exercise prices not less than the market value of the Company's common stock at the date of grant. The stock options vest over a four-year period and expire after five years. Options contain retirement and change-in-control provisions that may accelerate the vesting period. The fair value of each option grant is estimated on the date of grant using the Black-Scholes option pricing model. The Company uses historical data to estimate option exercises, employee terminations and volatility within this valuation model.

The weighted average assumptions used for the Black-Scholes option pricing model by grant year are as follows:

	For the years ended January 31,		
	2019	2018	2017
Risk-free interest rate	2.51%	1.68%	1.05%
Expected dividend yield	1.48%	1.78%	3.33%
Expected volatility factor	35.20%	33.87%	32.61%
Expected option term (in years)	4.25	4.25	4.00
Weighted average grant date fair value	\$ 9.83	\$ 7.35	\$ 3.05

Outstanding stock options as of January 31, 2019, and activity for the year then ended are presented below:

	Number of options	Weighted average exercise price	Aggregate intrinsic value	Weighted average remaining contractual term (years)
Outstanding, January 31, 2018	702,950	\$ 22.34		
Granted	55,810	35.05		
Exercised	(390,630)	23.48		
Outstanding, January 31, 2019	368,130	\$ 23.06	\$ 5,130	2.41
Outstanding exercisable, January 31, 2019	70,545	\$ 23.08	\$ 981	1.71
Options vested, or expected to vest, January 31, 2019	368,130	\$ 23.06	\$ 5,130	2.41

The intrinsic value of a stock award is the amount by which the fair value of the underlying stock exceeds the exercise price of the award. The total intrinsic value of options exercised was \$7,568, \$1,036, and \$0 during the years ended January 31, 2019, 2018 and 2017, respectively. The total fair value of options vested was \$892, \$1,312 and \$1,323, during the years ended January 31, 2019, 2018 and 2017, respectively. As of January 31, 2019, the total unrecognized compensation cost for non-vested awards was \$612. This amount is expected to be recognized over a weighted average period of 2.13 years.

### Restricted Stock Unit Awards

The Company granted 49,438 time-vested RSUs during the year ended January 31, 2019. The fair value of a time-vested RSU is measured based upon the closing market price of the Company's common stock on the day prior to the date of grant. Time-vested RSUs will vest if, at the end of the vesting period, the employee remains employed by the Company. RSUs contain retirement

(Dollars in thousands, except per-share amounts)

and change-in-control provisions that may accelerate the vesting period. Dividends are cumulatively earned on the time-vested RSUs over the vesting period and are forfeited if such RSUs do not vest.

Activity for time-vested RSUs under the Plan in fiscal 2019 was as follows:

	Number of restricted stock units	Weighted average grant date fair value per share
Outstanding, January 31, 2018	146,849	\$ 21.81
Granted	49,438	35.15
Vested	(26,510)	19.34
Forfeited	(3,752)	25.72
Outstanding, January 31, 2019	166,025	\$ 26.09
Cumulative dividends, January 31, 2019	5,547	

The Company also granted performance-based RSUs during the year ended January 31, 2019. The exact number of performance shares to be issued will vary from 0% to 150% of the target award, depending on the Company's actual performance over the vesting period in comparison to the target award. The target awards for the fiscal 2019, 2018 and 2017 grants are based on return on equity (ROE), which is defined as net income divided by the average of beginning and ending shareholders' equity for the fiscal year. The performance-based RSUs will vest if, at the end of the performance period, the Company has achieved certain performance goals and the employee remains employed by the Company. Performance-based RSUs contain retirement and change-in-control provisions that may accelerate the vesting period. Dividends are cumulatively earned on performance-based RSUs over the vesting period and are forfeited if such RSUs do not vest.

The fair value of the performance-based restricted stock units is based upon the closing market price of the Company's common stock on the day prior to the grant date. The number of restricted stock units granted is based on 100% of the target award. The number of RSUs that will vest is determined by the estimated ROE target over the performance period. The estimated performance factor used to estimate the number of restricted stock units expected to vest is evaluated quarterly. The number of restricted stock units issued at the vesting date will be based on actual results.

Activity for performance-based RSUs under the Plan in fiscal 2019 was as follows:

	Number of restricted stock units expected to vest	Weighted average grant date fair value per share
Outstanding, January 31, 2018	179,729	\$ 19.40
Granted	23,213	35.05
Vested	(44,091)	20.10
Forfeited	(795)	31.30
Performance-based adjustment	6,244	30.37
Outstanding, January 31, 2019	164,300	\$ 22.44
Cumulative dividends, January 31, 2019	4,581	

The weighted average grant date fair values of the time-based and performance-based RSUs by grant year are as follows:

	For the years ended January 31,		
	2019	2018	2017
Weighted average grant date fair value: time-based RSUs	\$ 35.15	\$ 29.33	\$ 15.94
Weighted average grant date fair value: performance-based RSUs	\$ 35.05	\$ 29.20	\$ 15.61



(Dollars in thousands, except per-share amounts)

The total intrinsic value of RSUs vested (or converted to shares) was \$2,468, \$685, and \$754 during the years ended January 31, 2019, 2018 and 2017, respectively. The total fair value of RSUs vested (or converted to shares) was \$2,477, \$678, and \$761, during the years ended January 31, 2019, 2018 and 2017, respectively. As of January 31, 2019, there were 330,325 outstanding RSUs expected to vest with a weighted average term of 1.80 years and an aggregate intrinsic value of \$12,219. None of the outstanding RSUs are vested as of January 31, 2019. The total unrecognized compensation cost for nonvested RSU awards at January 31, 2019, was \$3,334. This amount is expected to be recognized over a weighted average period of 1.80 years.

#### ***Deferred Stock Compensation Plan for Directors***

The Company issues common stock to certain members of its Board of Directors under the Deferred Stock Compensation Plan for Directors of Raven Industries, Inc. (the Director Plan). The Director Plan is administered by the Personnel and Compensation Committee of the Board of Directors. Under the Director Plan, any non-employee director receives a grant of a number of stock units as deferred compensation to be converted into common stock after retirement from the Board of Directors and may elect to have a specified percentage of their annual retainer converted to stock units. Under the Director Plan, a stock unit is the right to receive one share of the Company's common stock as deferred compensation, to be distributed from an account established by the Company in the name of the non-employee director. Stock units have the same value as a share of common stock but cannot be sold. Stock units are a component of the Company's equity.

Stock units granted under the Director Plan vest immediately and are expensed at the date of grant. When dividends are paid on the Company's common shares, stock units are added to the directors' balances and a corresponding amount is removed from retained earnings. The intrinsic value of a stock unit is the fair value of the underlying shares.

Outstanding stock units as of January 31, 2019, and changes during the year then ended are presented below:

	Number of stock units	Weighted average price
Outstanding, January 31, 2018	87,614	\$ 19.35
Granted	13,713	39.25
Deferred retainers	2,560	39.05
Dividends	1,338	38.99
Outstanding, January 31, 2019	105,225	\$ 22.67

#### **NOTE 14 NET INCOME PER SHARE**

Basic net income per share is computed by dividing net income by the weighted average common shares and stock units outstanding. Diluted net income per share is computed by dividing net income by the weighted average common and common equivalent shares outstanding which includes the shares issuable upon exercise of employee stock options (net of shares assumed purchased with the option proceeds), stock units and restricted stock units outstanding. Performance share awards are included in the diluted calculation based upon what would be issued if the end of the most recent reporting period was the end of the term of the award.

Certain outstanding options and restricted stock units were excluded from the diluted net income per-share calculations because their effect would have been anti-dilutive under the treasury stock method. The options and restricted stock units excluded from the diluted net income per share calculation were as follows:

	For the years ended January 31,		
	2019	2018	2017
Anti-dilutive options and restricted stock units	54,631	344,774	884,099

(Dollars in thousands, except per-share amounts)

The computation of earnings per share is presented below:

	For the years ended January 31,		
	2019	2018	2017
<b>Numerator:</b>			
Net income attributable to Raven Industries, Inc.	\$ 51,794	\$ 41,022	\$ 20,191
<b>Denominator:</b>			
Weighted average common shares outstanding	35,907,041	35,945,225	36,142,416
Weighted average stock units outstanding	99,922	104,980	100,019
Denominator for basic calculation	36,006,963	36,050,205	36,242,435
Weighted average common shares outstanding	35,907,041	35,945,225	36,142,416
Weighted average stock units outstanding	99,922	104,980	100,019
Dilutive impact of stock options and RSUs	431,595	399,620	129,480
Denominator for diluted calculation	36,438,558	36,449,825	36,371,915
Net income per share - basic	\$ 1.44	\$ 1.14	\$ 0.56
Net income per share - diluted	\$ 1.42	\$ 1.13	\$ 0.56

#### NOTE 15 BUSINESS SEGMENTS AND MAJOR CUSTOMER INFORMATION

The Company's operating segments, which are also its reportable segments, are defined by their product lines which have been generally grouped based on technology, manufacturing processes, and end-use application. The Company's reportable segments are Applied Technology Division, Engineered Films Division, and Aerostar Division. Separate financial information is available for each reportable segment and regularly evaluated by the Company's chief operating decision-maker, the President and Chief Executive Officer, in making resource allocation decisions for the Company's reportable segments. Segment information is reported consistent with the Company's management reporting structure.

Applied Technology designs, manufactures, sells, and services innovative precision agriculture products and information management tools, which are collectively referred to as precision agriculture equipment, that help farmers reduce costs, more precisely control inputs, and improve farm yields for the global agriculture market. The Applied Technology product families include application controls, GPS-guidance steering systems, field computers, automatic boom controls, information management tools, and injection systems. Applied Technology's services include high-speed in-field Internet connectivity and cloud-based data management. The Company's investment in the continued build-out of the Slingshot® platform has also positioned Applied Technology as an information platform that improves decision-making and achieves business efficiencies for its agriculture retail partners. Applied Technology acquired the assets of AgSync, Inc. (AgSync), an agriculture logistics software company, in January 2019. This acquisition enhances the division's Slingshot® platform by delivering a logistics solution for ag retailers, custom applicators and enterprise farms.

Engineered Films produces high-performance plastic films and sheeting for geomembrane, agricultural, construction, and industrial applications and also offers design-build and installation services of these plastic films and sheeting. Plastic film and sheeting can be purchased separately or together with installation services. Engineered Films sells both direct to end-customers and through independent third-party distributors. The majority of product sold into the construction and agriculture markets is through distributors, while sales into the geomembrane and industrial markets are more direct in nature. The Company extrudes a significant portion of the film converted for its commercial products and believes it is one of the largest sheeting converters in the United States in the markets it serves. Engineered Films' ability to extrude and convert films, along with offering installation services for its geomembrane products, allows it to provide a more customized solution to customers. A number of film manufacturers compete with the Company on both price and product availability.

Aerostar serves the aerospace/defense and commercial lighter-than-air markets. Aerostar's core products include high-altitude stratospheric balloons and radar systems. These products can be integrated with additional third-party sensors to provide research, communications, and situational awareness capabilities to governmental and commercial customers. Aerostar's growth strategy emphasizes the design and manufacture of proprietary products in these markets. Aerostar also pursues product and support services contracts with agencies and instrumentalities of the U.S. government as well as sales of advanced radar systems in international markets.

(Dollars in thousands, except per-share amounts)

The Company measures the performance of its segments based on their operating income excluding administrative and general expenses. The accounting policies of the operating segments are the same as those described in Note 1 "Summary of Significant Accounting Policies". Other income, interest expense, and income taxes are not allocated to individual operating segments, and assets not identifiable to an individual segment are included as corporate assets.

Business segment financial performance and other information is as follows:

	For the years ended January 31,		
	2019	2018	2017
<b>APPLIED TECHNOLOGY DIVISION</b>			
Sales	\$ 129,749	\$ 124,688	\$ 105,217
Operating income <sup>(a)</sup>	39,044	31,257	26,643
Assets <sup>(b)</sup>	79,742	66,555	67,911
Capital expenditures	2,050	1,489	1,017
Depreciation and amortization	3,433	3,365	3,828
<b>ENGINEERED FILMS DIVISION</b>			
Sales <sup>(c)</sup>	\$ 226,574	\$ 213,298	\$ 138,855
Operating income <sup>(a)</sup>	39,714	47,324	22,966
Assets <sup>(b)</sup>	159,592	168,797	133,309
Capital expenditures	9,544	8,128	2,768
Depreciation and amortization	9,149	8,761	8,580
<b>AEROSTAR DIVISION</b>			
Sales <sup>(d)</sup>	\$ 50,867	\$ 39,915	\$ 34,113
Operating income (loss) <sup>(a)(f)</sup>	8,179	4,122	(1,560)
Assets <sup>(b)</sup>	21,515	22,127	23,515
Capital expenditures	168	343	547
Depreciation and amortization	891	1,386	1,720
<b>INTERSEGMENT ELIMINATIONS</b>			
Sales			
Applied Technology Division	\$ (10)	\$ —	\$ (1)
Engineered Films Division	(512)	(584)	(789)
Operating income <sup>(a)</sup>	(35)	20	(12)
Assets <sup>(b)</sup>	(104)	(3,380)	(69)
<b>REPORTABLE SEGMENTS TOTAL</b>			
Sales <sup>(c)(d)</sup>	\$ 406,668	\$ 377,317	\$ 277,395
Operating income <sup>(a)(f)</sup>	86,902	82,723	48,037
Assets <sup>(b)</sup>	260,745	254,099	224,666
Capital expenditures	11,762	9,960	4,332
Depreciation and amortization	13,473	13,512	14,128
<b>CORPORATE &amp; OTHER</b>			
Operating (loss) from administrative expenses <sup>(a)(e)</sup>	\$ (31,769)	\$ (23,553)	\$ (19,624)
Assets <sup>(b)(g)</sup>	99,500	72,704	76,843
Capital expenditures	2,365	2,051	464
Depreciation and amortization	1,650	1,290	1,308
<b>TOTAL COMPANY</b>			
Sales <sup>(c)(d)</sup>	\$ 406,668	\$ 377,317	\$ 277,395
Operating income <sup>(e)(f)</sup>	55,133	59,170	28,413
Assets	360,245	326,803	301,509
Capital expenditures	14,127	12,011	4,796
Depreciation and amortization	15,123	14,802	15,436

<sup>(a)</sup> At the segment level, operating income does not include an allocation of general and administrative expenses and, as a result, general and administrative expenses are reported as "Operating (loss) from administrative expenses" in Corporate & Other.

<sup>(b)</sup> Certain facilities owned by the Company are shared by more than one reporting segment. All facilities are reported as an asset based on the segment that acquired the asset as the Company believes this most appropriately reflects the total assets of each business segment. Expenses and costs related to these facilities, including depreciation expense, are allocated and reported in each reporting segment's operating income for each fiscal year presented.

<sup>(c)</sup> In September of fiscal year 2018, the Company acquired CLI. For the first seven months of fiscal 2019 CLI contributed a total of \$21,568 in sales and for the first seven months of fiscal 2018 the division generated \$4,109 in sales to CLI as a customer. Additionally, sales of hurricane recovery film in fiscal years 2019 and 2018 were \$14,494 and \$24,225, respectively.

<sup>(d)</sup> Aerostar divested its client private business in the first quarter of fiscal 2019. Net sales from the client private business were \$283, \$5,592, and \$5,886 in fiscal

(Dollars in thousands, except per-share amounts)

years 2019, 2018 and 2017, respectively. Operating profits for the client private business were not material for these periods.

<sup>(e)</sup> Fiscal 2019 administrative expenses included a \$4,503 expense related to the previously announced gift to SDSU and approximately \$4,000 of expenses related to Project Atlas.

Project Atlas related expenses in fiscal 2018 were approximately \$900.

<sup>(f)</sup> Fiscal year 2017 included inventory write-downs of \$2,278 for Aerostar as a result of discontinuing sales activities for a specific radar product line within its business.

<sup>(g)</sup> Assets are principally cash, investments, deferred taxes, and other receivables.

No customers accounted for 10% or more of consolidated net sales in fiscal 2019, 2018 or 2017.

Substantially all of the Company's long-lived assets are located in the United States. Foreign sales are attributed to countries based on location of the customer. Net sales to customers outside the United States were as follows:

	For the years ended January 31,		
	2019	2018	2017
Canada	\$ 12,492	\$ 12,940	\$ 13,969
Europe	15,786	13,864	13,924
Latin America	5,950	4,439	3,402
Asia	7,240	4,074	1,535
Other foreign sales	6,861	6,239	2,698
Total foreign sales	48,329	41,556	35,528
United States	358,339	335,761	241,867
	\$ 406,668	\$ 377,317	\$ 277,395

## NOTE 16 QUARTERLY INFORMATION (UNAUDITED)

	Net Sales	Gross Profit	Operating Income	Pre-tax Income	Net Income Attributable to Raven <sup>(d)</sup>	Net Income Per Share <sup>(a)</sup>		Cash Dividends Per Share	
						Basic	Diluted		
<b>FISCAL 2019</b>									
First Quarter <sup>(b)(c)(e)(f)</sup>	\$ 111,129	\$ 39,998	\$ 21,531	\$ 27,210	\$ 22,135	\$ 0.62	\$ 0.61	\$ 0.13	
Second Quarter <sup>(c)</sup>	102,684	34,608	16,629	16,490	13,677	0.38	0.38	0.13	
Third Quarter <sup>(c)(e)</sup>	104,833	32,653	13,612	14,286	13,032	0.36	0.36	0.13	
Fourth Quarter <sup>(e)</sup>	88,022	25,290	3,361	3,584	2,950	0.08	0.08	0.13	
Total Year	\$ 406,668	\$ 132,549	\$ 55,133	\$ 61,570	\$ 51,794	\$ 1.44	\$ 1.42	\$ 0.52	
<b>FISCAL 2018</b>									
First Quarter <sup>(c)</sup>	\$ 93,535	\$ 31,956	\$ 18,219	\$ 17,989	\$ 12,348	\$ 0.34	\$ 0.34	\$ 0.13	
Second Quarter <sup>(c)</sup>	86,610	26,513	11,700	11,637	8,235	0.23	0.23	0.13	
Third Quarter <sup>(c)(e)</sup>	101,349	33,333	17,829	17,795	11,998	0.33	0.33	0.13	
Fourth Quarter <sup>(e)</sup>	95,823	29,763	11,422	11,565	8,441	0.24	0.23	0.13	
Total Year	\$ 377,317	\$ 121,565	\$ 59,170	\$ 58,986	\$ 41,022	\$ 1.14	\$ 1.13	\$ 0.52	

<sup>(a)</sup> Net income per share is computed discretely by quarter and may not add to the full year.

<sup>(b)</sup> In the first quarter of fiscal 2019, the Company sold its ownership interest in SST and recognized a gain on sale of \$5,785 reported as nonoperating income in "Other income (expense), net" in the Consolidated Statements of Income and Comprehensive Income.

<sup>(c)</sup> In September of fiscal year 2018, the Company acquired CLI. For the first seven months of fiscal 2019 CLI contributed a total of \$21,568 in sales and for the first seven months of fiscal 2018 the division generated \$4,109 in sales to CLI as a customer.

<sup>(d)</sup> The TCJA, effective January 1, 2018, had a favorable impact to the Company's effective tax rate. Excluding discrete items, the Company's effective tax rate decreased approximately 10 percentage points resulting in tax savings of \$6,218 in fiscal year 2019.

<sup>(e)</sup> In the third and fourth quarter of fiscal year 2018 hurricane recovery film net sales were \$8,424 and \$15,801, respectively. Sales of hurricane recovery film in fiscal year 2019 were \$8,919, \$1,510 and \$4,065 for the first, third, and fourth quarters, respectively.

<sup>(f)</sup> In the first quarter of fiscal 2019, the Company incurred a \$4,503 operating expense related to the previously announced gift to SDSU.

(Dollars in thousands, except per-share amounts)

## NOTE 17      **SUBSEQUENT EVENTS**

The Company has evaluated events up to the filing date of this Annual Report on Form 10-K and concluded that no subsequent events have occurred that would require recognition or disclosure in the Notes to the Consolidated Financial Statements.

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

None.

### ITEM 9A.          **CONTROLS AND PROCEDURES**

#### **Disclosure Controls and Procedures**

Disclosure controls and procedures (as defined in Exchange Act Rules 13a-15(e) and 15d-15(e)) are our controls and other procedures that are designed to ensure that information required to be disclosed by us in the reports that we file or submit under the Securities Exchange Act of 1934 (the Exchange Act) is recorded, processed, summarized, and reported within the time periods specified in the SEC's rules and forms. Disclosure controls and procedures include, without limitation, controls and procedures designed to ensure that information required to be disclosed by us in the reports that we file or submit under the Exchange Act is accumulated and communicated to our management, including our Chief Executive Officer (CEO) and Chief Financial Officer (CFO), as appropriate to allow timely decisions regarding required disclosure. As of January 31, 2019, the end of the period covered by this report, management evaluated the effectiveness of the Company's disclosure controls and procedures as of such date. Based on their evaluation, the CEO and CFO have concluded that the Company's disclosure controls and procedures were effective at a reasonable assurance level as of January 31, 2019.

#### **Management's Report on Internal Control Over Financial Reporting**

Pursuant to Section 404 of the Sarbanes-Oxley Act of 2002, the Company included management's assessment of the design and effectiveness of its internal controls over financial reporting as part of this Annual Report on Form 10-K for the fiscal year ended January 31, 2019. Management's report and the report of the Company's independent registered public accounting firm are included in Part II, Item 8, captioned "Management's Report on Internal Control Over Financial Reporting" and "Report of Independent Registered Public Accounting Firm" and are incorporated herein by reference.

#### **Changes in Internal Control Over Financial Reporting**

There were no changes in our internal control over financial reporting (as defined in Rules 13a-15(f) and 15d-15(f) under the Exchange Act) that occurred during the three-month period ended January 31, 2019, that have materially affected, or are reasonably likely to materially affect, the Company's internal control over financial reporting.

### ITEM 9B.          **OTHER INFORMATION**

Not applicable.

## **PART III**

### ITEMS 10, 11, 12, 13 and 14.      **DIRECTORS, EXECUTIVE OFFICERS AND CORPORATE GOVERNANCE; EXECUTIVE COMPENSATION; SECURITY OWNERSHIP OF CERTAIN BENEFICIAL OWNERS AND MANAGEMENT AND RELATED SHAREHOLDER MATTERS; CERTAIN RELATIONSHIPS AND RELATED TRANSACTIONS, AND DIRECTOR INDEPENDENCE; AND PRINCIPAL ACCOUNTING FEES AND SERVICES**

The Company will file a definitive proxy statement with the Securities and Exchange Commission pursuant to Regulation 14A under the Securities Exchange Act of 1934 (the Proxy Statement) relating to the Company's 2019 Annual Meeting of Shareholders. Information required by Items 10 through 14 will appear in the Proxy Statement and is incorporated herein by reference.

## PART IV

### ITEM 15. EXHIBITS, FINANCIAL STATEMENT SCHEDULE

#### LIST OF DOCUMENTS FILED AS PART OF THIS REPORT

##### Financial Statements

See PART II, Item 8.

##### Financial Statement Schedule

Schedule II - Valuation and Qualifying Accounts for the years ended January 31, 2019, 2018, and 2017; included on the last page within Item 16 below.

All other schedules for which provision is made in the applicable accounting regulations of the Securities and Exchange Commission are not required under the related instructions or are inapplicable and therefore have been omitted.

##### Exhibits

See index to Exhibits on the following page.

<u>Exhibit Number</u>	<u>Description</u>
<a href="#">2(a)</a>	Asset Purchase Agreement by and among Colorado Lining International, Inc., John B. Heap, Patrick Elliott, and Raven Industries, Inc., dated as of August 22, 2017 (incorporated herein by reference to Exhibit 2.1 of the Company's Form 10-Q filed November 21, 2017).
<a href="#">3.1</a>	Restated Articles of Incorporation of Raven Industries, Inc. and all amendments thereto dated as of December 12, 2018 and filed herewith as Exhibit 3.1.
<a href="#">3(a)</a>	Amended and Restated Bylaws of Raven Industries, Inc. (incorporated herein by reference to Exhibit B of the Company's definitive Proxy Statement filed April 12, 2012).
<a href="#">10(a)</a>	Amended and Restated Deferred Stock Compensation Plan for Directors of Raven Industries, Inc., effective July 11, 2018 (incorporated herein by reference to Exhibit 10.1 of the Company's Form 8-K filed July 12, 2018). †
<a href="#">10(b)</a>	Amended and Restated 2010 Stock Incentive Plan adopted May 25, 2017 (incorporated herein by reference to Exhibit A of the Company's definitive Proxy Statement filed April 19, 2017). †
<a href="#">10(c)</a>	Form of Non-Qualified Stock Option Agreement (incorporated herein by reference to Exhibit 10(r) of the Company's Form 10-Q filed June 4, 2012). †
<a href="#">10(d)</a>	Form of Restricted Stock Unit Agreement (incorporated herein by reference to Exhibit 10(s) of the Company's Form 10-Q filed June 4, 2012). †
<a href="#">10(e)</a>	Raven Industries, Inc. Non-Qualified Deferred Compensation Plan, effective as of January 1, 2018 (incorporated herein by reference to Exhibit 10.1 of the Company's Form 10-K filed March 23, 2018). †
<a href="#">10(f)</a>	Credit Agreement, dated April 15, 2015, by and among Raven Industries, Inc. and JPMorgan Chase Bank, N.A., Toronto Branch, as Canadian Administrative Agent, JPMorgan Chase Bank National Association, as Administrative Agent, and JP Morgan Securities LLC and Wells Fargo Securities, LLC as Joint Bookrunners and Joint Lead Arrangers (incorporated herein by reference to Exhibit 10.1 of the Company's Form 8-K filed April 16, 2015).
<a href="#">10(g)</a>	Guaranty, dated as of April 15, 2015, made by each of the Guarantors (Raven Industries, Inc., Aerostar International, Inc., Vista Research, Inc., and Integra Plastics, Inc.) in favor of JPMorgan Chase Bank, N.A. as Administrative Agent on behalf of the guaranteed parties (incorporated herein by reference to Exhibit 10.2 of the Company's Form 8-K filed April 16, 2015).
<a href="#">10(h)</a>	Amended and Restated Employment Agreement between Raven Industries, Inc. and Daniel A. Rykhus dated as of March 29, 2017 (incorporated herein by reference to Exhibit 10.1 of the Company's Form 10-K filed March 31, 2017). †
<a href="#">10(i)</a>	Amended and Restated Employment Agreement between Raven Industries, Inc. and Steven E. Brazones dated as of March 29, 2017 (incorporated herein by reference to Exhibit 10.2 of the Company's Form 10-K filed March 31, 2017). †
<a href="#">10(j)</a>	Form of Amended and Restated Change in Control Agreement between Raven Industries, Inc. and the following senior executive officers: Anthony D. Schmidt, Brian E. Meyer, and Janet L. Matthiesen dated as of March 28, 2016 (incorporated herein by reference to Exhibit 10.1 of the Company's Form 10-K filed March 29, 2016). †
<a href="#">10(k)</a>	Form of Amended Employment Agreement between Raven Industries, Inc. and the following senior executive officers: Brian E. Meyer and Janet L. Matthiesen dated August 25, 2015 (incorporated herein by reference to Exhibit 10.1 of the Company's Form 8-K filed August 31, 2015). †

[10\(l\)](#) Employment Agreement between Raven Industries, Inc. and Anthony D. Schmidt dated as of February 1, 2012 (incorporated herein by reference to Exhibit 10.1 of the Company's Form 8-K filed February 1, 2012). †

[10\(m\)](#) Form of Schedule A to Employment Agreement, revised effective January 1, 2016, between Raven Industries, Inc. and the following senior executive officers: Janet L. Matthiesen, Brian E. Meyer, and Anthony D. Schmidt (incorporated herein by reference to Exhibit 10.3 of the Company's Form 10-K filed March 31, 2017). †

[16\(a\)](#) Letter of PricewaterhouseCoopers LLP to the Securities and Exchange Commission, dated as of April 6, 2017, (incorporated herein by reference to Exhibit 16.1 of the Company's Form 8-K filed April 6, 2017).

[21](#) Subsidiaries of the Registrant.

[23.1](#) Consent of Deloitte & Touche LLP, Independent Registered Public Accounting Firm.

[23.2](#) Consent of PricewaterhouseCoopers LLP, Independent Registered Public Accounting Firm.

[31.1](#) Certification of Chief Executive Officer Pursuant to Rule 13a-14(a) of the Securities Exchange Act of 1934, as adopted pursuant to Section 302 of the Sarbanes-Oxley Act of 2002.

[31.2](#) Certification of Chief Financial Officer Pursuant to Rule 13a-14(a) of the Securities Exchange Act of 1934, as adopted pursuant to Section 302 of the Sarbanes-Oxley Act of 2002.

[32.1](#) Certification of Chief Executive Officer Pursuant to 18 U.S.C. Section 1350, as adopted pursuant to Section 906 of the Sarbanes-Oxley Act of 2002.

[32.2](#) Certification of Chief Financial Officer Pursuant to 18 U.S.C. Section 1350, as adopted pursuant to Section 906 of the Sarbanes-Oxley Act of 2002.

101.INS Instance Document - the instance document does not appear in the Interactive Data File because its XBRL tags are embedded within the Inline XBRL document

101.SCH XBRL Taxonomy Extension Schema

101.CAL XBRL Taxonomy Extension Calculation Linkbase

101.DEF XBRL Taxonomy Extension Definition Linkbase

101.LAB XBRL Taxonomy Extension Label Linkbase

101.PRE XBRL Taxonomy Extension Presentation Linkbase

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† Management contract or compensatory plan or arrangement.

## ITEM 16. FORM 10-K SUMMARY

None.

**SIGNATURES**

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.

RAVEN INDUSTRIES, INC.

(Registrant)

By: /s/ DANIEL A. RYKHUS

**Daniel A. Rykhus**

*President and Chief Executive Officer*

Date: March 22, 2019

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.

/s/ DANIEL A. RYKHUS

**Daniel A. Rykhus**

*President and Chief Executive Officer*

*(principal executive officer) and Director*

/s/ THOMAS S. EVERIST

**Thomas S. Everist**

*Director*

/s/ STEVEN E. BRAZONES

**Steven E. Brazones**

*Vice President and Chief Financial Officer*

*(principal financial and accounting officer)*

/s/ JANET M. HOLLOWAY

**Janet M. Holloway**

*Director*

/s/ MARC E. LEBARON

**Marc E. LeBaron**

*Chairman of the Board*

/s/ KEVIN T. KIRBY

**Kevin T. Kirby**

*Director*

/s/ JASON M. ANDRINGA

**Jason M. Andringa**

*Director*

/s/ LOIS M. MARTIN

**Lois M. Martin**

*Director*

/s/ DAVID L. CHICOINE

**David L. Chicoine**

*Director*

/s/ RICHARD W. PAROD

**Richard W. Parod**

*Director*

Date: March 22, 2019



## SCHEDULE II - VALUATION AND QUALIFYING ACCOUNTS

for the years ended January 31, 2019, 2018 and 2017

(in thousands)

Description	Balance at Beginning of Year	Additions		Deductions From Reserves (1)	Balance at End of Year
		Charged to Costs and Expenses	Charged to Other Accounts		
Deducted in the balance sheet from the asset to which it applies:					
Allowance for doubtful accounts:					
Year ended January 31, 2019	\$ 978	\$ 37	\$ —	\$ 276	\$ 739
Year ended January 31, 2018	691	357	—	70	978
Year ended January 31, 2017	1,034	380	—	723	691

Note:

(1) Represents uncollectable accounts receivable written off during the year, net of recoveries.

RESTATED ARTICLES OF INCORPORATION OF  
RAVEN INDUSTRIES, INC.

ARTICLE ONE

The name of the Corporation is:

Raven Industries, Inc.

ARTICLE TWO

The purpose of this Corporation is to engage in any lawful act or activity for which corporations may be organized under the South Dakota Business Corporation Act, including, without limitation, the manufacture, sale, and distribution of electronic, industrial, agricultural, recreational and aeronautical products and apparel and all lawful businesses and activities necessary or incidental thereto.

ARTICLE THREE

The place where the principal business of this Corporation shall be transacted is Sioux Falls in the county of Minnehaha, State of South Dakota, but a business office may be located at Minneapolis, Minnesota, where meetings of the directors and stockholders may be held for the transaction of business.

ARTICLE FOUR

The term for which this Corporation shall exist shall be perpetual.

ARTICLE FIVE

The number of Directors of this Corporation shall be not less than seven (7), nor more than eleven (11).

ARTICLE SIX

The aggregate number of shares which this Corporation shall have authority to issue is one hundred million (100,000,000) common shares of one class having a par value of one dollar (\$1.00) per share. All such shares shall be voting shares and each share shall be entitled to one vote. No shareholder of this Corporation shall be liable for the debts of the Corporation in any amount greater than the shareholder's unpaid subscription for the shares of the Corporation.

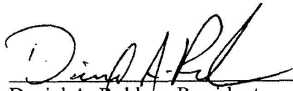
ARTICLE SEVEN

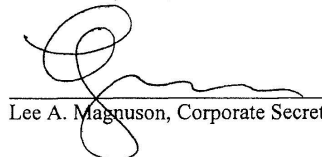
The shareholders of the Corporation shall not have the preemptive right to acquire unissued or treasury shares of the Corporation, or obligations of the Corporation convertible into such shares.

ARTICLE EIGHT

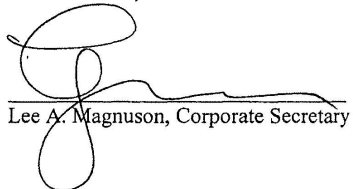
No director of the Corporation shall be personally liable to the Corporation or any shareholder for monetary damages for breach of fiduciary duty as a director. Notwithstanding the foregoing sentence, a director shall be liable to the extent provided by applicable law for: (i) breach of the director's duty of loyalty to the Corporation or its shareholders, (ii) acts or omissions not in good faith or that involve intentional misconduct or a knowing violation of law, (iii) any violation of the South Dakota Codified Laws Sections 47-5-15 to 47-5-19, inclusive, (iv) any transaction from which the director derived an improper personal benefit, or (v) any act or omission occurring prior to the date when this Article Eighth becomes effective. Neither the amendment nor repeal of this paragraph, nor the adoption of any provisions of this Articles of Incorporation inconsistent with this paragraph, shall apply to or have any effect upon the liability or alleged liability of any director of the Corporation for or with respect to any acts or omissions of such director occurring prior to such amendment, repeal, or adoption of any inconsistent provision.

Dated this 12<sup>th</sup> day of December, 2018.

  
Daniel A. Rykhus, President

  
Lee A. Magnuson, Corporate Secretary

Adopted by the Board of Directors of Raven Industries, Inc. on December 12,  
2018, as the Restated Articles of Incorporation of Raven Industries, Inc.

  
Lee A. Magnuson, Corporate Secretary

B0080-9678 12/17/2018 2:07PM Rec'd by SD SOS

**State of South Dakota**  
Office of the Secretary of State

**Certificate of Amended and Restated  
Formation Documents**  
Domestic Business Corporation

I, **Shantel Krebs**, Secretary of State of the State of South Dakota, hereby certify that the Application for Amended and Restated Formation Documents for

**RAVEN INDUSTRIES, INC.**

BUSINESS ID# DB000104

with an effective date of: December 17, 2018, duly signed and verified, pursuant to the provisions of the South Dakota Corporation Acts, has been received in this office and is found to conform to law.

**ACCORDINGLY**, and by virtue of the authority vested in me by law, I hereby issue this Certificate of Amended and Restated Formation Documents and attach hereto a duplicate of the Application for Amended and Restated Formation Documents.



**IN TESTIMONY WHEREOF**, I have hereunto set my hand and caused to be affixed the Great Seal of the State of South Dakota, in Pierre, the Capital City, this day, December 17, 2018.

*Shantel Krebs*

**Shantel Krebs**  
Secretary of State

12/17/2018 2:54 PM



*South Dakota Secretary of State*  
SHANTEL KREBS

RAVEN INDUSTRIES, INC.  
205 E 6TH ST  
SIOUX FALLS, SD 57104-5931

December 17, 2018

**Filing Acknowledgment**

Please review the filing information below and notify our office immediately of any discrepancies.

**Business ID :** DB000104  
**Status:** Good Standing  
**Filing Type:** Business Corporation - Domestic  
**Amendment Type:** Amended and Restated Formation Documents  
**Filed Date:** 12/17/2018 2:07 PM

Shantel Krebs  
Secretary of State  
State of South Dakota

SOUTH DAKOTA STATE CAPITOL • 500 E. CAPITOL AVE. • PIERRE, SD 57501  
www.sdsos.gov • Phone 605 773 4845 • Fax 605 773 4550  
corpinfo@state.sd.us

**Exhibit 21**

**RAVEN INDUSTRIES, INC.  
SUBSIDIARIES OF THE REGISTRANT**

**NAME OF SUBSIDIARY**

Aerostar Integrated Systems, LLC <sup>(a)</sup>

**JURISDICTION**

Delaware, USA

Aerostar International, Inc.	South Dakota, USA
Raven Industries Canada, Inc.	Nova Scotia, Canada
Raven International Holding Company B.V.	Amsterdam, Netherlands
Raven CLI Construction, Inc.	South Dakota, USA
SBG Innovatie BV	Middenmeer, Netherlands
Aerostar Technical Solutions, Inc.	California, USA

(a) 75% owned

Pursuant to Item 601(b)(21) of Regulation S-K, we have omitted some subsidiaries that considered in the aggregate as a single subsidiary, would not constitute a significant subsidiary as of January 31, 2019 under Rule 1-02(w) of Regulation S-X.

**Exhibit 23.1**

**Consent of Independent Registered Public Accounting Firm**

We consent to the incorporation by reference in Registration Statement Nos. 333-204796, 333-189009, 333-182051, 333-167290, 333-139063, 333-41352 on Form S-8 of our report dated March 22, 2019, relating to the financial statements and financial statement schedule of Raven Industries, Inc. ("Raven"), and the effectiveness of internal control over financial reporting appearing in this Annual Report on Form 10-K of Raven for the year ended January 31, 2019.

/s/ Deloitte & Touche LLP

Minneapolis, Minnesota

March 22, 2019



**Exhibit 23.2**

**Consent of Independent Registered Public Accounting Firm**

We hereby consent to the incorporation by reference in the Registration Statements on Form S-8 (Nos. 333-204796, 333-189009, 333-182051, 333-167290, 333-139063, 333-41352) of Raven Industries, Inc. of our report dated March 31, 2017 relating to the financial statements and financial statement schedule, which appears in this Form 10-K.

/s/ PricewaterhouseCoopers LLP  
Minneapolis, Minnesota  
March 22, 2019

RAVEN INDUSTRIES, INC.

CERTIFICATION OF CHIEF EXECUTIVE OFFICER PURSUANT TO  
RULE 13A-14(A) OF THE SECURITIES EXCHANGE ACT OF 1934,  
AS ADOPTED PURSUANT TO  
SECTION 302 OF THE SARBANES-OXLEY ACT OF 2002

I, Daniel A. Rykhus, certify that:

1. I have reviewed this Annual Report on Form 10-K of Raven Industries, Inc. (the Registrant);
2. Based on my knowledge, this report does not contain any untrue statement of a material fact or omit to state a material fact necessary to make the statements made, in light of the circumstances under which such statements were made, not misleading with respect to the period covered by this report; and
3. Based on my knowledge, the financial statements, and other financial information included in this report, fairly present in all material respects the financial condition, results of operations and cash flows of the Registrant as of, and for, the periods presented in this report;
4. The Registrant's other certifying officer and I are responsible for establishing and maintaining disclosure controls and procedures (as defined in Exchange Act rules 13a-15(e) and 15d-15(e)) and internal control over financial reporting (as defined in Exchange Act Rules 13a-15(f) and 15d-15(f)) for the Registrant and have:
  - a. Designed such disclosure controls and procedures, or caused such disclosure controls and procedures to be designed under our supervision, to ensure that material information relating to the Registrant, including its consolidated subsidiaries, is made known to us by others within those entities, particularly during the period in which this report is being prepared;
  - b. Designed such internal control over financial reporting, or caused such internal control over financial reporting to be designed under our supervision, to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with generally accepted accounting principles;
  - c. Evaluated the effectiveness of the Registrant's disclosure controls and procedures and presented in this report our conclusions about the effectiveness of the disclosure controls and procedures, as of the end of the period covered by this report based on such evaluation; and
  - d. Disclosed in this report any change in the Registrant's internal control over financial reporting that occurred during the Registrant's most recent fiscal quarter (the Registrant's fourth fiscal quarter in the case of an annual report) that has materially affected, or is reasonably likely to materially affect, the Registrant's internal control over financial reporting; and
5. The Registrant's other certifying officer and I have disclosed, based on our most recent evaluation of internal control over financial reporting, to the Registrant's auditors and the audit committee of Registrant's board of directors (or others performing the equivalent function):
  - a. All significant deficiencies and material weaknesses in the design or operation of internal control over financial reporting which are reasonably likely to adversely affect the Registrant's ability to record, process, summarize and report information; and
  - b. Any fraud, whether or not material, that involves management or other employees who have a significant role in the Registrant's internal controls over financial reporting.

Dated: March 22, 2019

/s/ DANIEL A. RYKHUS

Daniel A. Rykhus

President and Chief Executive Officer

RAVEN INDUSTRIES, INC.

CERTIFICATION OF CHIEF FINANCIAL OFFICER PURSUANT TO  
RULE 13A-14(A) OF THE SECURITIES EXCHANGE ACT OF 1934,  
AS ADOPTED PURSUANT TO  
SECTION 302 OF THE SARBANES-OXLEY ACT OF 2002

I, Steven E. Brazones, certify that:

1. I have reviewed this Annual Report on Form 10-K of Raven Industries, Inc. (the Registrant);
2. Based on my knowledge, this report does not contain any untrue statement of a material fact or omit to state a material fact necessary to make the statements made, in light of the circumstances under which such statements were made, not misleading with respect to the period covered by this report; and
3. Based on my knowledge, the financial statements, and other financial information included in this report, fairly present in all material respects the financial condition, results of operations and cash flows of the Registrant as of, and for, the periods presented in this report;
4. The Registrant's other certifying officer and I are responsible for establishing and maintaining disclosure controls and procedures (as defined in Exchange Act rules 13a-15(e) and 15d-15(e)) and internal control over financial reporting (as defined in Exchange Act Rules 13a-15(f) and 15d-15(f)) for the Registrant and have:
  - a. Designed such disclosure controls and procedures, or caused such disclosure controls and procedures to be designed under our supervision, to ensure that material information relating to the Registrant, including its consolidated subsidiaries, is made known to us by others within those entities, particularly during the period in which this report is being prepared;
  - b. Designed such internal control over financial reporting, or caused such internal control over financial reporting to be designed under our supervision, to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with generally accepted accounting principles;
  - c. Evaluated the effectiveness of the Registrant's disclosure controls and procedures and presented in this report our conclusions about the effectiveness of the disclosure controls and procedures, as of the end of the period covered by this report based on such evaluation; and
  - d. Disclosed in this report any change in the Registrant's internal control over financial reporting that occurred during the Registrant's most recent fiscal quarter (the Registrant's fourth fiscal quarter in the case of an annual report) that has materially affected, or is reasonably likely to materially affect, the Registrant's internal control over financial reporting; and
5. The Registrant's other certifying officer and I have disclosed, based on our most recent evaluation of internal control over financial reporting, to the Registrant's auditors and the audit committee of Registrant's board of directors (or others performing the equivalent function):
  - a. All significant deficiencies and material weaknesses in the design or operation of internal control over financial reporting which are reasonably likely to adversely affect the Registrant's ability to record, process, summarize and report information; and
  - b. Any fraud, whether or not material, that involves management or other employees who have a significant role in the Registrant's internal controls over financial reporting.

Dated: March 22, 2019

/s/ STEVEN E. BRAZONES

Steven E. Brazones

Vice President and Chief Financial Officer

**Exhibit 32.1**

**RAVEN INDUSTRIES, INC.**

**CERTIFICATION OF CHIEF EXECUTIVE OFFICER PURSUANT TO  
18 U.S.C. SECTION 1350, AS ADOPTED PURSUANT TO SECTION 906 OF THE  
SARBANES-OXLEY ACT OF 2002**

The undersigned, Daniel A. Rykhus, President and Chief Executive Officer of Raven Industries, Inc., has executed this Certification in connection with the filing with the Securities and Exchange Commission of Raven Industries, Inc.'s Annual Report on Form 10-K for the fiscal year ended January 31, 2019 (the Report).

The undersigned hereby certifies, to his knowledge, that:

- the Report fully complies with the requirements of Section 13(a) or 15(d) of the Securities Exchange Act of 1934; and
- the information contained in the Report fairly presents, in all material respects, the financial condition and results of operations of Raven Industries, Inc.

Dated: March 22, 2019

/s/ DANIEL A. RYKHUS

Daniel A. Rykhus

President and Chief Executive Officer

**RAVEN INDUSTRIES, INC.**

**CERTIFICATION OF CHIEF FINANCIAL OFFICER PURSUANT TO  
18 U.S.C. SECTION 1350, AS ADOPTED PURSUANT TO SECTION 906 OF THE  
SARBANES-OXLEY ACT OF 2002**

The undersigned, Steven E. Brazones, the Vice President and Chief Financial Officer of Raven Industries, Inc., has executed this Certification in connection with the filing with the Securities and Exchange Commission of Raven Industries, Inc.'s Annual Report on Form 10-K for the fiscal year ended January 31, 2019 (the Report).

The undersigned hereby certifies, to his knowledge, that:

- the Report fully complies with the requirements of Section 13(a) or 15(d) of the Securities Exchange Act of 1934; and
- the information contained in the Report fairly presents, in all material respects, the financial condition and results of operations of Raven Industries, Inc.

Dated: March 22, 2019

/s/ STEVEN E. BRAZONES

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Steven E. Brazones

Vice President and Chief Financial Officer